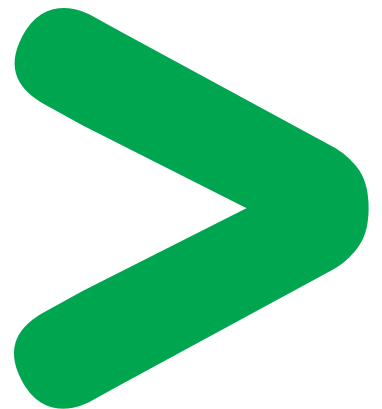


Complementary technical information

Guide
2010



Coordination for electrical
distribution



Coordination for motor circuits



Use of LV switches



Protection of LV/LV
transformers and capacitors



Coordination with electrical
busbar trunking



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Using the tables

Two circuit breakers offer total discrimination when the corresponding box in the discrimination table is shaded or contains the letter T.

When discrimination is partial for the combination, the corresponding box indicates the maximum value of the fault current for which discrimination is provided. For fault currents above this value, the two circuit breakers trip simultaneously.

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Protection discrimination is an essential element that must be taken into account starting at the design stage of a low voltage installation to ensure the highest level of availability for users.

Discrimination is important in all installations for the comfort of users, however it is fundamental in installations requiring a high level of service continuity, e.g. industrial manufacturing processes.

Industrial installations without discrimination run a series of risks of varying importance including:

- production deadline overruns
- interruption in manufacturing, entailing:
 - production or finished-product losses
 - risk of damage to production machines in continuous processes
- restarting of machines, one by one, following a general power outage
- shutdown of vital safety equipment such as lubrication pumps, smoke fans, etc.

What is discrimination?

Discrimination, also called selectivity, is the coordination of automatic protection devices in such a manner that a fault appearing at a given point in a network is cleared by the protection device installed immediately upstream of the fault, and by that device alone.

■ total discrimination

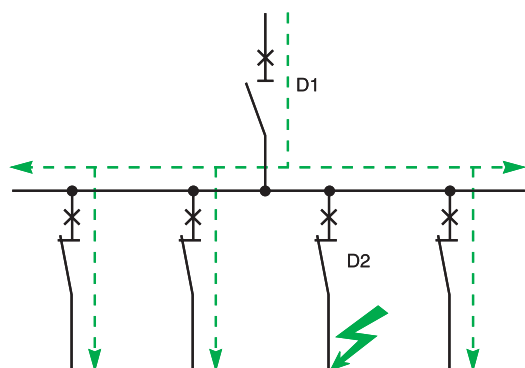
Discrimination is said to be total if, for all fault current values, from overloads up to the non-resistive short-circuit current, circuit breaker D2 opens and D1 remains closed.

■ partial discrimination

Discrimination is partial if the above condition is not respected up to the full short-circuit current, but only to a lesser value termed the selectivity limit current (I_s).

■ no discrimination

In the event of a fault, both circuit breakers D1 and D2 open.



Total discrimination as standard with Masterpact NT/NW circuit breakers

Thanks to their highly innovative design and the exceptional performance of their control units, the Masterpact NT and NW circuit breakers offer total discrimination with downstream Compact NSX devices up to 630 A as standard ⁽¹⁾.

Natural discrimination with Compact NSX circuit breakers

Due to the Roto-active breaking technique employed by the Compact NSX, the combined use of Schneider Electric circuit breakers provides an exceptional level of protection discrimination.

This is the result of the implementation and optimisation of three different techniques:

- current discrimination
- time discrimination
- energy discrimination.

Overload protection: current discrimination

Discrimination is ensured if the ratio between setting thresholds is greater than 1.6 (for distribution circuit breakers).
Low short-circuit protection: current discrimination.

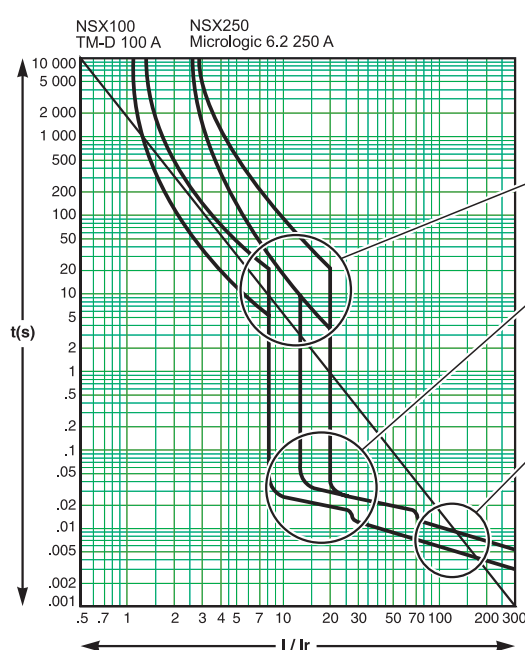
Tripping of the upstream device is slightly delayed to ensure that the downstream device trips first.

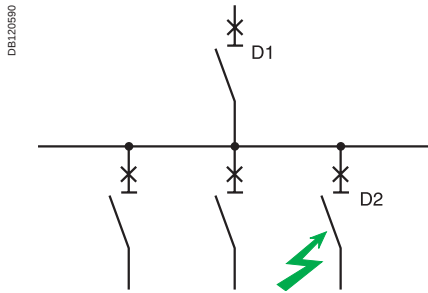
Discrimination is ensured if the ratio between the short-circuit thresholds is greater than 1.5.
High short-circuit protection: time discrimination.

This protection system combines the exceptional current limiting capacity of the Compact NS and the advantages of reflex tripping, sensitive to the energy dissipated in the device by the short-circuit. In the event of a high short-circuit detected by two circuit breakers, the downstream device limits it sharply. The energy dissipated in the upstream device is not sufficient to trip it, i.e. discrimination is total for all short-circuit currents.

Discrimination is ensured if the ratio between the circuit breaker ratings is greater than 2.

⁽¹⁾ Except for the L1 performance level on Masterpact NT and subject to the discrimination rules on page 558E4300/7.





Discrimination between two distribution circuit breakers.

How to use the discrimination tables

■ for discrimination between 2 distribution circuit breakers

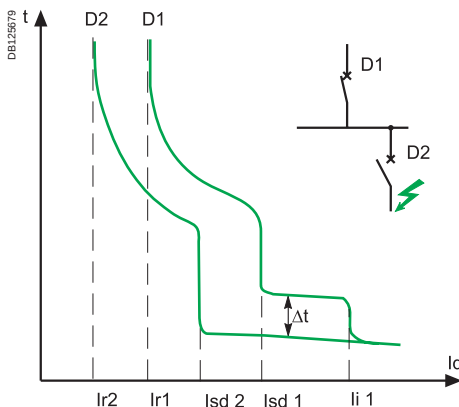
Combinations providing full discrimination are indicated by the symbol T. If discrimination is partial, the table indicates the maximum fault current value for which discrimination is ensured. For fault currents above this value, the 2 circuit breakers trip simultaneously.

Requisite conditions

The values indicated in the tables are valid for operational rated voltages of 220, 380, 415 and 440V:

Upstream	Downstream	Frame up / Frame down	Thermal protection I _r up/I _r down	Magnetic protection I _m up/I _m down
TM	TM or Multi 9	≥ 2.5	≥ 1.6	≥ 2
	Micrologic	≥ 2.5	≥ 1.6	≥ 1.5
Micrologic	TM or Multi 9	≥ 2.5	≥ 1.6	≥ 1.5
	Micrologic	≥ 2.5	≥ 1.3	≥ 1.5

These conditions ensure that curves don't overlap. Curves could also be checked with Curve Direct software tools



Additional Settings conditions according to trip unit type

■ Short time pick up (I_{sd})

Tables indicate selectivity limits assuming I_{sd} = 10 x I_r. In many cases when discrimination is Total lower thresholds could be used if ratio condition between two magnetic protections is fulfilled. When selectivity limit indicated in the tables is equal to 10xI_r, the selectivity limit is upstream short time pick up (I_{sd}).

■ Instantaneous pick up (I_i)

Tables indicate selectivity limits assuming instantaneous pick up is set at the maximum value and when it's inhibited (Type B Circuit breaker only). With Masterpact, when selectivity limit indicated in the tables is equal to 15 x I_n, the selectivity limit is upstream instantaneous pick up (I_i). When upstream circuit Breaker is A type, and downstream circuit breaker is B type upstream instantaneous setting can be set lower than 15 I_n as far as it stay higher than downstream circuit breaker reflex tripping limit. When a Micrologic 5.x is used downstream a Micrologic 2.x Tsd shall be set at 0 and I_i shall be set at I_{sd}.

■ Short time delay (T_{sd})

When upstream and downstream breaker are equipped with Micrologic 5.x, 6.x, 7.x: the minimum non tripping-time of the upstream device must be greater than the maximum tripping time of the downstream device.

T_{sd} D1 > T_{sd} D2 (One Step)

■ I_{2t} Off / On

Tables indicate selectivity limits assuming I_{2t} Function is Off. If I_{2t} function is ON user shall check curves.

■ Ground Fault protection (I_g, T_g)

When upstream and downstream breaker are equipped with Micrologic 6.x, user should implement current and time discrimination:

□ current sensing discrimination

Threshold setting of upstream GFP device tripping is greater than that of the downstream GFP device. Because of tolerances on the settings, a 30 % difference between the upstream and downstream thresholds is sufficient.

□ time graded discrimination

The intentional time delay setting of the upstream GFP device is greater than the opening time of the downstream device. Furthermore, the intentional time delay given to the upstream device must respect the maximum time for the elimination of insulation faults defined by the NEC § 230.95 (i.e. 1s for 3000 A).

I_g D1 ≥ 1,3 I_g D2

T_g D1 > T_g D2 (One Step)

■ Earth Leakage Protection (I_Δ, T_Δ)

When upstream and downstream breaker are equipped with Micrologic 7.x or Vigi user should implement current and time discrimination:

□ current condition:

The RCD must trip between I_{Δn} and I_{Δn}/2, I_{Δn} where I_n is the declared operating current. There must therefore exist a minimum ratio of 2 between the sensitivities of the upstream device and the downstream device. In practice, the standardised values indicate a ratio of 3.

□ time condition:

The minimum non-tripping time of the upstream device must be greater than the maximum tripping time of the downstream device for all current values.

I_{Δn} D1 ≥ 3 x I_{Δn} D2

Δt D1 > Δt D1 (One Step)

Note : The tripping time of RCDs must always be less than or equal to the time specified in the installation standards to guarantee protection of people against indirect contacts.

Compact NSX motor trip units

■ Compact NSX Trip units dedicated to motor protection ("M" type) can not be used to ensure discrimination with downstream circuit breaker.

■ Furthermore Compact NSX trip unit dedicated to distribution should not be used to protect motors, even motors wit soft starter or speed drive.

Upstream		iDPN B curve											
In (A)		1	2	3	4	6	10	16	20	25	32	40	
Downstream		Rating											
Discrimination limit (A)													
iDPN	1		8	12	16	25	40	63	80	100	125	160	
B curve	2			12	16	25	40	63	80	100	125	160	
	3					25	40	63	80	100	125	160	
	4					25	40	63	80	100	125	160	
	6						40	63	80	100	125	160	
	10							63	80	100	125	160	
	16									100	125	160	
	20										125	160	
	25											160	
	32												
	40												
Discrimination limit (A)													
iDPN	1		8	12	16	25	40	63	80	100	125	160	
C curve	2				16	25	40	63	80	100	125	160	
	3					25	40	63	80	100	125	160	
	4						40	63	80	100	125	160	
	6							63	80	100	125	160	
	10								80	100	125	160	
	16										125	160	
	20											160	
	25												
	32												
	40												
Discrimination limit (A)													
iDPN	1				16	25	40	63	80	100	125	160	
D curve	2					25	40	63	80	100	125	160	
	3						40	63	80	100	125	160	
	4							63	80	100	125	160	
	6								80	100	125	160	
	10										125	160	
	16											160	
	20												
	25												
	32												
	40												

Discrimination limit = 400 A.

No discrimination.

Upstream		iDPN C curve										
In (A)		1	2	3	4	6	10	16	20	25	32	40
Downstream	Rating											
Discrimination limit (A)												
iDPN	1		16	25	32	50	80	125	160	200	250	320
B curve	2			25	32	50	80	125	160	200	250	320
	3				32	50	80	125	160	200	250	320
	4					50	80	125	160	200	250	320
	6						80	125	160	200	250	320
	10							125	160	200	250	320
	16								160	200	250	320
	20										250	320
	25											320
	32											
	40											
Discrimination limit (A)												
iDPN	1		16	25	32	50	80	125	160	200	250	320
C curve	2			25	32	50	80	125	160	200	250	320
	3				32	50	80	125	160	200	250	320
	4					50	80	125	160	200	250	320
	6						80	125	160	200	250	320
	10							125	160	200	250	320
	16								160	200	250	320
	20										250	320
	25											320
	32											
	40											
Discrimination limit (A)												
iDPN	1		16	25	32	50	80	125	160	200	250	320
D curve	2				32	50	80	125	160	200	250	320
	3					50	80	125	160	200	250	320
	4						80	125	160	200	250	320
	6							125	160	200	250	320
	10								160	200	250	320
	16									200	250	320
	20											320
	25											
	32											
	40											

Discrimination limit = 400 A.

No discrimination.

Upstream		iDPN D curve											
In (A)		1	2	3	4	6	10	16	20	25	32	40	
Downstream		Rating											
Discrimination limit (A)													
iDPN	1	12	24	40	50	72	125	200	250	300	400	500	
B curve	2			40	50	72	125	200	250	300	400	500	
	3					72	125	200	250	300	400	500	
	4					72	125	200	250	300	400	500	
	6						125	200	250	300	400	500	
	10							200	250	300	400	500	
	16									300	400	500	
	20										400	500	
	25											500	
	32												
	40												
Discrimination limit (A)													
iDPN	1	12	24	40	50	72	125	200	250	300	400	500	
C curve	2			40	50	72	125	200	250	300	400	500	
	3					72	125	200	250	300	400	500	
	4					72	125	200	250	300	400	500	
	6						125	200	250	300	400	500	
	10							200	250	300	400	500	
	16									300	400	500	
	20										400	500	
	25											500	
	32												
	40												
Discrimination limit (A)													
iDPN	1	12	24	40	50	72	125	200	250	300	400	500	
D curve	2			40	50	72	125	200	250	300	400	500	
	3					72	125	200	250	300	400	500	
	4					72	125	200	250	300	400	500	
	6						125	200	250	300	400	500	
	10							200	250	300	400	500	
	16									300	400	500	
	20										400	500	
	25											500	
	32												
	40												

Discrimination limit = 400 A.

No discrimination.

Protection discrimination

Upstream: C60N/H/L, B curve

Downstream: iDPN, C60, B, C, D curves

Upstream		C60N/H/L B curve											
In (A)		2	3	4	6	10	16	20	25	32	40	50	63
Downstream Rating													
Discrimination limit (A)													
iDPN, C60 B curve	1			16	25	40	63	80	100	125	160	200	250
	2			16	25	40	63	80	100	125	160	200	250
	3				25	40	63	80	100	125	160	200	250
	4				25	40	63	80	100	125	160	200	250
	6					40	63	80	100	125	160	200	250
	10						63	80	100	125	160	200	250
	16								100	125	160	200	250
	20									125	160	200	250
	25										160	200	250
	32											200	250
	40												250
	50/63												
Discrimination limit (A)													
iDPN, C60 C curve	1			16	25	40	63	80	100	125	160	200	250
	2			16	25	40	63	80	100	125	160	200	250
	3				25	40	63	80	100	125	160	200	250
	4					40	63	80	100	125	160	200	250
	6						63	80	100	125	160	200	250
	10							80	100	125	160	200	250
	16									125	160	200	250
	20										160	200	250
	25											200	250
	32												250
	40												
	50/63												
Discrimination limit (A)													
iDPN, C60 D curve	1			16	25	40	63	80	100	125	160	200	250
	2				25	40	63	80	100	125	160	200	250
	3					40	63	80	100	125	160	200	250
	4						63	80	100	125	160	200	250
	6							80	100	125	160	200	250
	10									125	160	200	250
	16										160	200	250
	20											200	250
	25												250
	32												
	40												
	50/63												

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: C60N/H/L, C curve
Downstream: iDPN, C60, B, C, D curves

Upstream		C60N/H/L C curve											
In (A)		2	3	4	6	10	16	20	25	32	40	50	63
Downstream Rating													
Discrimination limit (A)													
iDPN, C60 B curve	1			32	50	80	125	160	200	250	320	400	500
	2			32	50	80	125	160	200	250	320	400	500
	3				50	80	125	160	200	250	320	400	500
	4				50	80	125	160	200	250	320	400	500
	6					80	125	160	200	250	320	400	500
	10						125	160	200	250	320	400	500
	16								200	250	320	400	500
	20									250	320	400	500
	25										320	400	500
	32											400	500
	40												500
	50/63												
Discrimination limit (A)													
iDPN, C60 C curve	1			32	50	80	125	160	200	250	320	400	500
	2			32	50	80	125	160	200	250	320	400	500
	3				50	80	125	160	200	250	320	400	500
	4				50	80	125	160	200	250	320	400	500
	6					80	125	160	200	250	320	400	500
	10						125	160	200	250	320	400	500
	16								200	250	320	400	500
	20									250	320	400	500
	25										320	400	500
	32											400	500
	40												500
	50/63												
Discrimination limit (A)													
iDPN, C60 D curve	1			32	50	80	125	160	200	250	320	400	500
	2			32	50	80	125	160	200	250	320	400	500
	3				50	80	125	160	200	250	320	400	500
	4					80	125	160	200	250	320	400	500
	6						125	160	200	250	320	400	500
	10							160	200	250	320	400	500
	16								200	250	320	400	500
	20										320	400	500
	25											400	500
	32												500
	40												
	50/63												

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: C60N/H D curve, C60L K curve

Downstream: iDPN, C60, B, C, D curves

Upstream		C60N/H D curve C60L K curve											
In (A)		2	3	4	6	10	16	20	25	32	40	50	63
Downstream Rating													
Discrimination limit (A)													
iDPN, C60	1			50	72	125	200	250	300	400	500	630	800
B curve	2			50	72	125	200	250	300	400	500	630	800
	3				72	125	200	250	300	400	500	630	800
	4				72	125	200	250	300	400	500	630	800
	6					125	200	250	300	400	500	630	800
	10						200	250	300	400	500	630	800
	16								300	400	500	630	800
	20									400	500	630	800
	25										500	630	800
	32											630	800
	40												800
	50/63												
Discrimination limit (A)													
iDPN, C60	1			50	72	125	200	250	300	400	500	630	800
C curve	2			50	72	125	200	250	300	400	500	630	800
	3				72	125	200	250	300	400	500	630	800
	4				72	125	200	250	300	400	500	630	800
	6					125	200	250	300	400	500	630	800
	10						200	250	300	400	500	630	800
	16								300	400	500	630	800
	20									400	500	630	800
	25										500	630	800
	32											630	800
	40												800
	50/63												
Discrimination limit (A)													
iDPN, C60	1			50	72	125	200	250	300	400	500	630	800
D curve	2			50	72	125	200	250	300	400	500	630	800
	3				72	125	200	250	300	400	500	630	800
	4				72	125	200	250	300	400	500	630	800
	6					125	200	250	300	400	500	630	800
	10						200	250	300	400	500	630	800
	16								300	400	500	630	800
	20									400	500	630	800
	25										500	630	800
	32											630	800
	40												800
	50/63												

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: C120N/H, B curve
Downstream: iDPN, C60, B, C, D curves

Upstream		C120N/H B curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
iDPN	6		63	80	400	500	700	800	3000	T	T	T
B curve	10			80	100	100	500	600	1800	3000	T	T
	16				100	125	160	200	1000	2000	3300	3750
	20					125	160	200	1000	1600	2500	3700
	25						160	200	800	1300	2100	3700
	32							200	600	1000	1800	2700
	40								250	320	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	T	T	T	T
C curve	2	150	300	500	700	1000	1500	2000	T	T	T	T
	3	40	63	300	500	700	1000	1500	T	T	T	T
	6		63	80	400	500	700	800	3000	T	T	T
	10				100	350	500	600	1800	3000	4000	T
	16					125	340	450	1000	2000	3300	3700
	20						160	200	1000	1600	2500	3700
	25							200	800	1300	2100	3700
	32								600	1000	1800	2700
	40									320	1600	2400
Discrimination limit (A)												
iDPN, C60	1	300	500	700	1000	1500	2000	2500	T	T	T	T
D curve	2	150	300	500	700	1000	1500	2000	T	T	T	T
	3	40	63	300	500	700	1000	1500	T	T	T	T
	6		63	80	400	500	700	800	3000	T	T	T
	10				100	350	500	600	1800	3000	4000	T
	16						340	450	1000	2000	3300	3700
	20							200	1000	1600	2500	3700
	25								800	1300	2100	3700
	32									1000	1800	2700
	40										1600	2400

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		C120N/H B curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream	Rating											
Discrimination limit (A)												
C120N/H B curve	10			80	100	125	160	200	250	320	400	500
	16					125	160	200	250	320	400	500
	20						160	200	250	320	400	500
	25							200	250	320	400	500
	32								250	320	400	500
	40									320	400	500
	50										400	500
	63											500
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H C curve	10					125	160	200	250	320	400	500
	16								250	320	400	500
	20								250	320	400	500
	25										400	500
	32											500
	40											
	50											
	63											
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H D curve	10							200	250	320	400	500
	16									320	400	500
	20										400	500
	25											500
	32											
	40											
	50											
	63											
	80											
	100											
	125											

Discrimination limit = 400 A.

No discrimination.

Upstream		C120N/H C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
iDPN	6		125	170	400	500	700	800	3000	T	T	T
B curve	10			160	200	350	500	600	1800	3000	T	T
	16				200	270	340	450	1250	2000	3300	3700
	20					250	320	400	1000	1600	2500	3700
	25						320	400	800	1300	2100	3700
	32							400	600	1000	1800	2700
	40								500	700	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
C curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6	120	200	240	400	500	700	800	3000	4500	4500	4500
	10		200	240	300	400	500	600	1800	3000	4500	4500
	16				300	400	500	600	1000	2000	3300	3700
	20						500	600	1000	1600	2500	3700
	25							600	800	1300	2100	3700
	32								800	1000	1800	2700
	40								800	1000	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
D curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6				400	500	700	800	3000	4500	4500	4500
	10						500	600	1800	3000	4500	4500
	16								1000	2000	3300	3700
	20								1000	1600	2500	3700
	25									1300	2100	3700
	32										1800	2700
	40											2400

Discrimination limit = 400 A.

No discrimination.

Upstream		C120N/H C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream	Rating											
Discrimination limit (A)												
C120N/H B curve	10			160	200	250	320	400	500	630	800	1000
	16				200	250	320	400	500	630	800	1000
	20					250	320	400	500	630	800	1000
	25							400	500	630	800	1000
	32								500	630	800	1000
	40								500	630	800	1000
	50									630	800	1000
	63										800	1000
	80											1000
	100											
	125											
Discrimination limit (A)												
C120N/H C curve	10				200	250	320	400	500	630	800	1000
	16					250	320	400	500	630	800	1000
	20						320	400	500	630	800	1000
	25							400	500	630	800	1000
	32								500	630	800	1000
	40									630	800	1000
	50										800	1000
	63											1000
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H D curve	10					250	320	400	500	630	800	1000
	16							400	500	630	800	1000
	20								500	630	800	1000
	25									630	800	1000
	32										800	1000
	40											1000
	50											
	63											
	80											
	100											
	125											

400

 Discrimination limit = 400 A.

 No discrimination.

Protection discrimination

Upstream: C120N/H, D curve

Downstream: iDPN, B, C, D curves

Upstream		C120N/H D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream	Rating	Discrimination limit (A)										
iDPN	6	125	250	250	400	500	630	800	3000	T	T	T
B curve	10		250	250	200	500	630	800	1800	3000	T	T
	16			250	400	500	630	800	1250	2000	3300	3700
	20				400	500	630	800	1000	1600	2500	3700
	25					500	630	800	1000	1250	2100	3700
	32						630	800	1000	1250	1800	2700
	40								1000	1250	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
C curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	125	200	250	400	500	700	800	3000	4500	4500	4500
	6	125	250	250	400	500	630	800	3000	4500	4500	4500
	10		250	250	200	500	630	800	1800	3000	4500	4500
	16			250	400	500	630	800	1250	2000	3300	3700
	20				400	500	630	800	1000	1600	2500	3700
	25					500	630	800	1000	1250	2100	3700
	32						630	800	1000	1250	1800	2700
	40								1000	1250	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
D curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6		250	240	400	500	630	800	3000	4500	4500	4500
	10			240	200	500	630	800	1800	3000	4500	4500
	16				400	500	630	800	1250	2000	3300	3700
	20					500	630	800	1000	1600	2500	3700
	25						630	800	1000	1250	2100	3700
	32							800	1000	1250	1800	2700
	40								1000	1250	1600	2400

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		C120N/H D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C120N/H	10		192	240	300	384	480	600	756	960	1200	1500
B curve	16				300	384	480	600	756	960	1200	1500
	20					384	480	600	756	960	1200	1500
	25							600	756	960	1200	1500
	32								756	960	1200	1500
	40									960	1200	1500
	50									960	1200	1500
	63										1200	1500
	80											1500
	100											
	125											
Discrimination limit (A)												
C120N/H	10				300	384	480	600	756	960	1200	1500
C curve	16					384	480	600	756	960	1200	1500
	20						480	600	756	960	1200	1500
	25							600	756	960	1200	1500
	32								756	960	1200	1500
	40									960	1200	1500
	50									960	1200	1500
	63											1500
	80											1500
	100											
	125											
Discrimination limit (A)												
C120N/H	10				300	384	480	600	756	960	1200	1500
D curve	16							600	756	960	1200	1500
	20							600	756	960	1200	1500
	25								756	960	1200	1500
	32								756	960	1200	1500
	40									960	1200	1500
	50									960	1200	1500
	63											1500
	80											1500
	100											
	125											

☐ 400 Discrimination limit = 400 A.

☐ No discrimination.

Protection discrimination

Upstream: NG125N/H/L, B curve

Downstream: iDPN, C120N/H, B, C, D
curves

Upstream		NG125N/H/L B curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
iDPN	6		63	80	400	500	700	800	3000	T	T	T
B curve	10			80	100	100	500	600	1800	3000	T	T
	16				100	125	160	200	1000	2000	3300	3750
	20					125	160	200	1000	1600	2500	3700
	25						160	200	800	1300	2100	3700
	32							200	600	1000	1800	2700
	40									320	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	T	T	T	T
C curve	2	150	300	500	700	1000	1500	2000	T	T	T	T
	3	40	63	300	500	700	1000	1500	T	T	T	T
	6		63	80	400	500	700	800	3000	T	T	T
	10				100	350	500	600	1800	3000	4000	T
	16					125	340	450	1000	2000	3300	3700
	20						160	200	1000	1600	2500	3700
	25							200	800	1300	2100	3700
	32								600	1000	1800	2700
	40									320	1600	2400
Discrimination limit (A)												
C120N/H	10			80	100	125	160	200	250	320	400	500
B curve	16				100	125	160	200	250	320	400	500
	20					125	160	200	250	320	400	500
	25							200	250	320	400	500
	32								250	320	400	500
	40								250	320	400	500
	50									320	400	500
	63											500
	80											500
	100											
	125											
Discrimination limit (A)												
C120N/H	10					125	160	200	250	320	400	500
C curve	16							200	250	320	400	500
	20								250	320	400	500
	25									320	400	500
	32										400	500
	40											
	50											
	63											
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H	10							200	250	320	400	500
D curve	16									320	400	500
	20										400	500
	25											500
	32											
	40											
	50											
	63											
	80											
	100											
	125											

400 Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG125N/H/L, C curve
Downstream: iDPN, C120N/H, B, C, D curves

Upstream		NG125N/H/L C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
iDPN	6			170	400	500	700	800	3000	T	T	T
B curve	10				200	350	500	600	1800	3000	T	T
	16					270	340	450	1250	2000	3300	3700
	20						320	400	1000	1600	2500	3700
	25							400	800	1300	2100	3700
	32								600	1000	1800	2700
	40									700	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
C curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6	120	200	240	400	500	700	800	3000	4500	4500	4500
	10		200	240	300	400	500	600	1800	3000	4500	4500
	16				300	400	500	600	1000	2000	3300	3700
	20						500	600	1000	1600	2500	3700
	25							600	800	1300	2100	3700
	32								800	1000	1800	2700
	40								800	1000	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
D curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6				400	500	700	800	3000	4500	4500	4500
	10						500	600	1800	3000	4500	4500
	16								1000	2000	3300	3700
	20								1000	1600	2500	3700
	25									1300	2100	3700
	32										1800	2700
	40											2400
Discrimination limit (A)												
C120N/H	10			170	212	272	340	425	535	680	850	1062
B curve	16				212	272	340	425	535	680	850	1062
	20					272	340	425	535	680	850	1062
	25							425	535	680	850	1062
	32								535	680	850	1062
	40								535	680	850	1062
	50									680	850	1062
	63										850	1062
	80											1062
	100											
	125											
Discrimination limit (A)												
C120N/H	10				212	272	340	425	535	680	850	1062
C curve	16				212	272	340	425	535	680	850	1062
	20					272	340	425	535	680	850	1062
	25							425	535	680	850	1062
	32								535	680	850	1062
	40								535	680	850	1062
	50									680	850	1062
	63										850	1062
	80											1062
	100											
	125											
Discrimination limit (A)												
C120N/H	10					272	340	425	535	680	850	1062
D curve	16						340	425	535	680	850	1062
	20							425	535	680	850	1062
	25								535	680	850	1062
	32									680	850	1062
	40										850	1062
	50											1062
	63											
	80											
	100											
	125											

400 Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG125N/H/L, D curve
Downstream: iDPN, C120N/H, B, C, D curves

Upstream		NG125N/H/L D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
iDPN	6	125	250	250	400	500	630	800	3000	T	T	T
B curve	10		250	250	200	500	630	800	1800	3000	T	T
	16			250	400	500	630	800	1250	2000	3300	3700
	20				400	500	630	800	1000	1600	2500	3700
	25					500	630	800	1000	1250	2100	3700
	32						630	800	1000	1250	1800	2700
	40								1000	1250	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
C curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	125	200	250	400	500	700	800	3000	4500	4500	4500
	6	125	250	250	400	500	630	800	3000	4500	4500	4500
	10		250	250	200	500	630	800	1800	3000	4500	4500
	16			250	400	500	630	800	1250	2000	3300	3700
	20				400	500	630	800	1000	1600	2500	3700
	25					500	630	800	1000	1250	2100	3700
	32						630	800	1000	1250	1800	2700
	40								1000	1250	1600	2400
Discrimination limit (A)												
iDPN	1	300	500	700	1000	1500	2000	2500	4500	4500	4500	4500
D curve	2	150	300	500	700	1000	1500	2000	4500	4500	4500	4500
	3	120	200	300	500	700	1000	1500	4500	4500	4500	4500
	6		250	240	400	500	630	800	3000	4500	4500	4500
	10			240	200	500	630	800	1800	3000	4500	4500
	16				400	500	630	800	1250	2000	3300	3700
	20						630	800	1000	1600	2500	3700
	25							800	1000	1250	2100	3700
	32							800	1000	1250	1800	2700
	40								1000	1250	1600	2400
Discrimination limit (A)												
C120N/H	10			240	300	384	480	600	756	960	1200	1500
B curve	16				300	384	480	600	756	960	1200	1500
	20						480	600	756	960	1200	1500
	25							600	756	960	1200	1500
	32								756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63											1500
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H	10				300	384	480	600	756	960	1200	1500
C curve	16					384	480	600	756	960	1200	1500
	20						480	600	756	960	1200	1500
	25							600	756	960	1200	1500
	32								756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63											1500
	80											
	100											
	125											
Discrimination limit (A)												
C120N/H	10				300	384	480	600	756	960	1200	1500
D curve	16					384	480	600	756	960	1200	1500
	20						480	600	756	960	1200	1500
	25							600	756	960	1200	1500
	32								756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63											1500
	80											
	100											
	125											

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		NG125N/H/L, C120N/H B curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
B, C curves	1	550	700	1500	2200	3100	3500	4000	T	T	T	T
	2	300	450	700	1500	2100	2500	2800	4500	T	T	T
	3	150	300	300	950	1500	1600	1800	4000	T	T	T
	4		150	200	600	1200	1300	1400	3400	T	T	T
	6			150	400	950	1000	1000	2800	5000	T	T
	10					600	600	750	2500	4000	5500	T
	16							600	2100	3500	4500	5500
	20									2500	3500	4500
	25									1600	2500	3500
	32											2800
	40											2500
	50											
	63											
Discrimination limit (A)												
C60H/L	0.5	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
	0.75	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
B, C, Z curves	1	550	700	1500	2200	3100	3500	4000	6000	7000	10000	10000
	2	300	450	700	1500	2100	2500	2800	4500	6000	8000	10000
	3	150	300	300	950	1500	1600	1800	4000	6000	7000	10000
	4		150	200	600	1200	1300	1400	3400	6000	6000	8000
	6			150	400	950	1000	1000	2800	5000	6000	6500
	10					600	600	750	2500	4000	5500	6000
	16							600	2100	3500	4500	5500
	20									2500	3500	4500
	25									1600	2500	3500
	32											2800
	40											2500
	50											
	63											
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
D curve	1	550	700	1500	2200	3100	3500	4000	T	T	T	T
	2		450	700	1500	2100	2500	2800	4500	T	T	T
	3			300	950	1500	1600	1800	4000	T	T	T
	4					1200	1300	1400	3400	T	T	T
	6							1000	2800	5000	T	T
	10									4000	5500	T
	16									3500	4500	5500
	20											4500
	25											3500
	32											
	40											
	50											
	63											
Discrimination limit (A)												
C60H/L	1	550	700	1500	2200	3100	3500	4000	6000	7000	10000	10000
	2		450	700	1500	2100	2500	2800	4500	6000	8000	10000
D, K, MA curves	3			300	950	1500	1600	1800	4000	6000	7000	10000
	4					1200	1300	1400	3400	6000	6000	8000
	6							1000	2800	5000	6000	6500
	10									4000	5500	6000
	16									3500	4500	5500
	20											4500
	25											3500
	32											
	40											
	50											
	63											

The above tables indicate the discrimination limits in the following cases:

- phase-to-neutral short-circuit on a 230 V single-phase distribution network, downstream of a 3 Ph + N or single-phase network.
- short-circuit between two phases on a three-phase distribution network with a nominal voltage of 230 V.

☐ T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

☐ 400 Discrimination limit = 400 A.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		NG125N/H/L, C120N/H C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N B, C curves	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	800	1000	2000	3000	4500	T	T	T	T	T	T
	2	400	600	1000	2000	3000	3500	4000	T	T	T	T
	3	200	400	400	1300	2100	2300	2500	T	T	T	T
	4		200	300	900	1600	1800	2000	T	T	T	T
	6			200	500	1300	1400	1500	4000	T	T	T
	10				300	800	900	1000	3500	T	T	T
	16					500	650	800	3000	5000	T	T
	20						400	700	2000	3600	5500	T
	25							500	1000	2200	3500	5000
	32								700	1500	2500	4000
	40									1300	1800	3600
	50										1500	2500
	63											2100
Discrimination limit (A)												
C60H/L B, C, Z curves	0.5	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
	0.75	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
	1	800	1000	2000	3000	4500	5500	7000	10000	10000	10000	10000
	2	400	600	1000	2000	3000	3500	4000	6000	10000	10000	10000
	3	200	400	400	1300	2100	2300	2500	6000	10000	10000	10000
	4		200	300	900	1600	1800	2000	5000	8000	10000	10000
	6			200	500	1300	1400	1500	4000	6500	8500	10000
	10				300	800	900	1000	3500	6000	6500	8000
	16					500	650	800	3000	5000	6000	7000
	20						400	700	2000	3600	5500	6000
	25							500	1000	2200	3500	5000
	32								700	1500	2500	4000
	40									1300	1800	3600
	50										1500	2500
	63											2100
Discrimination limit (A)												
C60N D curve	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	800	1000	2000	3000	4500	T	T	T	T	T	T
	2		600	1000	2000	3000	3500	4000	T	T	T	T
	3			400	1300	2100	2300	2500	T	T	T	T
	4				900	1600	1800	2000	T	T	T	T
	6					1300	1400	1500	4000	T	T	T
	10						900	1000	3500	T	T	T
	16							800	3000	5000	T	T
	20								2000	3600	5500	T
	25									2200	3500	5000
	32										2500	4000
	40											3600
	50											
	63											
Discrimination limit (A)												
C60H/L D, K, MA curves	1	800	1000	2000	3000	4500	5500	7000	10000	10000	10000	10000
	2		600	1000	2000	3000	3500	4000	8000	10000	10000	10000
	3			400	1300	2100	2300	2500	7000	10000	10000	10000
	4				900	1600	1800	2000	5000	8000	10000	10000
	6					1300	1400	1500	4000	6500	8500	10000
	10						900	1000	3500	5500	6500	8000
	16							800	3000	5000	6000	7000
	20								2000	3600	5500	6000
	25									2200	3500	5000
	32										2500	4000
	40											3600
	50											
	63											

The above tables indicate the discrimination limits in the following cases:

- phase-to-neutral short-circuit on a 230 V single-phase distribution network, downstream of a 3 Ph + N or single-phase network.
- short-circuit between two phases on a three-phase distribution network with a nominal voltage of 230 V.

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		NG125N/H/L, C120N/H										
		D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
B, C curves	1	900	1100	2300	3400	5000	6000	T	T	T	T	T
	2	450	700	1100	2300	3400	4000	4500	6000	T	T	T
	3	250	450	450	1500	2400	2600	2800	6000	T	T	T
	4		200	350	1000	1800	2000	2300	6000	T	T	T
	6			250	600	1500	1600	1700	4500	6000	T	T
	10				350	900	1000	1200	4000	6000	T	T
	16					600	750	900	3400	5600	6000	T
	20						500	800	2300	4000	6000	T
	25							600	1200	2500	4000	5500
	32								800	1700	2800	4500
	40								600	1500	2200	4000
	50										1700	2800
	63											2300
Discrimination limit (A)												
C60H/L	0.5	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
	0.75	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
B, C, Z curves	1	900	1100	2300	3400	5000	6000	7000	10000	10000	10000	10000
	2	450	700	1100	2300	3400	4000	4500	8000	10000	10000	10000
	3	250	450	450	1500	2400	2600	2800	7000	8000	10000	10000
	4		200	350	1000	1800	2000	2300	6000	6500	10000	10000
	6			250	600	1500	1600	1700	4500	6000	8500	10000
	10				350	900	1000	1200	4000	6000	6500	10000
	16					600	750	900	3400	5600	6000	8000
	20						500	800	2300	4000	6000	7000
	25							600	1200	2500	4000	5500
	32								800	1700	2800	4500
	40								600	1500	2200	4000
	50										1700	2800
	63											2300
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
D curve	1	900	1100	2300	3400	5000	6000	T	T	T	T	T
	2		700	1100	2300	3400	4000	4500	6000	T	T	T
	3			450	1500	2400	2600	2800	6000	T	T	T
	4				1000	1800	2000	2300	6000	T	T	T
	6					1500	1600	1700	4500	6000	T	T
	10						1000	1200	4000	6000	T	T
	16							900	3400	5600	6000	T
	20								2300	4000	6000	T
	25								1200	2500	4000	5500
	32										2800	4500
	40											4000
	50											
	63											
Discrimination limit (A)												
C60H/L	1	900	1100	2300	3400	5000	6000	10000	10000	10000	10000	10000
	2		700	1100	2300	3400	4000	4500	8000	10000	10000	10000
D, K, MA curves	3			450	1500	2400	2600	2800	7000	8000	10000	10000
	4				1000	1800	2000	2300	6000	6500	10000	10000
	6					1500	1600	1700	4500	6000	8500	10000
	10						1000	1200	4000	6000	6500	10000
	16							900	3400	5600	6000	8000
	20								2300	4000	6000	7000
	25								1200	2500	4000	5500
	32										2800	4500
	40											4000
	50											
	63											

The above tables indicate the discrimination limits in the following cases:

- phase-to-neutral short-circuit on a 230 V single-phase distribution network, downstream of a 3 Ph + N or single-phase network.
- short-circuit between two phases on a three-phase distribution network with a nominal voltage of 230 V.

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG125, C120, B curve

Downstream: C60, B, C, D, Z, K, MA curves

Upstream		NG125N/H/L, C120N/H B curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N B, C curves	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	200	300	450	700	1000	1300	1600	2800	3500	5000	T
	2	100	220	300	450	550	900	1260	2500	3000	4500	T
	3	60	150	220	350	450	700	1150	2300	2600	4000	4500
	4		100	150	250	400	650	1000	2000	2300	3300	4000
	6			120	200	300	500	700	1750	2000	3000	3500
	10					200	300	600	1100	1500	2600	3300
	16							450	700	1000	2300	2900
	20									800	1900	2500
	25									700	1700	2200
	32											1550
	40											1100
	50											
	63											
Discrimination limit (A)												
C60H/L B, C, Z curves	0.5	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	0.75	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	1	200	300	450	700	1000	1300	1600	2800	3500	5000	6000
	2	100	220	300	450	550	900	1260	2500	3000	4500	6000
	3	60	150	220	350	450	700	1150	2300	2600	4000	4500
	4		100	150	250	400	650	1000	2000	2300	3300	4000
	6			120	200	300	500	700	1750	2000	3000	3500
	10					200	300	600	1100	1500	2600	3300
	16							450	700	1000	2300	2900
	20									800	1900	2500
	25									700	1700	2200
	32											1550
	40											1100
	50											
	63											
Discrimination limit (A)												
C60N D curve	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	200	300	450	700	1000	1300	1600	2800	3500	5000	T
	2		220	300	450	550	900	1260	2500	3000	4500	T
	3			220	350	450	700	1150	2300	2600	4000	4500
	4					400	650	1000	2000	2300	3300	4000
	6							700	1750	2000	3000	3500
	10									1500	2600	3300
	16									1000	2300	2900
	20											2500
	25											2200
	32											
	40											
	50											
	63											
Discrimination limit (A)												
C60H/L D, K, MA curves	1	200	300	450	700	1000	1300	1600	2800	3500	5000	6000
	2		220	300	450	550	900	1260	2500	3000	4500	6000
	3			220	350	450	700	1150	2300	2600	4000	4500
	4					400	650	1000	2000	2300	3300	4000
	6							700	1750	2000	3000	3500
	10									1500	2600	3300
	16									1000	2300	2900
	20											2500
	25											2200
	32											
	40											
	50											
	63											

The above tables indicate the discrimination limits in the following cases:

- short-circuit between two phases on a three-phase 230/400 V distribution network.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

400 Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		NG125N/H/L, C120N/H C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
B, C curves	1	300	450	600	1000	1600	2000	2500	T	T	T	T
	2	150	300	450	600	800	1300	2000	T	T	T	T
	3	80	200	300	450	600	1000	1600	5000	T	T	T
	4		160	250	350	500	1000	1600	4000	5000	T	T
	6			170	300	400	800	1200	2500	4000	T	T
	10				210	270	500	800	1000	3200	5000	T
	16					270	400	600	1000	1600	3600	5500
	20						340	500	800	1200	3000	4000
	25							420	600	1000	2500	3200
	32								530	1000	1600	2500
	40									680	1000	1600
	50										850	1300
	63											1200
Discrimination limit (A)												
C60H/L	0.5	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	0.75	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
B, C, Z curves	1	300	450	600	1000	1600	2000	2500	6000	6000	6000	6000
	2	150	300	450	600	800	1300	2000	6000	6000	6000	6000
	3	80	200	300	450	600	1000	1600	5000	6000	6000	6000
	4		160	250	350	500	1000	1600	4000	5000	6000	6000
	6			170	300	400	800	1200	2500	4000	6000	6000
	10				210	270	500	800	1000	3200	5000	6000
	16					270	400	600	1000	1600	3600	5500
	20						340	500	800	1200	3000	4000
	25							420	600	1000	2500	3200
	32								530	1000	1600	2500
	40									680	1000	1600
	50										850	1300
	63											1200
Discrimination limit (A)												
C60N	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
D curve	1	300	450	600	1000	1600	2000	2500	T	T	T	T
	2		300	450	600	800	1300	2000	T	T	T	T
	3			300	450	600	1000	1600	5000	T	T	T
	4				350	500	1000	1600	4000	5000	T	T
	6					400	800	1200	2500	4000	T	T
	10						500	800	1000	3200	5000	T
	16							600	1000	1600	3600	5500
	20								800	1200	3000	4000
	25									1000	2500	3200
	32										1600	2500
	40											1600
	50											
	63											
Discrimination limit (A)												
C60H/L	1	300	450	600	1000	1600	2000	2500	6000	6000	6000	6000
	2		300	450	600	800	1300	2000	6000	6000	6000	6000
D, K, MA curves	3			300	450	600	1000	1600	5000	6000	6000	6000
	4				350	500	1000	1600	4000	5000	6000	6000
	6					400	800	1200	2500	4000	6000	6000
	10						500	800	1000	3200	5000	6000
	16							600	1000	1600	3600	5500
	20								800	1200	3000	4000
	25									1000	2500	3200
	32										1600	2500
	40											1600
	50											
	63											

The above tables indicate the discrimination limits in the following cases:

- short-circuit between two phases on a three-phase 230/400 V distribution network.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

400 Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream		NG125N/H/L, C120N/H D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream Rating												
Discrimination limit (A)												
C60N B, C curves	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	400	550	900	1400	1900	2400	3000	T	T	T	T
	2	200	400	550	900	1200	1600	2100	T	T	T	T
	3	130	250	350	650	900	1300	1900	T	T	T	T
	4		140	270	450	700	1100	1700	4000	T	T	T
	6			220	400	600	900	1300	3000	4300	T	T
	10				260	500	600	900	2000	3300	T	T
	16					370	500	700	1400	2000	4300	T
	20						450	600	1100	1800	3500	4500
	25							500	1000	1300	3000	3600
	32								800	1300	1800	2600
	40								500	1000	1300	2200
	50										1100	1800
	63											1500
Discrimination limit (A)												
C60H/L B, C, Z curves	0.5	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	0.75	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	1	400	550	900	1400	1900	2400	3000	6000	6000	6000	6000
	2	200	400	550	900	1200	1600	2100	6000	6000	6000	6000
	3	130	250	350	650	900	1300	1900	6000	6000	6000	6000
	4		140	270	450	700	1100	1700	4000	6000	6000	6000
	6			220	400	600	900	1300	3000	4300	6000	6000
	10				260	500	600	900	2000	3300	6000	6000
	16					370	500	700	1400	2000	4300	6000
	20						450	600	1100	1800	3500	4500
	25							500	1000	1300	3000	3600
	32								800	1300	1800	2600
	40								500	1000	1300	2200
	50										1100	1800
	63											1500
Discrimination limit (A)												
C60N D curve	0.5	T	T	T	T	T	T	T	T	T	T	T
	0.75	T	T	T	T	T	T	T	T	T	T	T
	1	400	550	900	1400	1900	2400	3000	T	T	T	T
	2	200	400	550	900	1200	1600	2100	T	T	T	T
	3		250	350	650	900	1300	1900	4000	T	T	T
	4			270	450	700	1100	1700	3000	4300	T	T
	6				400	600	900	1300	2000	3300	T	T
	10					500	600	900	1400	2000	4300	T
	16						500	700	1100	1800	3500	4500
	20								1000	1300	3000	3600
	25									1300	1800	2600
	32										1300	2200
	40											1800
	50											
	63											
Discrimination limit (A)												
C60H/L D, K, MA curves	1	400	550	900	1400	1900	2400	3000	6000	6000	6000	6000
	2	200	400	550	900	1200	1600	2100	6000	6000	6000	6000
	3		250	350	650	900	1300	1900	6000	6000	6000	6000
	4			270	450	700	1100	1700	4000	6000	6000	6000
	6				400	600	900	1300	3000	4300	6000	6000
	10					500	600	900	2000	3300	6000	6000
	16						500	700	1400	2000	4300	6000
	20								1100	1800	3500	4500
	25								1000	1300	3000	3600
	32									1300	1800	2600
	40										1300	2200
	50											1800
	63											

The above tables indicate the discrimination limits in the following cases:

- short-circuit between two phases on a three-phase 230/400 V distribution network.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

400 Discrimination limit = 400 A.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG125, B, C curves
Downstream: NG125, B, C, D curves

Upstream		NG125N/H/L											
		B curve											
In (A)		10	16	20	25	32	40	50	63	80	100	125	
Downstream	Rating												
Discrimination limit (A)													
NG125 B curve	10	40	64	80	100	128	160	200	252	320	400	500	
	16				100	128	160	200	252	320	400	500	
	20					128	160	200	252	320	400	500	
	25						160	200	252	320	400	500	
	32							200	252	320	400	500	
	40								252	320	400	500	
	50									320	400	500	
	63										400	500	
	80											500	
	100												
Discrimination limit (A)													
NG125 C curve	10					128	160	200	252	320	400	500	
	16							200	252	320	400	500	
	20								252	320	400	500	
	25									320	400	500	
	32										400	500	
	40											500	
	50												
	63												
	Discrimination limit (A)												
	NG125 D curve	10							200	252	320	400	500
16										320	400	500	
20											400	500	
25												500	
32													
40													
50													
63													

Upstream		NG125N/H/L C curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream	Rating											
Discrimination limit (A)												
NG125 B curve	10		128	160	200	256	320	400	504	640	800	1000
	16				200	256	320	400	504	640	800	1000
	20					256	320	400	504	640	800	1000
	25						320	400	504	640	800	1000
	32							400	504	640	800	1000
	40								504	640	800	1000
	50									640	800	1000
	63										800	1000
	80											1000
	100											
Discrimination limit (A)												
NG125 C curve	10		128	160	200	256	320	400	504	640	800	1000
	16				200	256	320	400	504	640	800	1000
	20					256	320	400	504	640	800	1000
	25						320	400	504	640	800	1000
	32							400	504	640	800	1000
	40								504	640	800	1000
	50									640	800	1000
	63										800	1000
	80											1000
	100											
Discrimination limit (A)												
NG125 D curve	10					256	320	400	504	640	800	1000
	16						320	400	504	640	800	1000
	20								504	640	800	1000
	25									640	800	1000
	32										800	1000
	40											1000
	50											
	63											
	80											
	100											

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG125, D curve
Downstream: NG125, B, C, D curves

Upstream		NG125N/H/L D curve										
In (A)		10	16	20	25	32	40	50	63	80	100	125
Downstream	Rating											
Discrimination limit (A)												
NG125 B curve	10		192	240	300	384	480	600	756	960	1200	1500
	16				300	384	480	600	756	960	1200	1500
	20					384	480	600	756	960	1200	1500
	25						480	600	756	960	1200	1500
	32							600	756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63										1200	1500
	80											1500
	100											
Discrimination limit (A)												
NG125 C curve	10		192	240	300	384	480	600	756	960	1200	1500
	16				300	384	480	600	756	960	1200	1500
	20					384	480	600	756	960	1200	1500
	25						480	600	756	960	1200	1500
	32							600	756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63										1200	1500
	80											1500
	100											
Discrimination limit (A)												
NG125 D curve	10		192	240	300	384	480	600	756	960	1200	1500
	16				300	384	480	600	756	960	1200	1500
	20					384	480	600	756	960	1200	1500
	25						480	600	756	960	1200	1500
	32							600	756	960	1200	1500
	40								756	960	1200	1500
	50									960	1200	1500
	63										1200	1500
	80											1500
	100											

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: C60, D, K curves

Downstream: C60, D, K curves

iDPN, iDPN Vigi, B, C curves

Upstream		C60L K curve											
Downstream	In (A)	2	3	4	6	10	16	20	25	32	40	50	63
Discrimination limit (A)													
C60N/H	0.5/0.75	24	36	48	72	120	192	240	300	384	480	600	756
D curve	1	24	36	48	72	120	192	240	300	384	480	600	756
C60L	1.6			48	72	120	192	240	300	384	480	600	756
K curve	2			48	72	120	192	240	300	384	480	600	756
	3				72	120	192	240	300	384	480	600	756
	4					120	192	240	300	384	480	600	756
	6							240	300	384	480	600	756
	10								300	384	480	600	756
	16									384	480	600	756
	20										480	600	756
	25											600	756
	32												756
	40												

Upstream		C60 Curves D or K											
Downstream	In (A)	2	3	4	6	10	16	20	25	32	40	50	63
Discrimination limit (A)													
iDPN	6/10						192	240	300	384	480	600	756
B curve	16									384	480	600	756
	20										480	600	756
	25										480	600	756
	32												756
	40												
Discrimination limit (A)													
iDPN/	1	24	36	48	72	120	192	240	300	384	480	600	756
iDPN Vigi	2			48	72	120	192	240	300	384	480	600	756
C curve	3				72	120	192	240	300	384	480	600	756
	4				72	120	192	240	300	384	480	600	756
	5					120	192	240	300	384	480	600	756
	6						192	240	300	384	480	600	756
	10							240	300	384	480	600	756
	16									384	480	600	756
	20										480	600	756
	25											600	756
	32												756

☐ 400 Discrimination limit = 400 A.

☐ No discrimination.

Upstream		C60L B curve													
Downstream	In (A)	2	3	4	6	10	16	20	25	32	40	50	63		
Discrimination limit (A)															
C60L Z curve	1	8	12	16	24	40	64	80	100	128	160	200	240		
	1.6		12	16	24	40	64	80	100	128	160	200	240		
	2			16	24	40	64	80	100	128	160	200	240		
	3				24	40	64	80	100	128	160	200	240		
	4				24	40	64	80	100	128	160	200	240		
	6					40	64	80	100	128	160	200	240		
	8						64	80	100	128	160	200	240		
	10						64	80	100	128	160	200	240		
	16								100	128	160	200	240		
	20									128	160	200	240		
	25										160	200	240		
	32											200	240		
	40												240		
	50														
Upstream		C60L C curve													
Downstream	In (A)	2	3	4	6	10	16	20	25	32	40	50	63		
Discrimination limit (A)															
C60L Z curve	1	15	23	30	45	75	120	150	188	240	300	375	450		
	1.6		23	30	45	75	120	150	188	240	300	375	450		
	2			30	45	75	120	150	188	240	300	375	450		
	3				45	75	120	150	188	240	300	375	450		
	4				45	75	120	150	188	240	300	375	450		
	6					75	120	150	188	240	300	375	450		
	8						120	150	188	240	300	375	450		
	10						120	150	188	240	300	375	450		
	16								188	240	300	375	450		
	20									240	300	375	450		
	25										300	375	450		
	32											375	450		
	40												450		
	50														
Upstream		C60L K curve													
Downstream	In (A)	2	3	4	6	10	16	20	25	32	40	50	63		
Discrimination limit (A)															
C60L Z curve	1	24	36	48	72	120	192	240	300	384	480	600	720		
	1.6		36	48	72	120	192	240	300	384	480	600	720		
	2			48	72	120	192	240	300	384	480	600	720		
	3				72	120	192	240	300	384	480	600	720		
	4				72	120	192	240	300	384	480	600	720		
	6					120	192	240	300	384	480	600	720		
	8						192	240	300	384	480	600	720		
	10						192	240	300	384	480	600	720		
	16								300	384	480	600	720		
	20									384	480	600	720		
	25										480	600	720		
	32											600	720		
	40												720		
	50														
Upstream		C60L Z curve													
Downstream	In (A)	1.6	2	3	4	6	8	10	16	20	25	32	40	50	63
Discrimination limit (A)															
C60L Z curve	1	4	8.6	9	12	18	24	30	48	60	75	96	120	150	189
	1.6		8.6	9	12	18	24	30	48	60	75	96	120	150	189
	2					18	24	30	48	60	75	96	120	150	189
	3						18	24	30	48	60	75	96	120	189
	4							18	24	30	48	60	75	96	189
	6								24	30	48	60	75	96	189
	8									30	48	60	75	96	189
	10										60	75	96	120	189
	16											75	96	120	189
	20												96	120	189
	25													120	189
	32														189
	40/5														

 Discrimination limit = 400 A.

 No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: NG160E/N/H, NSC100N
Downstream: iDPN, C60, C120, NG125

Upstream		NG160E/N/H										NSC100N							
Downstream	Rating (A)	16	25	32	40	50	63	80	100	125	160	16	25	32	40	50	63	80	100
Discrimination limit (kA)																			
iDPN B, C curves	≤10	5	5	5	5	5	T	T	T	T	T	5	5	5	5	5	T	T	T
	16			3	3	3	T	T	T	T	T			3	3	3	T	T	T
	20				3	3	T	T	T	T	T				3	3	T	T	T
	25					3	T	T	T	T	T					3	T	T	T
	32						4	4	T	T	T						4	4	T
40							4	T	T	T							4	T	
iDPNN C, D curves	≤10	5	5	5	5	5	T	T	T	T	T	5	5	5	5	5	T	T	T
	16			3	3	3	T	T	T	T	T			3	3	3	T	T	T
	20				3	3	T	T	T	T	T				3	3	T	T	T
	25					3	6	6	T	T	T					3	6	6	T
	32						4	4	7	T	T						4	4	7
40							4	7	8	8							4	7	
C60N/H B, C, D curves	≤10	5	5	5	5	5	10	T	T	T	T	5	5	5	5	5	10	T	T
	16			3	3	3	10	T	T	T	T			3	3	3	10	T	T
	20				3	3	10	T	T	T	T				3	3	10	T	T
	25					3	6	6	T	T	T					3	6	6	T
	32						4	4	7	T	T						4	4	7
	40							4	7	8	8							4	7
	50								5	8	8							5	
63									6	6									
C60L B-C-D-K-Z curves	≤10	5	5	5	5	5	10	15	T	T	T	5	5	5	5	5	10	15	T
	16			3	3	3	10	15	T	T	T			3	3	3	10	15	T
	20				3	3	10	15	T	T	T				3	3	10	15	T
	25					3	6	6	T	T	T					3	6	6	T
	32						4	4	7	T	T						4	4	7
	40							4	7	8	8							4	7
	50								5	8	8							5	
63									6	6									
C120N/H B, C, D curves	10 (H)	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1	1.25	1.25	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1
	16 (H)			0.6	0.6	0.6	0.8	0.8	1	1.25	1.25			0.6	0.6	0.6	0.8	0.8	1
	20 (H)			0.6	0.6	0.6	0.8	0.8	1	1.25	1.25			0.6	0.6	0.6	0.8	0.8	1
	25 (H)				0.6	0.6	0.8	0.8	1	1.25	1.25				0.6	0.6	0.8	0.8	1
	32 (H)						0.8	0.8	1	1.25	1.25						0.8	0.8	1
	40 (H)							0.8	1	1.25	1.25							0.8	1
	50 (H)							0.8	1	1.25	1.25							0.8	1
	63									1.25	1.25								
	80										1.25								
100										1.25									
NG125N/H/L B, C, D curves	125																		
	10	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1	1.25	1.25	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1
	16			0.6	0.6	0.6	0.8	0.8	1	1.25	1.25			0.6	0.6	0.6	0.8	0.8	1
	20			0.6	0.6	0.6	0.8	0.8	1	1.25	1.25			0.6	0.6	0.6	0.8	0.8	1
	25				0.6	0.6	0.8	0.8	1	1.25	1.25				0.6	0.6	0.8	0.8	1
	32						0.8	0.8	1	1.25	1.25						0.8	0.8	1
	40							0.8	1	1.25	1.25							0.8	1
	50							0.8	1	1.25	1.25							0.8	1
	63									1.25	1.25								
80										1.25									
100 (N)										1.25									
125 (N)																			

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination for overload and short-circuit, see page 6, or check curves with Curve Direct software. Particularly for D curves downstream.

Protection discrimination

Upstream: Compact NSX100-250 TM-D

Downstream: iDPN, C60, C120, NG125-160,
NSC100N

Upstream		Compact NSX100B/F/N/H/S/L TM-D								Compact NSX160B/F/N/H/S/L TM-D				Compact NSX250B/F/N/H/S/L TM-D			
Trip unit																	
Downstream	Rating (A)	16	25	32	40	50	63	80	100	80	100	125	160	160	200	250	
Discrimination limit (kA)																	
iDPN B,C curves	≤ 10	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	16		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	20			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	25					0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	32						0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
40							0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
iDPNN C,D curves	≤ 10	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	16		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	20			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	25					0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	32							0.5	0.63	0.8	0.63	0.8	T	T	T	T	
40							0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
C60N/H B-C-D Curves	≤ 10	0.19	0.3	0.4	0.9	0.9	0.9	1.3	3	1.3	3	T	T	T	T	T	
	16		0.3	0.4	0.5	0.5	0.5	1	2	1	2	T	T	T	T	T	
	20			0.4	0.5	0.5	0.5	0.63	1.5	0.63	1.5	T	T	T	T	T	
C60L B-C-D-K-Z curves	25				0.5	0.5	0.5	0.63	1.5	0.63	1.5	T	T	T	T	T	
	32						0.5	0.63	1	0.63	1	T	T	T	T	T	
	40						0.5	0.63	1	0.63	1	T	T	T	T	T	
	50							0.63	0.8	0.63	0.8	T	T	T	T	T	
	63								0.8		0.8	T	T	T	T	T	
C120N/H B-C-D curves	10 (H)	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	16 (H)		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	20 (H)			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	25 (H)				0.5	0.5	0.5	0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	32 (H)						0.5	0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	40 (H)							0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	50 (H)							0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	63								0.8		0.8	2.4	2.4	2.4	T	T	
	80												2.4	2.4	2.4	T	T
	100														T	T	
125															T	T	
NG125N/H/L B-C-D curves	10	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	16		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	20			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
	25					0.5	0.5	0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	32						0.5	0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	40							0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	50							0.63	0.8	0.63	0.8	2.4	2.4	2.4	T	T	
	63								0.8		0.8	2.4	2.4	2.4	T	T	
	80												2.4	2.4	2.4	T	T
	100 (N)														T	T	
125 (N)															T	T	
NG160E/N/H NSC100N	16			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	2	2	2	T	T	
	25				0.5	0.5	0.5	0.63	0.8	0.63	0.8	2	2	2	T	T	
	32						0.5	0.63	0.8	0.63	0.8	2	2	2	T	T	
	40							0.63	0.8	0.63	0.8	2	2	2	T	T	
	50							0.63	0.8	0.63	0.8	2	2	2	T	T	
	63								0.8		0.8	2	2	2	T	T	
	80											2	2	2	T	T	
	100												2	2	T	T	
	125														T	T	
160															T	T	

T

 Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4

 Discrimination limit = 4 kA.

 No discrimination.

Note: respect the basic rules of discrimination for overload and short-circuit, see page 6, or check curves with Curve Direct software. Particularly for D curves downstream.

Protection discrimination

Upstream: Compact NSX100-250 Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N

Upstream		Compact NSX100B/F/N/H/S/L Micrologic								Compact NSX160B/F/N/H/S/L Micrologic				Compact NSX250B/F/N/H/S/L Micrologic		
Trip unit																
Downstream	Rating (A) Setting	40 16	25	32	40	100 40	63	80	100	160 80	100	125	160	250 160	200	250
Discrimination limit (kA)																
iDPN	≤ 10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B,C curves	16		T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20			T	T	T	T	T	T	T	T	T	T	T	T	T
	25				T	T	T	T	T	T	T	T	T	T	T	T
	32						T	T	T	T	T	T	T	T	T	T
	40						T	T	T	T	T	T	T	T	T	T
iDPNN	≤ 10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C,D curves	16		T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20			T	T	T	T	T	T	T	T	T	T	T	T	T
	25				T	T	T	T	T	T	T	T	T	T	T	T
	32						T	T	T	T	T	T	T	T	T	T
	40						T	T	T	T	T	T	T	T	T	T
C60N/H	≤ 10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B-C-D curves	16		T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20			T	T	T	T	T	T	T	T	T	T	T	T	T
C60L	25				T	T	T	T	T	T	T	T	T	T	T	T
B-C-D-K-Z curves	32						T	T	T	T	T	T	T	T	T	T
	40						T	T	T	T	T	T	T	T	T	T
	50							6	6	T	T	T	T	T	T	T
	63								6		T	T	T	T	T	T
C120N/H	10 (H)	0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
B-C-D curves	16 (H)		0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
	20 (H)			0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
	25 (H)				0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	32 (H)						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	40 (H)						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	50 (H)							1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	63								1.5		2.4	2.4	2.4	T	T	T
	80											2.4	2.4	T	T	T
	100												2.4	T	T	T
	125														T	T
																T
NG125N/H/L	10	0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
B-C-D curves	16		0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
	20			0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T
	25				0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	32						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	40						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	50							1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	63								1.5		2.4	2.4	2.4	T	T	T
	80											2.4	2.4	T	T	T
	100 (N)												2.4	T	T	T
	125 (N)														T	T
																T
NG160E/N/H	16				0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
NSC100N	25					1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	32						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	40							1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	50							1.5	1.5	2.4	2.4	2.4	2.4	T	T	T
	63								1.5		2.4	2.4	2.4	T	T	T
	80											2.4	2.4	T	T	T
	100												2.4	T	T	T
	125														T	T
	160															T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination for overload and short-circuit, see page 6, or check curves with Curve Direct software. Particularly for D curves downstream.

Protection discrimination

Upstream: Compact NSX100-250
TM-D - Micrologic
Downstream: Compact NSX100-250
TM-D - Micrologic

Upstream		Compact NSX100B/F/N/H/S/L TM-D								Compact NSX160B/F/N/H/S/L TM-D				Compact NSX250B/F/N/H/S/L TM-D			
Trip unit		16	25	32	40	50	63	80	100	80	100	125	160	160	200	250	
Downstream	Rating (A)	16	25	32	40	50	63	80	100	80	100	125	160	160	200	250	
Discrimination limit (kA)																	
Compact NSX100 B/F TM-D	16				0.5	0.5	0.5	0.63	0.8	0.63	0.8		1.25	1.25	T	T	
	25					0.5	0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	32						0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	40							0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	50							0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	63								0.8		0.8	1.25	1.25	1.25	T	T	
	80											1.25	1.25	1.25	T	T	
	100												1.25	1.25	T	T	
Compact NSX100 N/H/S/L TM-D	16				0.5	0.5	0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	25					0.5	0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	T	T	
	32						0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	36	36	
	40							0.63	0.8	0.63	0.8	1.25	1.25	1.25	36	36	
	50							0.63	0.8	0.63	0.8	1.25	1.25	1.25	36	36	
	63								0.8		0.8	1.25	1.25	1.25	36	36	
	80											1.25	1.25	1.25	36	36	
	100												1.25	1.25	36	36	
Compact NSX160 B/F/N/H/S/L TM-D	≤ 63											1.25	1.25	1.25	4	5	
	80											1.25	1.25	1.25	4	5	
	100												1.25	1.25	4	5	
	160															5	
Compact NSX250 B/F/N/H/S/L TM-D	≤ 100													1.25	2	2.5	
	125														2	2.5	
	160															2.5	
	200																
Compact NSX100 B/F/N/H/S/L Micrologic	40						0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	2	2.5	
	100												1.25	1.25	2	2.5	
Compact NSX160 B/F/N/H/S/L Micrologic	40						0.5	0.63	0.8	0.63	0.8	1.25	1.25	1.25	2	2.5	
	100												1.25	1.25	2	2.5	
	160															2.5	
Compact NSX250 B/F/N/H/S/L Micrologic	≤ 100													1.25	2	2.5	
	160															2.5	
	250																

Upstream		Compact NSX100B/F/N/H/S/L Micrologic								Compact NSX160B/F/N/H/S/L Micrologic				Compact NSX250B/F/N/H/S/L Micrologic			
Trip unit		40	25	32	40	100	63	80	100	160	100	125	160	250	200	250	
Downstream	Rating (A) Setting	16	25	32	40	40	63	80	100	80	100	125	160	160	200	250	
Discrimination limit (kA)																	
Compact NSX100 B/F TM-D	16					1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	25					1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	32						1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	40							1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	50								1.5	2.4	2.4	2.4	2.4	T	T	T	
	63										2.4	2.4	2.4	T	T	T	
	80											2.4	2.4	T	T	T	
	100												2.4	T	T	T	
Compact NSX100 N/H/S/L TM-D	16					1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	25					1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	T	T	T	
	32						1.5	1.5	1.5	2.4	2.4	2.4	2.4	36	36	36	
	40							1.5	1.5	2.4	2.4	2.4	2.4	36	36	36	
	50								1.5	2.4	2.4	2.4	2.4	36	36	36	
	63										2.4	2.4	2.4	36	36	36	
	80											2.4	2.4	36	36	36	
	100												2.4	36	36	36	
Compact NSX160 B/F/N/H/S/L TM-D	≤ 63										2.4	2.4	2.4	3	3	3	
	80											2.4	2.4	3	3	3	
	100												2.4	3	3	3	
	160													3	3	3	
Compact NSX250 B/F/N/H/S/L TM-D	≤ 100													3	3	3	
	125														3	3	
	160															3	
	200															3	
Compact NSX100 B/F/N/H/S/L Micrologic	40						1.5	1.5	1.5	2.4	2.4	2.4	2.4	36	36	36	
	100												2.4	36	36	36	
Compact NSX160 B/F/N/H/S/L Micrologic	40									2.4	2.4	2.4	2.4	3	3	3	
	100												2.4	3	3	3	
	160															3	
Compact NSX250 B/F/N/H/S/L Micrologic	≤ 100													3	3	3	
	160															3	
	250																

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination for overload and short-circuit, see page 6, or check curves with Curve Direct software. Particularly for D curves downstream.

Protection discrimination

Upstream: Compact NSX400-630 Micrologic

Downstream: iDPN, C60, C120, NG125-160,

NSC100N, Compact NSX100-400

Upstream Trip unit		Compact NSX400F/N/H/S/L Micrologic					Compact NSX630F/N/H/S/L Micrologic				
Downstream	Rating (A) Setting	400 160	200	250	320	400	630 250	320	400	500	630
Discrimination limit (kA)											
iDPN		T	T	T	T	T	T	T	T	T	T
iDPNN		T	T	T	T	T	T	T	T	T	T
C60N/H/L		T	T	T	T	T	T	T	T	T	T
C120N/H	≤ 80	T	T	T	T	T	T	T	T	T	T
	100		T	T	T	T	T	T	T	T	T
	125			T	T	T	T	T	T	T	T
NG125N/H/L	≤ 80	T	T	T	T	T	T	T	T	T	T
	100		T	T	T	T	T	T	T	T	T
	125			T	T	T	T	T	T	T	T
NG160E/N/H NSC100N	≤ 80	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T
Compact NSX100 B/F/N/H/S/L TM-D	≤ 80	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T	T
Compact NSX160 B/F/N/H/S/L TM-D	≤ 100	T	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T
Compact NSX250 B/F/N/H/S/L TM-D	≤ 100	4.8	4.8	4.8	4.8	4.8	T	T	T	T	T
	125		4.8	4.8	4.8	4.8	T	T	T	T	T
	160			4.8	4.8	4.8	T	T	T	T	T
	200				4.8	4.8		T	T	T	T
	250					4.8			T	T	T
Compact NSX100 B/F/N/H/S/L Micrologic	40	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T
Compact NSX160 B/F/N/H/S/L Micrologic	40	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T
Compact NSX250 B/F/N/H/S/L Micrologic	≤ 100	4.8	4.8	4.8	4.8	4.8	T	T	T	T	T
	160			4.8	4.8	4.8	T	T	T	T	T
	250					4.8			T	T	T
Compact NSX400 F/N/H/S/L Micrologic	160						6.9	6.9	6.9	6.9	6.9
	200							6.9	6.9	6.9	6.9
	250								6.9	6.9	6.9
	320									6.9	6.9
	400										6.9

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination for overload and short-circuit, see page 6, or check curves with Curve Direct software. Particularly for D curves downstream.

Upstream		Compact NS630b/800/1000/1250/1600N/H																							
Trip Unit		Micrologic 2.0								Micrologic 5.0 - 6.0 - 7.0 Inst 15 In								Micrologic 5.0 - 6.0 - 7.0 Inst OFF							
Downstream	Rating (A) Setting Ir	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600			
Discrimination limit (kA)																									
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
NG125L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Compact NSX100 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Compact NSX160 B/F/N/H/S/L TM-D		T		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Compact NSX250 ≤ 125		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
B/F/N/H/S/L 160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
TM-D 200			T	T	T	T	T	T		T	T	T	T	T	T		T	T	T	T	T	T			
250			T	T	T	T	T	T		T	T	T	T	T	T		T	T	T	T	T	T			
Compact NSX100 40		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
B/F/N/H/S/L 100		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Micrologic																									
Compact NSX160 40		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
B/F/N/H/S/L 100		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Micrologic 160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Compact NSX250 ≤ 100		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
B/F/N/H/S/L 160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Micrologic 250			T	T	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T	T	T			
Compact NSX400 160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
F/N/H 200			T	T	T	T	T	T		T	T	T	T	T	T		T	T	T	T	T	T			
Micrologic 250			T	T	T	T	T	T		T	T	T	T	T	T		T	T	T	T	T	T			
320				T	T	T	T	T			T	T	T	T	T			T	T	T	T	T			
400				T	T	T	T	T			T	T	T	T	T			T	T	T	T	T			
Compact NSX400 160	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90			
S/L 200			90	90	90	90	90	90		90	90	90	90	90	90		90	90	90	90	90	90			
Micrologic 250			90	90	90	90	90	90		90	90	90	90	90	90		90	90	90	90	90	90			
320				90	90	90	90	90			90	90	90	90	90			90	90	90	90	90			
400				90	90	90	90	90			90	90	90	90	90			90	90	90	90	90			
Compact NSX630 250			T	T	T	T	T	T		T	T	T	T	T	T		T	T	T	T	T	T			
F/N 320				T	T	T	T	T			T	T	T	T	T			T	T	T	T	T			
Micrologic 400				T	T	T	T	T			T	T	T	T	T			T	T	T	T	T			
500					T	T	T	T				T	T	T	T				T	T	T	T			
630					T	T	T	T					T	T	T					T	T	T			
Compact NSX630 250			65	65	65	65	65	65		65	65	65	65	65	65		65	65	65	65	65	65			
H/S/L 320				65	65	65	65	65			65	65	65	65	65			65	65	65	65	65			
Micrologic 400				65	65	65	65	65			65	65	65	65	65			65	65	65	65	65			
500					65	65	65	65				65	65	65	65				65	65	65	65			
630						65	65	65					65	65	65					65	65	65			

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip Unit		Compact NS630b/800/1000/1250/1600N/H Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst OFF					
Downstream	Rating (A) Setting Ir	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)																			
Compact NS630b N/H Micrologic	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18	18	18	18	18	18	18	18
	320		6.3	8	10	12.5	16		9.4	12	15	18	18		18	18	18	18	18
	400		6.3	8	10	12.5	16		9.4	12	15	18	18		18	18	18	18	18
	500			8	10	12.5	16			12	15	18	18			18	18	18	18
	630				10	12.5	16				15	18	18				18	18	18
Compact NS800 N/H Micrologic	320		6.3	8	10	12.5	16		9.4	12	15	18	18		18	18	18	18	18
	400		6.3	8	10	12.5	16		9.4	12	15	18	18		18	18	18	18	18
	500			8	10	12.5	16			12	15	18	18			18	18	18	18
	630				10	12.5	16				15	18	18			18	18	18	18
	800					12.5	16					18	18				18	18	18
Compact NS1000 N/H Micrologic	400		6.3	8	10	12.5	16		9.4	12	15	18	18		18	18	18	18	18
	500			8	10	12.5	16			12	15	18	18			18	18	18	18
	630				10	12.5	16				15	18	18				18	18	18
	800					12.5	16					18	18					18	18
	1000						16						18						18
Compact NS1250 N/H Micrologic	500			8	10	12.5	16			12	15	18	18			18	18	18	18
	630				10	12.5	16				15	18	18				18	18	18
	800					12.5	16					18	18					18	18
	1000						16						18						18
	1250																		
Compact NS1600 N/H Micrologic	630				10	12.5	16				15	18	18				18	18	18
	800					12.5	16					18	18					18	18
	960						16						18						18
	1250																		
	1600																		
Compact NS630b L/LB Micrologic	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18.7	24	30	30	30	30	30	30
	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		30	30	30	30	30
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		30	30	30	30	30
	500			8	10	12.5	16			12	15	18.7	24			30	30	30	30
	630				10	12.5	16				15	18.7	24				30	30	30
Compact NS800 L/LB Micrologic	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		30	30	30	30	30
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		30	30	30	30	30
	500			8	10	12.5	16			12	15	18.7	24			30	30	30	30
	630				10	12.5	16				15	18.7	24				30	30	30
	800					12.5	16					18.7	24					30	30
Compact NS1000 L Micrologic	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		30	30	30	30	30
	500			8	10	12.5	16			12	15	18.7	24			30	30	30	30
	630				10	12.5	16				15	18.7	24				30	30	30
	800					12.5	16					18.7	24					30	30
	1000						16						24						30

☐ 4 Discrimination limit = 4 kA.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Compact NS1600b-3200N

Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N, NSX100-630, NS630b-3200

Upstream		Compact NS1600b/2000/2500/3200N											
Trip Unit		Micrologic 2.0				Micrologic 5.0 - 6.0 - 7.0 Inst 15In				Micrologic 5.0 - 6.0 - 7.0 Inst OFF			
Downstream	Rating (A) Discrimination limit (kA)	1600	2000	2500	3200	1600	2000	2500	3200	1600	2000	2500	3200
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T
C60N/H/L		T	T	T	T	T	T	T	T	T	T	T	T
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T
NG125L		T	T	T	T	T	T	T	T	T	T	T	T
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX B/F/N/H/S/L TM-D	NSX100	T	T	T	T	T	T	T	T	T	T	T	T
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX B/F/N/H/S/L Micrologic	NSX100	T	T	T	T	T	T	T	T	T	T	T	T
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX F/N/H/S/L	NSX400	T	T	T	T	T	T	T	T	T	T	T	T
	NSX630	T	T	T	T	T	T	T	T	T	T	T	T
	NS630b	16	20	25	32	24	30	37.5	48	T	T	T	T
	NS800	16	20	25	32	24	30	37.5	48	T	T	T	T
	NS1000	16	20	25	32	24	30	37.5	48	T	T	T	T
Compact NS N	NS1250		20	25	32		30	37.5	48		T	T	T
	NS1600			25	32			37.5	48			T	T
Compact NS H	NS630b	16	20	25	32	24	30	37.5	48	60	60	60	60
	NS800	16	20	25	32	24	30	37.5	48	60	60	60	60
	NS1000	16	20	25	32	24	30	37.5	48	60	60	60	60
	NS1250		20	25	32		30	37.5	48		60	60	60
	NS1600			25	32			37.5	48			60	60
Compact NS N/H	NS1600b			25	32			37.5	48			60	60
	NS2000				32				48				60
	NS2500												
	NS3200												
Compact NS L/LB	NS630bL/LB	T	T	T	T	T	T	T	T	T	T	T	T
	NS800L/LB	T	T	T	T	T	T	T	T	T	T	T	T
	NS1000L	T	T	T	T	T	T	T	T	T	T	T	T

☒ Total discrimination, up to the breaking capacity of the downstream circuit breaker.

 Discrimination limit = 4 kA.

 No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Compact NS1600b-3200H

Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N, NSX100-630, NS630b-3200

Upstream		Compact NS1600b/2000/2500/3200H											
Trip Unit		Micrologic 2.0				Micrologic 5.0 - 6.0 - 7.0 Inst 15 In				Micrologic 5.0 - 6.0 - 7.0 Inst OFF			
Downstream	Rating (A)	1600	2000	2500	3200	1600	2000	2500	3200	1600	2000	2500	3200
Discrimination limit (kA)													
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T
C60N/H/L		T	T	T	T	T	T	T	T	T	T	T	T
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T
NG125L		40	40	40	40	40	40	40	40	40	40	40	40
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX B/F	NSX100	T	T	T	T	T	T	T	T	T	T	T	T
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX B/F Micrologic	NSX100	T	T	T	T	T	T	T	T	T	T	T	T
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX F	NSX400	T	T	T	T	T	T	T	T	T	T	T	T
	NSX630	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX N/H/S/L TM-D	NSX100	40	40	40	40	40	40	40	40	40	40	40	40
	NSX160	40	40	40	40	40	40	40	40	40	40	40	40
	NSX250	40	40	40	40	40	40	40	40	40	40	40	40
Compact NSX N/H/S/L Micrologic	NSX100	40	40	40	40	40	40	40	40	40	40	40	40
	NSX160	40	40	40	40	40	40	40	40	40	40	40	40
	NSX250	40	40	40	40	40	40	40	40	40	40	40	40
Compact NSX N/H/S/L	NSX400	40	40	40	40	40	40	40	40	40	40	40	40
	NSX630	40	40	40	40	40	40	40	40	40	40	40	40
	NS630b	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS800	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS1000	16	20	25	32	24	30	37.5	40	40	40	40	40
Compact NS N	NS1250		20	25	32		30	37.5	40		40	40	40
	NS1600			25	32			37.5	40			40	40
	NS630b	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS800	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS1000	16	20	25	32	24	30	37.5	40	40	40	40	40
Compact NS H	NS1250		20	25	32		30	37.5	40		40	40	40
	NS1600			25	32			37.5	40			40	40
	NS630b	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS800	16	20	25	32	24	30	37.5	40	40	40	40	40
	NS1000	16	20	25	32	24	30	37.5	40	40	40	40	40
Compact NS N/H	NS1250		20	25	32		30	37.5	40		40	40	40
	NS1600			25	32			37.5	40			40	40
	NS1600b			25	32			37.5	40			40	40
	NS2000				32				40				40
Compact NS L/LB	NS2500												
	NS3200												
	NS630bL/LB	T	T	T	T	T	T	T	T	T	T	T	T
	NS800L/LB	T	T	T	T	T	T	T	T	T	T	T	T
Compact NS L/LB	NS1000L	T	T	T	T	T	T	T	T	T	T	T	T

☒ Total discrimination, up to the breaking capacity of the downstream circuit breaker.

☐ Discrimination limit = 4 kA.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Compact NS630b-1000L,
Compact NS630b-800LB Micrologic
Downstream: iDPN, C60, C120, NG125-160,
NSC100N, Compact NSX100-630

Upstream		Compact NS630b/800/1000L Compact NS630b/800LB															
Trip Unit		Micrologic 2.0					Micrologic 5.0 - 6.0 - 7.0 Inst 15 In					Micrologic 5.0 - 6.0 - 7.0 Inst OFF					
Downstream	Rating (A) Setting Ir	630 250	400	630	800 800	1000 1000	630 250	400	630	800 800	1000 1000	630 250	400	630	800 800	1000 1000	
Discrimination limit (kA)																	
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NG125L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NG160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Compact NSX100 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Compact NSX160 B/F TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Compact NSX160 N/H/S/L TM-D		36	36	36	T	T	36	36	36	T	T	36	36	36	T	T	
Compact NSX250 ≤ 125		20	20	20	T	T	20	20	20	T	T	20	20	20	T	T	
B/F/N/H/S/L	160	20	20	20	T	T	20	20	20	T	T	20	20	20	T	T	
TM-D	200		20	20	T	T		20	20	T	T		20	20	T	T	
	250		20	20	T	T		20	20	T	T		20	20	T	T	
Compact NSX100	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
B/F/N/H/S/L	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Micrologic																	
Compact NSX160	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
B/F	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Micrologic	160	T	T	T	T	T	T	T	T	T	T				T	T	
Compact NSX160	40	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T	
N/H/S/L	100	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T	
Micrologic	160	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T	
Compact NSX250 ≤ 100		20	20	20	T	T	20	20	20	T	T	20	20	20	T	T	
B/F/N/H/S/L	160		20	20	T	T		20	20	T	T		20	20	T	T	
Micrologic	250		20	20	T	T		20	20	T	T		20	20	T	T	
Compact NSX400	160	6.3	6.3	6.3	10	15	6.3	6.3	6.3	10	15	6.3	6.3	6.3	10	15	
F/N/H/S/L	200		6.3	6.3	10	15		6.3	6.3	10	15		6.3	6.3	10	15	
Micrologic	250		6.3	6.3	10	15		6.3	6.3	10	15		6.3	6.3	10	15	
	320		6.3	6.3	10	15			6.3	10	15			6.3	10	15	
	400			6.3	10	15			6.3	10	15			6.3	10	15	
Compact NSX630	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10	
F/N/H/S/L	320			6.3	8	10			6.3	8	10			6.3	8	10	
Micrologic	400			6.3	8	10			6.3	8	10			6.3	8	10	
	500				8	10				8	10				8	10	
	630					10					10					10	

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Compact NS630b-1000L,

Compact NS630b-800LB Micrologic

Downstream: Compact NS630b-1000

Upstream		Compact NS630b/800/1000L														
Trip Unit		Compact NS630b/800LB					Micrologic 5.0 - 6.0 - 7.0					Micrologic 5.0 - 6.0 - 7.0				
		Micrologic 2.0					Inst 15 In					Inst OFF				
Downstream	Rating (A) Setting Ir	630 250	400	630	800 800	1000 1000	630 250	400	630	800 800	1000 1000	630 250	400	630	800 800	1000 1000
Discrimination limit (kA)																
Compact NS630b N/H Micrologic	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10
	320			6.3	8	10			6.3	8	10			6.3	8	10
	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
Compact NS800 N/H Micrologic	320			6.3	8	10			6.3	8	10			6.3	8	10
	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
	800															
Compact NS1000 N/H Micrologic	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
	800															
	1000															
Compact NS630b L/LB Micrologic	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10
	320			6.3	8	10			6.3	8	10			6.3	8	10
	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
Compact NS800 L/LB Micrologic	320			6.3	8	10			6.3	8	10			6.3	8	10
	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
	800															
Compact NS1000 L Micrologic	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10
	800															
	1000															

Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NT06-16 H1/H2

Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N, Compact NSX100-630

Upstream Trip unit		Masterpact NT06/08/12/16 H1/H2 Micrologic 2.0																Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In								Micrologic 5.0 - 6.0 - 7.0 Inst : OFF							
Downstream	Rating (A) Setting Ir	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600	630 250	400	630	800 800	1000 1000	1250 1250	1600 1600											
Discrimination limit (kA)																																	
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
NG125L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
Compact NSX100 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
Compact NSX160 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
Compact NSX250 ≤ 125 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	200		T	T	T	T	T		T	T	T	T	T	T	T		T	T	T	T	T	T											
	250		T	T	T	T	T		T	T	T	T	T	T	T		T	T	T	T	T	T											
Compact NSX100 B/F/N/H/S/L Micrologic	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
Compact NSX160 B/F/N/H/S/L Micrologic	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
Compact NSX250 ≤ 100 B/F/N/H/S/L Micrologic		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	250		T	T	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T	T	T											
Compact NSX400 F/N/H/S/L Micrologic	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T											
	200		T	T	T	T	T		T	T	T	T	T	T	T		T	T	T	T	T	T											
	250		T	T	T	T	T		T	T	T	T	T	T	T		T	T	T	T	T	T											
	320			T	T	T	T			T	T	T	T	T	T			T	T	T	T	T											
	400			T	T	T	T			T	T	T	T	T	T			T	T	T	T	T											
Compact NSX630 F/N/H/S/L Micrologic	250		T	T	T	T	T		T	T	T	T	T	T	T		T	T	T	T	T	T											
	320			T	T	T	T			T	T	T	T	T	T			T	T	T	T	T											
	400			T	T	T	T			T	T	T	T	T	T			T	T	T	T	T											
	500				T	T	T				T	T	T	T	T				T	T	T	T											
	630				T	T	T					T	T	T	T					T	T	T											

T

 Total discrimination, up to the breaking capacity of the downstream circuit breaker.

 No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Upstream Trip unit		Masterpact NT06/08/12/16 H1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	630 400	630 630	800 800	1000 1000	1250 1250	1600 1600	630 400	630 630	800 800	1000 1000	1250 1250	1600 1600	630 400	630 630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)																			
Compact NS630b N/H Micrologic	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18.7	24	T	T	T	T	T	T
	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
Compact NS800 N/H Micrologic	630				10	12.5	16				15	18.7	24				T	T	T
	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
Compact NS1000 N/H Micrologic	630				10	12.5	16				15	18.7	24			T	T	T	T
	800					12.5	16					18.7	24				T	T	T
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
Compact NS1250 N/H Micrologic	630					12.5	16					18.7	24					T	T
	800						16						24						T
	1000												24						T
	1250																		
Compact NS1600 N/H Micrologic	630				10	12.5	16				15	18.7	24				T	T	T
	800					12.5	16					18.7	24					T	T
	960						16						24						T
	1250 1600																		
Compact NS630b L/LB Micrologic	250	4	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	400		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	500			8	T	T	T			T	T	T	T			T	T	T	T
Compact NS800 L/LB Micrologic	630				T	T	T				T	T	T				T	T	T
	320		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	400		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	500			8	10	T	T			T	T	T	T			T	T	T	T
Compact NS1000 L Micrologic	630				10	T	T				T	T	T				T	T	T
	800					12.5	T					T	T					T	T
	400		6.3	8	10	12.5	T		9.4	12	T	T	T		T	T	T	T	T
	500			8	10	12.5	T			12	T	T	T			T	T	T	T
Compact NS1000 L Micrologic	630				10	12.5	T				T	T	T				T	T	T
	800					12.5	T					T	T					T	T
	1000						T						T						T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip unit		Masterpact NT06/08/12/16 H1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	630 400	630	800	1000	1250	1600	630 400	630	800	1000	1250	1600	630 400	630	800	1000	1250	1600
Discrimination limit (kA)																			
Masterpact NT06 H1/H2	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18.7	24	T	T	T	T	T	T
Micrologic	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
	630				10	12.5	16				15	18.7	24				T	T	T
Masterpact NT08 H1/H2	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
Micrologic	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
	630				10	12.5	16				15	18.7	24			T	T	T	T
	800					12.5	16					18.7	24				T	T	T
Masterpact NT10 H1/H2	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		T	T	T	T	T
Micrologic	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
	630				10	12.5	16				15	18.7	24				T	T	T
	800					12.5	16					18.7	24					T	T
	1000						16						24						T
Masterpact NT12 H1/H2	500			8	10	12.5	16			12	15	18.7	24			T	T	T	T
Micrologic	630				10	12.5	16				15	18.7	24				T	T	T
	800					12.5	16					18.7	24					T	T
	1000						16						24						T
	1250																		
Masterpact NT16 H1/H2	630				10	12.5	16				15	18.7	24				T	T	T
Micrologic	800					12.5	16					18.7	24					T	T
	960						16						24						T
	1250																		
	1600																		
Masterpact NT06 L1	250	4	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	320		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	400		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	500			8	T	T	T			T	T	T	T			T	T	T	T
	630				T	T	T				T	T	T				T	T	T
Masterpact NT08 L1	320		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
Micrologic	400		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	500			8	10	T	T			T	T	T	T			T	T	T	T
	630				10	T	T				T	T	T				T	T	T
	800					T	T					T	T					T	T
Masterpact NT10 L1	400		6.3	8	10	12.5	T		9.4	12	T	T	T		T	T	T	T	T
Micrologic	500			8	10	12.5	T			12	T	T	T			T	T	T	T
	630				10	12.5	T				T	T	T				T	T	T
	800					12.5	T					T	T					T	T
	1000						T						T						T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip unit		Masterpact NT06/08/12/16 H2 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)																			
Compact NS630bN/H Micrologic	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18.7	24	42	42	42	42	42	42
	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
Compact NS800N/H Micrologic	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24			42	42	42	42
	800					12.5	16					18.7	24				42	42	42
Compact NS1000N/H Micrologic	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	1000						16						24						42
Compact NS1250N/H Micrologic	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	1000						16						24						42
	1250																		42
Compact NS1600N/H Micrologic	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	960						16						24						42
	1250																		
	1600																		
Compact NS630bL/LB Micrologic	250	4	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	400		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	500			8	T	T	T			T	T	T	T			T	T	T	T
	630				T	T	T				T	T	T				T	T	T
Compact NS800L/LB Micrologic	320		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	400		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	500			8	10	T	T			T	T	T	T			T	T	T	T
	630				10	T	T				T	T	T				T	T	T
	800					T	T					T	T					T	T
Compact NS1000L Micrologic	400		6.3	8	10	12.5	T		9.4	12	T	T	T		T	T	T	T	T
	500			8	10	12.5	T			12	T	T	T			T	T	T	T
	630				10	12.5	T				T	T	T				T	T	T
	800					12.5	T					T	T					T	T
	1000						T						T						T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip unit		Masterpact NT06/08/12/16 H2 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600	630 400	630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)																			
Masterpact NT06 H1/H2	250	4	6.3	8	10	12.5	16	9.4	9.4	12	15	18.7	24	42	42	42	42	42	42
	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
Masterpact NT08 H1/H2	320		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24			42	42	42	42
	800					12.5	16					18.7	24				42	42	42
Masterpact NT10 H1/H2	400		6.3	8	10	12.5	16		9.4	12	15	18.7	24		42	42	42	42	42
	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	1000						16						24						42
Masterpact NT12 H1/H2	500			8	10	12.5	16			12	15	18.7	24			42	42	42	42
	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	1000						16						24						42
	1250																		
Masterpact NT16 H1/H2	630				10	12.5	16				15	18.7	24				42	42	42
	800					12.5	16					18.7	24					42	42
	960						16						24						42
	1250																		
	1600																		
Masterpact NT06 L1	250	4	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	400		6.3	8	T	T	T		T	T	T	T	T		T	T	T	T	T
	500			8	T	T	T			T	T	T	T			T	T	T	T
	630				T	T	T				T	T	T				T	T	T
Masterpact NT08 L1	320		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	400		6.3	8	10	T	T		9.4	T	T	T	T		T	T	T	T	T
	500			8	10	T	T			T	T	T	T			T	T	T	T
	630				10	T	T				T	T	T				T	T	T
	800					T	T					T	T					T	T
Masterpact NT10 L1	400		6.3	8	10	12.5	T		9.4	12	T	T	T		T	T	T	T	T
	500			8	10	12.5	T			12	T	T	T			T	T	T	T
	630				10	12.5	T				T	T	T				T	T	T
	800					12.5	T					T	T					T	T
	1000						T						T						T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Protection discrimination

Upstream: Masterpact NT06-10 L1

Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N, Compact NSX100-630

Upstream Trip unit		Masterpact NT06/08/10 L1 Micrologic 2.0					Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In					Micrologic 5.0 - 6.0 - 7.0 Inst : OFF				
Downstream	Rating (A) Setting Ir	630			800	1000	630			800	1000	630			800	1000
		250	400	630	800	1000	250	400	630	800	1000	250	400	630	800	1000
Discrimination limit (kA)																
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG160		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX100 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX160 B/F TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX160 N/H/S/L TM-D		36	36	36	T	T	36	36	36	T	T	36	36	36	T	T
Compact NSX250 B/F/N/H/S/L TM-D	≤ 125	20	20	20	T	T	20	20	20	T	T	20	20	20	T	T
	160	20	20	20	T	T	20	20	20	T	T	20	20	20	T	T
	200		20	20	T	T		20	20	T	T		20	20	T	T
	250		20	20	T	T		20	20	T	T		20	20	T	T
Compact NSX100 B/F/N/H/S/L Micrologic	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX160 B/F Micrologic	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	160	T	T	T	T	T	T	T	T	T	T		T	T	T	T
Compact NSX160 N/H/S/L Micrologic	40	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T
	100	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T
	160	36	36	36	T	T	36	36	36	T	T	36	36	36	T	T
Compact NSX250 B/F/N/H/S/L Micrologic	≤ 100	20	20	20	T	T	20	20	20	T	T	20	20	20	T	T
	160		20	20	T	T		20	20	T	T		20	20	T	T
	250		20	20	T	T		20	20	T	T		20	20	T	T
Compact NSX400 F/N/H/S/L Micrologic	160	6.3	6.3	6.3	10	15	6.3	6.3	6.3	10	15	6.3	6.3	6.3	10	15
	200		6.3	6.3	10	15		6.3	6.3	10	15		6.3	6.3	10	15
	250		6.3	6.3	10	15		6.3	6.3	10	15		6.3	6.3	10	15
	320		6.3	6.3	10	15			6.3	10	15			6.3	10	15
	400			6.3	10	15			6.3	10	15			6.3	10	15
Compact NSX630 F/N/H/S/L Micrologic	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10
	320			6.3	8	10			6.3	8	10			6.3	8	10
	400			6.3	8	10			6.3	8	10			6.3	8	10
	500				8	10				8	10				8	10
	630					10					10					10

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NT06-10 L1
Micrologic
Downstream: Compact NS630b-1000,
Masterpact NT06-10

Upstream Trip unit		Masterpact NT06/08/10 L1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In				Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	630			800	1000	630			800	1000	630			800	1000	
		250	400	630	800	1000	250	400	630	800	1000	250	400	630	800	1000	
Discrimination limit (kA)																	
Compact NS630b N/H/L/LB Micrologic	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10	
	320			6.3	8	10			6.3	8	10			6.3	8	10	
	400			6.3	8	10			6.3	8	10			6.3	8	10	
	500				8	10				8	10				8	10	
	630					10					10					10	
Compact NS800 N/H/L/LB Micrologic	320			6.3	8	10			6.3	8	10			6.3	8	10	
	400			6.3	8	10			6.3	8	10			6.3	8	10	
	500				8	10				8	10				8	10	
	630					10					10					10	
	800																
Compact NS1000 N/H/L Micrologic	400					10					10			6.3	10	10	
	500					10					10				10	10	
	630					10					10					10	
	800																
	1000																
Masterpact NT06 H1/H2/L1 Micrologic	250		6.3	6.3	8	10		6.3	6.3	8	10		6.3	6.3	8	10	
	320			6.3	8	10			6.3	8	10			6.3	8	10	
	400			6.3	8	10			6.3	8	10			6.3	8	10	
	500				8	10				8	10				8	10	
	630					10					10					10	
Masterpact NT08 H1/H2/L1 Micrologic	320			6.3	8	10			6.3	8	10			6.3	8	10	
	400			6.3	8	10			6.3	8	10			6.3	8	10	
	500				8	10				8	10				8	10	
	630					10					10					10	
	800																
Masterpact NT10 H1/H2/L1 Micrologic	400					10					10			6.3	10	10	
	500					10					10				10	10	
	630					10					10					10	
	800																
	1000																

☒ 4 Discrimination limit = 4 kA.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW08-20 N1/H1/H2/L1

Micrologic

Downstream: iDPN, C60, C120, NG125-160,
NSC100N, Compact NSX100-630

Upstream Trip unit		Masterpact NW08/12/16/20 N1/H1/H2/L1 Micrologic 2.0												Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In				Micrologic 5.0 - 6.0 - 7.0 Inst : OFF				
Downstream	Rating (A) Setting Ir	800 320	630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 320	630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 320	630	800	1000 1000	1250 1250	1600 1600	2000 2000
Discrimination limit (kA)																						
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX100 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX160 B/F/N/H/S/L TM-D		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX250	≤ 125	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B/F/N/H/S/L	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
TM-D	200	T	T	T	T	T	T		T	T	T	T	T	T			T	T	T	T	T	T
	250		T	T	T	T	T		T	T	T	T	T	T			T	T	T	T	T	T
Compact NSX100	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B/F/N/H/S/L	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic																						
Compact NSX160	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B/F/N/H/S/L	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Compact NSX250	≤ 100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B/F/N/H/S/L	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	250		T	T	T	T	T	T	T	T	T	T	T	T			T	T	T	T	T	T
Compact NSX400	160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
F/N/H/S/L	200	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320		T	T	T	T	T		T	T	T	T	T	T			T	T	T	T	T	T
	400		T	T	T	T	T		T	T	T	T	T	T			T	T	T	T	T	T
Compact NSX630	250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
F/N/H/S/L	320		T	T	T	T	T		T	T	T	T	T	T			T	T	T	T	T	T
Micrologic	400		T	T	T	T	T		T			T	T	T			T	T	T	T	T	T
	500			T	T	T	T					T	T	T					T	T	T	T
	630				T	T	T					T	T	T					T	T	T	T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW08-20 N1/H1/H2
Micrologic
Downstream: Compact NS630b-1600

Upstream Trip unit		Masterpact NW08/12/16/20 N1/H1/H2 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000
Discrimination limit (kA)																			
Compact NS630b N/H Micrologic	250	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Compact NS800 N/H Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
Compact NS1000 N/H Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
Compact NS1250 N/H Micrologic	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
	1250						20						30						T
Compact NS1600 N/H Micrologic	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	960					16	20					24	30					T	T
	1250						20						30						T
	1600																		
Compact NS630b L/LB Micrologic	250	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	T	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			T	T	T	T			T	T	T	T			T	T	T	T
Compact NS800 L/LB Micrologic	320	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	10	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			10	T	T	T			T	T	T	T			T	T	T	T
	800				T	T	T				T	T	T				T	T	T
Compact NS1000 L Micrologic	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
	1000					T	T					T	T					T	T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Upstream Trip unit		Masterpact NW08/12/16/20 N1/H1/H2 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000
Discrimination limit (kA)																			
Masterpact NT06 H1/H2	250	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Masterpact NT08 H1/H2	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
Masterpact NT10 H1/H2	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
Micrologic	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
Masterpact NT12 H1/H2	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
Micrologic	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
	1250						20						30						T
Masterpact NT16 H1/H2	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Micrologic	800				12.5	16	20				18.75	24	30				T	T	T
	960					16	20					24	30					T	T
	1250						20						30						T
	1600																		
Masterpact NT06L	250	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	320	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	T	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			T	T	T	T			T	T	T	T			T	T	T	T
Masterpact NT08L	320	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	400	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	10	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			10	T	T	T			T	T	T	T			T	T	T	T
	800				T	T	T				T	T	T				T	T	T
Masterpact NT10L	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
Micrologic	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
	1000					T	T					T	T					T	T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Protection discrimination

Upstream: Masterpact NW08-20 N1/H1
Micrologic
Downstream: Masterpact NW08-20

Upstream Trip unit		Masterpact NW08/12/16/20 N1/H1 Micrologic 2.0							Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In							Micrologic 5.0 - 6.0 - 7.0 Inst : OFF						
Downstream	Rating (A) Setting Ir	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000			
Discrimination limit (kA)																						
Masterpact NW08 N1/H1/L1 Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW10 N1/H1/L1 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW12 N1/H1/L1 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	1000					16	20					24	30					T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW16 N1/H1/L1 Micrologic	800					16	20					24	30					T	T			
	960					16	20					24	30					T	T			
	1250						20						30						T			
	1600																		T			
Masterpact NW20 N1/H1/L1 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	1000					16	20					24	30					T	T			
	1250						20						30						T			
	1600																		T			
Masterpact NW08 H2 Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW10 H2 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW12 H2 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	1000					16	20					24	30					T	T			
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T			
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T			
Masterpact NW16 H2 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	960					16	20					24	30					T	T			
	1250						20						30						T			
	1600																		T			
Masterpact NW20 H2 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T			
	1000					16	20					24	30					T	T			
	1250						20						30						T			
	1600																		T			

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW08-20 H2
Micrologic
Downstream: Masterpact NW08-20

Upstream Trip unit		Masterpact NW08/12/16/20 H2 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800		1000	1250	1600	2000	800		1000	1250	1600	2000	800		1000	1250	1600	2000
		630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000
Discrimination limit (kA)																			
Masterpact NW08 N1/H1/L1 Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Masterpact NW10 N1/H1/L1 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Masterpact NW12 N1/H1/L1 Micrologic	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
	500		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
Masterpact NW16 N1/H1/L1 Micrologic	800					16	20					24	30					T	T
	1250						20						30						T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
Masterpact NW20 N1/H1/L1 Micrologic	1000					16	20					24	30					T	T
	1250						20						30						T
	1600												30						T
	800	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	82	82	82	82	82	82
Masterpact NW08 H2 Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	82	82	82	82	82	82
	500		8	10	12.5	16	20		12	15	18.75	24	30		82	82	82	82	82
	630			10	12.5	16	20			15	18.75	24	30			82	82	82	82
	800				12.5	16	20				18.75	24	30				82	82	82
Masterpact NW10 H2 Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	82	82	82	82	82	82
	500		8	10	12.5	16	20		12	15	18.75	24	30		82	82	82	82	82
	630			10	12.5	16	20			15	18.75	24	30			82	82	82	82
	800				12.5	16	20				18.75	24	30				82	82	82
Masterpact NW12 H2 Micrologic	1000					16	20					24	30					82	82
	1250						20						30						82
	630			10	12.5	16	20			15	18.75	24	30			82	82	82	82
	800				12.5	16	20				18.75	24	30				82	82	82
Masterpact NW16 H2 Micrologic	1000					16	20					24	30					82	82
	1250						20						30						82
	960					16	20					24	30					82	82
	1600						20						30						82
Masterpact NW20 H2 Micrologic	800				12.5	16	20				18.75	24	30				82	82	82
	1000					16	20					24	30					82	82
	1250						20						30						82
	1600																		82

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Upstream Trip unit		Masterpact NW08/12/16/20 L1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000
Discrimination limit (kA)																			
Compact NS630b N/H Micrologic	250	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Compact NS800 N/H Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
Compact NS1000 N/H Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
Compact NS1250 N/H Micrologic	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	1250						20						30						37
Compact NS1600 N/H Micrologic	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	960					16	20					24	30					37	37
	1250						20						30						37
	1600																		
Compact NS630b L/LB Micrologic	250	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	320	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	10	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			10	T	T	T			T	T	T	T			T	T	T	T
Compact NS800 L/LB Micrologic	320	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
Compact NS1000 L Micrologic	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
	1000					T	T					T	T					T	T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip unit		Masterpact NW08/12/16/20 L1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000	800 630	800	1000 1000	1250 1250	1600 1600	2000 2000
Discrimination limit (kA)																			
Masterpact NT06 H1/H2	250	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
Micrologic	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NT08 H1/H2	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
Micrologic	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
Masterpact NT10 H1/H2	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
Micrologic	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
Masterpact NT12 H1/H2	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
Micrologic	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	1250						20						30						37
Masterpact NT16 H1/H2	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Micrologic	800				12.5	16	20				18.75	24	30				37	37	37
	960					16	20					24	30					37	37
	1250						20						30						37
	1600																		
Masterpact NT06 L1	250	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Micrologic	320	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	6.3	8	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	500		8	10	T	T	T		T	T	T	T	T		T	T	T	T	T
	630			10	T	T	T			T	T	T	T			T	T	T	T
Masterpact NT08 L1	320	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
Micrologic	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
Masterpact NT10 L1	400	6.3	8	10	12.5	T	T	12	12	T	T	T	T	T	T	T	T	T	T
Micrologic	500		8	10	12.5	T	T		12	T	T	T	T		T	T	T	T	T
	630			10	12.5	T	T			T	T	T	T			T	T	T	T
	800				12.5	T	T				T	T	T				T	T	T
	1000					T	T					T	T					T	T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Upstream Trip unit		Masterpact NW08/12/16/20 L1 Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF					
Downstream	Rating (A) Setting Ir	800		1000	1250	1600	2000	800		1000	1250	1600	2000	800		1000	1250	1600	2000
		630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000
Discrimination limit (kA)																			
Masterpact NW08 N1/H1/H2	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NW10 N1/H1/H2	800				12.5	16	20				18.75	24	30				37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NW12 N1/H1/H2	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NW16 N1/H1/H2	800					16	20					24	30					37	37
	1250						20						30						37
	960					16	20					24	30					37	37
	1600						20						30						37
Masterpact NW20 N1/H1/H2	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	1250						20						30						37
	1600																		37
Masterpact NW08 L1	320	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NW10 L1	800				12.5	16	20				18.75	24	30				37	37	37
	400	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	37	37	37	37	37	37
	500		8	10	12.5	16	20		12	15	18.75	24	30		37	37	37	37	37
	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
Masterpact NW12 L1	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	1250						20						30						37
	1600																		37
Masterpact NW16 L1	630			10	12.5	16	20			15	18.75	24	30			37	37	37	37
	800				12.5	16	20				18.75	24	30				37	37	37
	960					16	20					24	30					37	37
	1250						20						30						37
Masterpact NW20 L1	800				12.5	16	20				18.75	24	30				37	37	37
	1000					16	20					24	30					37	37
	1250						20						30						37
	1600																		37

☐ 4 Discrimination limit = 4 kA.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW25-40 H1/H2,

Masterpact NW40b-63 H1 Micrologic

Downstream: iDPN, C60, C120, NG125-160,

NSC100N, NSX100-630, NS630b-3200

Upstream		Masterpact NW25/32/40 H1/H2 Micrologic 2.0						Masterpact NW40b 50/63 H1				Masterpact NW25/32/40 H1/H2 Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In				Masterpact NW40b 50/63 H1				Masterpact NW25/32/40 H1/H2 Micrologic 5.0 - 6.0 - 7.0 Inst : OFF				Masterpact NW40b 50/63 H1			
Trip unit																											
Downstream	Rating (A)	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300		
Discrimination limit (kA)																											
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
NG125N/H/L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NSX B/F/H/N/S/L TM-D	NSX100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NSX B/F/H/N/S/L Micrologic	NSX100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NSX F/H/N/S/L Micrologic	NSX400	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX630	T	T	T		T	T	T	T	T		T	T	T	T		T	T	T		T	T	T	T	T		
Compact NS N Micrologic	NS630b	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1000	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1250	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1600	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NS H Micrologic	NS630b	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1000	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1250	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1600	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NS N Micrologic	NS1600b	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS2000	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS2500		32	40	40	50	63		48	60	60	T	T			T	T	T	T	T	T	T	T	T			
	NS3200			40	40	50	63			60	60	T	T				T	T	T	T	T	T	T	T			
Compact NS H Micrologic	NS1600b	25	32	40	40	50	63	37.5	48	60	60	75	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS2000	25	32	40	40	50	63	37.5	48	60	60	75	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS2500		32	40	40	50	63		48	60	60	75	T			T	T	T	T	T	T	T	T	T			
	NS3200			40	40	50	63			60	60	75	T				T	T	T	T	T	T	T	T			
Compact NS L Micrologic	NS630b	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1000	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact NS LB Micrologic	NS630b	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		

☐ Total discrimination. up to the breaking capacity of the downstream circuit breaker.

☐ Discrimination limit = 4 kA.

☐ No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW25-40 H1
Micrologic
Downstream: Masterpact NT06-16,
Masterpact NW08-20

Upstream Trip unit		Masterpact NW25/32/40 H1 Micrologic 2.0			Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In			Micrologic 5.0 - 6.0 - 7.0 Inst : OFF		
Downstream	Rating (A)	2500	3200	4000	2500	3200	4000	2500	3200	4000
Discrimination limit (kA)										
Masterpact NT H1 Micrologic	NT06	25	32	40	37.5	T	T	T	T	T
	NT08	25	32	40	37.5	T	T	T	T	T
	NT10	25	32	40	37.5	T	T	T	T	T
	NT12	25	32	40	37.5	T	T	T	T	T
	NT16	25	32	40	37.5	T	T	T	T	T
Masterpact NT H2 Micrologic 2.0	NT06	25	32	40	37.5	48	T	T	T	T
	NT08	25	32	40	37.5	48	T	T	T	T
	NT10	25	32	40	37.5	48	T	T	T	T
	NT12	25	32	40	37.5	48	T	T	T	T
	NT16	25	32	40	37.5	48	T	T	T	T
Masterpact NW N1 Micrologic	NW08	25	32	40	37.5	T	T	T	T	T
	NW10	25	32	40	37.5	T	T	T	T	T
	NW12	25	32	40	37.5	T	T	T	T	T
	NW16	25	32	40	37.5	T	T	T	T	T
	NW20	25	32	40	37.5	48	60	T	T	T
Masterpact NW H1 Micrologic	NW08	25	32	40	37.5	48	60	T	T	T
	NW10	25	32	40	37.5	48	60	T	T	T
	NW12	25	32	40	37.5	48	60	T	T	T
	NW16	25	32	40	37.5	48	60	T	T	T
	NW20	25	32	40	37.5	48	60	T	T	T
Masterpact NW H2 Micrologic	NW25		32	40		48	60		T	T
	NW32			40			60			T
	NW08	25	32	40	37.5	48	60	T	T	T
	NW10	25	32	40	37.5	48	60	T	T	T
	NW12	25	32	40	37.5	48	60	T	T	T
Masterpact NW H3 Micrologic	NW16	25	32	40	37.5	48	60	T	T	T
	NW20	25	32	40	37.5	48	60	T	T	T
	NW25		32	40		48	60		T	T
	NW32			40			60			T
	NW08	25	32	40	37.5	48	60	T	T	T
Masterpact NT L1 Micrologic	NT06	T	T	T	T	T	T	T	T	T
	NT08	T	T	T	T	T	T	T	T	T
	NT10	T	T	T	T	T	T	T	T	T
	NW08	25	32	40	37.5	48	60	T	T	T
	NW10	25	32	40	37.5	48	60	T	T	T
Masterpact NW L1 Micrologic	NW12	25	32	40	37.5	48	60	T	T	T
	NW16	25	32	40	37.5	48	60	T	T	T
	NW20	25	32	40	37.5	48	60	T	T	T
	NW25		32	40		48	60		T	T
	NW32			40			60			T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW25-40 H2,
Masterpact NW40b-63 H1 Micrologic
Downstream: Masterpact NT06-16,
Masterpact NW08-50

Upstream		Masterpact NW25/32/40 H2 Micrologic 2.0						Masterpact NW40b 50/63 H1 Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Masterpact NW25/32/40 H2 Micrologic 5.0 - 6.0 - 7.0 Inst : OFF						Masterpact NW40b 50/63 H1					
Trip unit																									
Downstream	Rating (A)	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300	2500	3200	4000	4000	5000	6300
Discrimination limit (kA)																									
Masterpact NT H1 Micrologic	NT06	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT12	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT16	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NT H2 Micrologic	NT06	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT12	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT16	25	32	40	40	T	T	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW N1 Micrologic	NW08	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW10	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW12	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW16	25	32	40	40	T	T	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW H1 Micrologic	NW08	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW10	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW12	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW16	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW20	25	32	40	40	50	63	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW25		32	40	40	50	63		48	60	60	T	T		T	T	T	T	T	T	T	T	T	T	T
	NW32			40	40	50	63			60	60	T	T			T	T	T	T	T	T	T	T	T	T
	NW40					50	63				60	T	T									T	T	T	T
Masterpact NW H2 Micrologic	NW08	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW10	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW12	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW16	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW20	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW25		32	40	40	50	63		48	60	60	75	94		82	82	82	82	82	T	T	T	T	T	T
	NW32			40	40	50	63			60	60	75	94			82	82	82	82	T	T	T	T	T	T
	NW40					50	63			60	60	75	94			82	82	82	82	T	T	T	T	T	T
Masterpact NW H1	NW40b					50	63					75	94									T	T	T	T
	NW50						63						94										T	T	T
Masterpact NW H3 Micrologic	NW20	25	32	40	40	50	63	37.5	48	60	60	75	94	82	82	82	82	82	82	T	T	T	T	T	T
	NW25		32	40	40	50	63		48	60	60	75	94		82	82	82	82	82	T	T	T	T	T	T
	NW32			40	40	50	63			60	60	75	94			82	82	82	82	T	T	T	T	T	T
	NW40					50	63					75	94									T	T	T	T
Masterpact NW H2	NW40b					50	63					75	94									T	T	T	T
	NW50						63						94										T	T	T
Masterpact NT L1 Micrologic	NT06	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW L1 Micrologic	NW08	25	32	40	40	50	63	37.5	48	60	60	75	94	T	T	T	T	T	T	T	T	T	T	T	T
	NW10	25	32	40	40	50	63	37.5	48	60	60	75	94	T	T	T	T	T	T	T	T	T	T	T	T
	NW12	25	32	40	40	50	63	37.5	48	60	60	75	94	T	T	T	T	T	T	T	T	T	T	T	T
	NW16	25	32	40	40	50	63	37.5	48	60	60	75	94	T	T	T	T	T	T	T	T	T	T	T	T
	NW20	25	32	40	40	50	63	37.5	48	60	60	75	94	T	T	T	T	T	T	T	T	T	T	T	T

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW20-40 H3,
Masterpact NW40b-63 H2 Micrologic
Downstream: iDPN, C60, C120, NG125-160,
NSC100, NSX100-630, NS630b-3200

Upstream		Masterpact NW20/25/32/40H3						Masterpact NW40b 50/63 H2				Masterpact NW20/25/32/40 H3				Masterpact NW40b 50/63 H2				Masterpact NW20/25/32/40 H3				Masterpact NW40b 50/63 H2					
Trip unit		Micrologic 2.0						Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In						Micrologic 5.0 - 6.0 - 7.0 Inst : OFF															
Downstream Rating (A)		2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300
Discrimination limit (kA)																													
iDPN, iDPNN		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
C60		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
C120N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NG125N/H/L		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NG160E/N/H		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
NSC100N		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Compact B/F/H/N/S/L TM-D	NSX100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact B/F/H/N/S/L Micrologic	NSX100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	NSX160	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NSX250	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact F/H/N/S/L	NSX400	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	NSX630	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact N Micrologic	NS630b	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	NS800	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1000	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1250	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1600	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact H Micrologic	NS630b	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65	65	
	NS800	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65		
	NS1000	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65		
	NS1250	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65		
	NS1600	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65		
Compact N Micrologic	NS1600b	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	65	65	65	65	65	65	65	65	65	65	65	65		
	NS2000		25	32	40	40	50	63		37.5	48	60	60	T	T		65	65	65	65	65	65	65	65	65	65	65		
	NS2500			32	40	40	50	63			48	60	60	T	T			65	65	65	65	65	65	65	65	65	65		
	NS3200				40	40	50	63				60	60	T	T				65	65	65	65	65	65	65	65	65		
Compact H Micrologic	NS1600b	20	25	32	40	40	50	63	30	37.5	48	60	60	75	T	65	65	65	65	65	65	65	65	65	65	65	65		
	NS2000		25	32	40	40	50	63		37.5	48	60	60	75	T		65	65	65	65	65	65	65	65	65	65	65		
	NS2500			32	40	40	50	63			48	60	60	75	T			65	65	65	65	65	65	65	65	65	65		
	NS3200				40	40	50	63				60	60	75	T				65	65	65	65	65	65	65	65	65		
Compact L Micrologic	NS630b	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS1000	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Compact LB Micrologic	NS630b	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	NS800	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW20-40 H3,
Masterpact NW40b-63 H2 Micrologic
Downstream: Masterpact NT06-16,
Masterpact NW08-50

Upstream		Masterpact NW20/25/32/40 H3				Masterpact NW40b 50/63 H2				Masterpact NW20/25/32/40 H3				Masterpact NW40b 50/63 H2				Masterpact NW20/25/32/40 H3				Masterpact NW40b 50/63 H2							
Trip unit		Micrologic 2.0								Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In								Micrologic 5.0 - 6.0 - 7.0 Inst : OFF											
Downstream	Rating (A)	2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300	2000	2500	3200	4000	4000	5000	6300
Discrimination limit (kA)																													
Masterpact NT H1 Micrologic	NT06	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT12	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT16	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NT H2 Micrologic	NT06	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT12	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT16	20	25	32	40	40	T	T	30	37.5	48	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW N1 Micrologic	NW08	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW10	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW12	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW16	20	25	32	40	40	T	T	30	37.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW H1 Micrologic	NW08	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW10	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW12	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW16	20	25	32	40	40	50	63	30	37.5	48	60	60	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NW20	20	25	32	40	40	50	63		37.5	48	60	60	T	T		T	T	T	T	T	T	T	T	T	T	T	T	T
	NW25			32	40	40	50	63			48	60	60	T	T			T	T	T	T	T	T	T	T	T	T	T	T
	NW32				40	40	50	63				60	60	T	T				T	T	T	T	T	T	T	T	T	T	T
	NW40						50	63					60	T	T												T	T	T
Masterpact NW H2 Micrologic	NW08	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	NW10	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	NW12	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	NW16	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	NW20		25	32	40	40	50	63		37.5	48	60	60	75	94		65	65	65	65	65	65	65	65	65	65	65	65	65
	NW25			32	40	40	50	63			48	60	60	75	94			65	65	65	65	65	65	65	65	65	65	65	65
	NW32				40	40	50	63				60	60	75	94				65	65	65	65	65	65	65	65	65	65	65
	NW40						50	63				60	60	75	94				65	65	65	65	65	65	65	65	65	65	65
Masterpact NW H1	NW40b						50	63						75	94												T	T	T
	NW50							63							94														T
Masterpact NW H3 Micrologic	NW20	20	25	32	40	40	50	63		37.5	48	60	60	75	94		65	65	65	65	65	65	65	65	65	65	65	65	65
	NW25			32	40	40	50	63			48	60	60	75	94			65	65	65	65	65	65	65	65	65	65	65	65
	NW32				40	40	50	63				60	60	75	94				65	65	65	65	65	65	65	65	65	65	65
	NW40						50	63						75	94												120	120	120
Masterpact NW H2	NW40b						50	63						75	94												120	120	120
	NW50							63							94														120
Masterpact NT L1 Micrologic	NT06	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT08	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	NT10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Masterpact NW L1 Micrologic	NW08	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	NW10	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	NW12	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	NW16	20	25	32	40	40	50	63	30	37.5	48	60	60	75	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	NW20	20	25	32	40	40	50	63		37.5	48	60	60	75	94		100	100	100	100	100	100	100	100	100	100	100	100	100

T Total discrimination. up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Protection discrimination / DC

Upstream: Compact NS100 and
NS160 DC

Downstream: Compact NS100 and
NS160 DC

	Upstream Type of trip unit Fixed or adjustable Im (A)	Compact NS100 DC - Thermal magnetic protection							
		TM16D	TM25D	TM32D	TM40D	TM50D	TM63D	TM80DC	TM100DC
		Fixed 260	Fixed 400	Fixed 550	Fixed 700	Fixed 700	Fixed 700	Fixed 640	Fixed 800
Downstream	Rating In (A)								
Compact NS100 DC TMD trip units	16			550	700	700	700	640	800
	25				700	700	700	640	800
	32						700	640	800
	40							640	800
	50							640	800
	63								800
TMDC trip units	80								
	100								

	Upstream	Compact NS160 DC - Thermal magnetic protection									
	Type of trip unit	TM16D	TM25D	TM32D	TM40D	TM50D	TM63D	TM80DC	TM100DC	TM125DC	TM160DC
	Fixed or adjustable Im (A)	Fixed 260	Fixed 400	Fixed 550	Fixed 700	Fixed 700	Fixed 700	Fixed 640	Fixed 800	Fixed 1250	Fixed 1250
Downstream	Rating In (A)										
Compact NS100 DC TMD trip units	16			550	700	700	700	640	800	1250	1250
	25				700	700	700	640	800	1250	1250
	32						700	640	800	1250	1250
	40							640	800	1250	1250
	50							640	800	1250	1250
	63								800	1250	1250
TMDC trip units	80										1250
	100										1250
Compact NS160 DC TMD trip units	16			550	700	700	700	640	800	1250	1250
	25				700	700	700	640	800	1250	1250
	32						700	640	800	1250	1250
	40							640	800	1250	1250
	50							640	800	1250	1250
	63								800	1250	1250
TMDC trip units	80										1250
	100										1250
	125										
	160										

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination / DC

Upstream: Compact NS250 DC

Downstream: Compact NS100 and
NS250 DC

	Upstream Type of trip unit Fixed or adjustable	Compact NS250 DC - Thermal magnetic protection							
		TM80DC Fixed	TM100DC Fixed	TM125DC Fixed	TM160DC Fixed	TM200DC Adjustable		TM250DC Adjustable	
	I _m (A)	640	800	1250	1250	Min. 1000	Max. 2000	Min. 1250	Max. 2500
Downstream									
Rating I_n (A)									
Compact NS100 DC TMD trip units	16	640	800	1250	1250	1000	2000	1250	2500
	25	640	800	1250	1250	1000	2000	1250	2500
	32	640	800	1250	1250	1000	2000	1250	2500
	40	640	800	1250	1250		2000	1250	2500
	50	640	800	1250	1250		2000	1250	2500
	63		800	1250	1250		2000	1250	2500
TMDC trip units	80			1250	1250		2000		2500
	100				1250		2000		2500
Compact NS160 DC TMD trip units	16	640	800	1250	1250	1000	2000	1250	2500
	25	640	800	1250	1250	1000	2000	1250	2500
	32	640	800	1250	1250	1000	2000	1250	2500
	40	640	800	1250	1250		2000	1250	2500
	50	640	800	1250	1250		2000	1250	2500
	63		800	1250	1250		2000	1250	2500
TMDC trip units	80			1250	1250		2000		2500
	100				1250		2000		2500
	125						2000		2500
	160						2000		2500
Compact NS250 DC TMDC trip units	80				1250		2000	1250	2500
	100				1250		2000	1250	2500
	125						2000		2500
	160						2000		2500
	200 I _{rm} min.						2000		2500
	200 I _{rm} max.								2500
	250 I _{rm} min.								2500
	250 I _{rm} max.								

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination / DC

Upstream: Compact NS400-NS630 DC
Downstream: Compact NS100
to NS630 DC

	Upstream Magnetic trip unit Adjustable Im (A)	NS400 DC-NS630 DC - Magnetic protection only					
		MP1 Min. 800	Max. 1600	MP2 Min. 1250	Max. 2500	MP3 Min. 2000	Max. 4000
Downstream	Rating In (A)						
Compact NS100 DC TMD trip units	16	800	1600	1250	2500	2000	4000
	25	800	1600	1250	2500	2000	4000
	32		1600	1250	2500	2000	4000
	40		1600	1250	2500	2000	4000
	50		1600	1250	2500	2000	4000
	63		1600	1250	2500	2000	4000
TMDC trip units	80		1600	1250	2500	2000	4000
	100		1600	1250	2500	2000	4000
Compact NS160 DC TMD trip units	16	800	1600	1250	2500	2000	4000
	25	800	1600	1250	2500	2000	4000
	32		1600	1250	2500	2000	4000
	40		1600	1250	2500	2000	4000
	50		1600	1250	2500	2000	4000
	63		1600	1250	2500	2000	4000
TMDC trip units	80		1600	1250	2500	2000	4000
	100		1600	1250	2500	2000	4000
	125		1600		2500	2000	4000
	160		1600		2500	2000	4000
Compact NS250 DC TMDC trip units	80		1600	1250	2500	2000	4000
	100		1600	1250	2500	2000	4000
	125		1600		2500	2000	4000
	160		1600		2500	2000	4000
	200 lrm min.				2500	2000	4000
	200 lrm max.						4000
	250 lrm min.				2500	2000	4000
	250 lrm max.						4000
Compact NS400 DC-NS630 DC	MP1 lrm min.				2500		4000
	MP1 lrm max.				2500		4000
	MP2 lrm min.						4000
	MP2 lrm max.						4000
NS630 DC	MP3 lrm min.						
	MP3 lrm max.						

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination / DC

Upstream: Masterpact NW10

Downstream: Compact NS100
to NS630 DC, Masterpact NW10

	Upstream Magnetic trip unit Adjustable Ii (A)	Masterpact NW10 magnetic protection only										
		1250 A to 2500 A Setting					2500 A to 5400 A Setting					
		A 1250	B 1500	C 1600	D 2000	E 2500	A 2500	B 3300	C 4000	D 5000	E 5400	
Downstream		Rating In (A)										
Compact NS100 DC TMD trip units	16	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	25	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	32	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	40	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	50	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
TMDC trip units	63	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	80	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	100	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	16	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	25	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
Compact NS160 DC TMD trip units	32	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	40	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	50	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	63	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	80	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
TMDC trip units	100	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	125				2000	2500	2500	3300	4000	5000	5400	
	160				2000	2500	2500	3300	4000	5000	5400	
	80	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	100	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
Compact NS250 DC TMDC trip units	125				2000	2500	2500	3300	4000	5000	5400	
	160				2000	2500	2500	3300	4000	5000	5400	
	200 lrm min.		1500	1600	2000	2500	2500	3300	4000	5000	5400	
	200 lrm max.							3300	4000	5000	5400	
	250 lrm min.				2000	2500	2500	3300	4000	5000	5400	
Compact NS400 DC - NS630 DC	250 lrm max.							3300	4000	5000	5400	
	MP1 lrm min.	1250	1500	1600	2000	2500	2500	3300	4000	5000	5400	
	MP1 lrm max.					2500	2500	3300	4000	5000	5400	
	MP2 lrm min.				2000	2500	2500	3300	4000	5000	5400	
	MP2 lrm max.								4000	5000	5400	
Compact NS630 DC	MP3 lrm min.							3300	4000	5000	5400	
	MP3 lrm max.											
Masterpact NW10 Ii = 1250/2500 A	Setting	A		1600	2000	2500	2500	3300	4000	5000	5400	
		B			2000	2500	2500	3300	4000	5000	5400	
		C			2000	2500	2500	3300	4000	5000	5400	
		D				2500	2500	3300	4000	5000	5400	
		E						3300	4000	5000	5400	
Masterpact NW10 Ii = 2500/5400 A	Setting	A						3300	4000	5000	5400	
		B								5000	5400	
		C								5000	5400	
		D										
		E										

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination / DC

Upstream: Masterpact NW10 and NW20
Downstream: Compact NS100 to
NS630 DC, Masterpact NW10 and NW20

Upstream Magnetic trip unit Adjustable		Masterpact NW10 magnetic protection only 5000 A to 11000 A					2500 A to 5400 A				
		Setting A	B	C	D	E	Setting A	B	C	D	E
Ii (A)		5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
Downstream		Rating In (A)									
Compact NS100 DC TMD trip units	16	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	25	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	32	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	40	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	50	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	63	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
TMDC trip units	80	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	100	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
Compact NS160 DC TMD trip units	16	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	25	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	32	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	40	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	50	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	63	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
TMDC trip units	80	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	100	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	125	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
Compact NS250 DC TMD trip units	160	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	80	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	100	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	125	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	160	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	200 lrm min.	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
Compact NS400 DC-NS630 DC	200 lrm max.	5000	8000	10000	11000	11000		3300	4000	5000	5400
	250 lrm min.	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	250 lrm max.	5000	8000	10000	11000	11000		3300	4000	5000	5400
	MP1 lrm min.	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	MP1 lrm max.	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
	MP2 lrm min.	5000	8000	10000	11000	11000	2500	3300	4000	5000	5400
NS630 DC	MP2 lrm max.	5000	8000	10000	11000	11000			4000	5000	5400
	MP3 lrm min.	5000	8000	10000	11000	11000		3300	4000	5000	5400
Masterpact NW10 Ii = 1250/2500 A	Setting	A	5000	8000	10000	11000	2500	3300	4000	5000	5400
		B	5000	8000	10000	11000	2500	3300	4000	5000	5400
		C	5000	8000	10000	11000	2500	3300	4000	5000	5400
		D	5000	8000	10000	11000	2500	3300	4000	5000	5400
		E	5000	8000	10000	11000		3300	4000	5000	5400
Masterpact NW10 Ii = 2500/5400 A	Setting	A	5000	8000	10000	11000		3300	4000	5000	5400
		B	5000	8000	10000	11000				5000	5400
		C	5000	8000	10000	11000				5000	5400
		D		8000	10000	11000					
		E		8000	10000	11000					
Masterpact NW10 Ii = 5000/11000 A	Setting	A		8000	10000	11000					
		B			10000	11000					
		C									
		D									
		E									
Masterpact NW20 Ii = 2500/5400 A	Setting	A						3300	4000	5000	5400
		B								5000	5400
		C								5000	5400
		D									
		E									

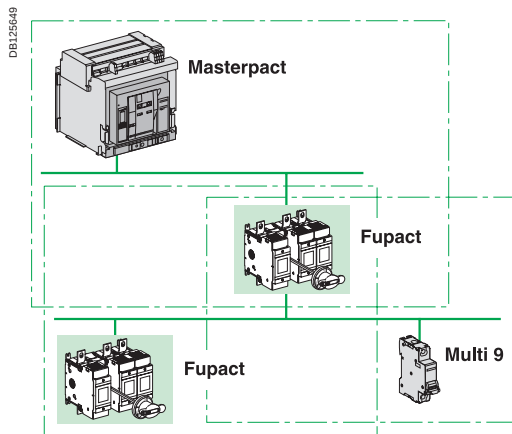
Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination / DC

Upstream: Masterpact NW20 and NW40
Downstream: Compact NS100 to
NS630 DC, Masterpact NW10 to NW40

Upstream Magnetic trip unit Adjustable		Masterpact NW20 magnetic protection only									
		5000 A to 11000 A					5000 A to 11000 A				
		Setting A	B	C	D	E	Setting A	B	C	D	E
I _n (A)		5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
Downstream	Rating In (A)										
Compact NS100 DC TMD trip units	16	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	25	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	32	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	40	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	50	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	63	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	80	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	100	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	125	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	160	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
Compact NS160 DC TMD trip units	16	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	25	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	32	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	40	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	50	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	63	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	80	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	100	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	125	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	160	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
Compact NS250 DC TMD trip units	80	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	100	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	125	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	160	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	200 I _{rm} min.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	200 I _{rm} max.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	250 I _{rm} min.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	250 I _{rm} max.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	MP1 I _{rm} min.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	MP1 I _{rm} max.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
Compact NS400 DC-NS630 DC	MP2 I _{rm} min.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	MP2 I _{rm} max.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	MP3 I _{rm} min.	5000	8000	10000	11000	11000	5000	8000	10000	11000	11000
	MP3 I _{rm} max.		8000	10000	11000	11000		8000	10000	11000	11000
Masterpact NW10 I _n = 1250/2500 A	Setting	A	5000	8000	10000	11000	5000	8000	10000	11000	11000
		B	5000	8000	10000	11000	5000	8000	10000	11000	11000
		C	5000	8000	10000	11000	5000	8000	10000	11000	11000
		D	5000	8000	10000	11000	5000	8000	10000	11000	11000
		E	5000	8000	10000	11000	5000	8000	10000	11000	11000
Masterpact NW10 I _n = 2500/5400 A	Setting	A	5000	8000	10000	11000	5000	8000	10000	11000	11000
		B	5000	8000	10000	11000	5000	8000	10000	11000	11000
		C	5000	8000	10000	11000	5000	8000	10000	11000	11000
		D		8000	10000	11000	5000	8000	10000	11000	11000
		E		8000	10000	11000	5000	8000	10000	11000	11000
Masterpact NW10 I _n = 5000/11000 A	Setting	A		8000	10000	11000	5000	8000	10000	11000	11000
		B			10000	11000	5000	8000	10000	11000	11000
		C									
		D									
		E									
Masterpact NW20 I _n = 2500/5400 A	Setting	A	5000	8000	10000	11000	5000	8000	10000	11000	11000
		B	5000	8000	10000	11000	5000	8000	10000	11000	11000
		C	5000	8000	10000	11000	5000	8000	10000	11000	11000
		D		8000	10000	11000	5000	8000	10000	11000	11000
		E		8000	10000	11000	5000	8000	10000	11000	11000
Masterpact NW20 I _n = 5000/11000 A	Setting	A		8000	10000	11000	5000	8000	10000	11000	11000
		B			10000	11000	5000	8000	10000	11000	11000
		C									
		D									
		E									
Masterpact NW40 I _n = 5000/11000 A	Setting	A					5000	8000	10000	11000	11000
		B					5000	8000	10000	11000	11000
		C									
		D									
		E									

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.



Principle

Schneider Electric offers a coordinated protection system

In an electrical installation, protection fuses are never used alone and must always be integrated in a system comprising circuit breakers.

Coordination is required between:

- upstream and downstream fuses
- upstream circuit breakers and downstream fuses
- upstream fuses and downstream circuit breakers.

Upstream fuse / Downstream fuse

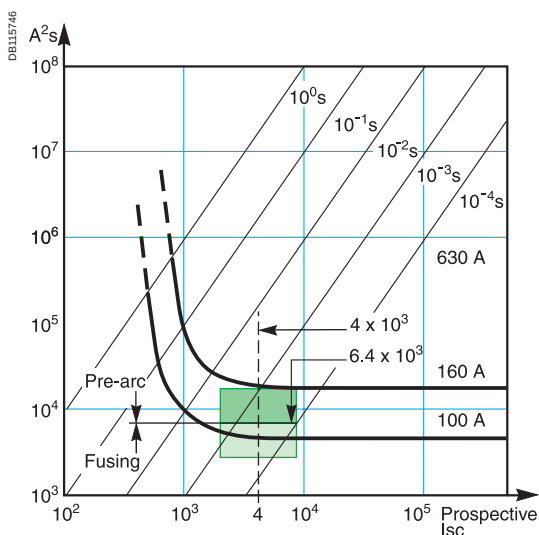
Discrimination is ensured when

Total energy of downstream fuse (E_{tav}) < Pre-arcing energy of upstream fuse (E_{pam})

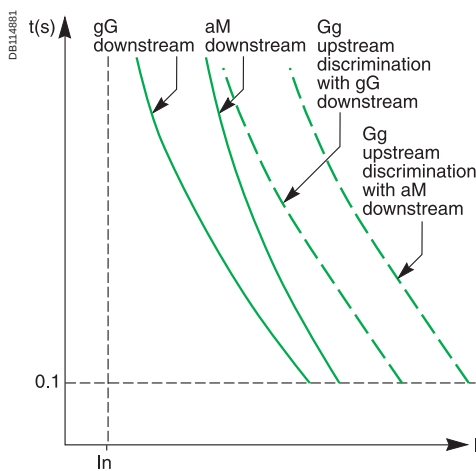
Note: If E_{tav} is higher than 80 % of E_{pam} , the upstream fuse may be derated.

■ upstream gG fuse-link / downstream gG fuse-link

Standard IEC 60269-2-1 indicates limit values for pre-arcing and total energies for operation of gG and gM fuse-links, where the operating current is approximately 30 I_n .



Curves $E = f(I)$ superimposed.



$I = f(t)$ curves.

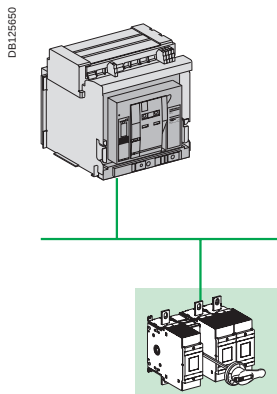
I^2t limit and test currents for verification of discrimination

I_n (A)	Minimum values of pre-arcing I^2t		Maximum values of operating I^2t	
	Rms values of I prospective (kA)	I^2t (A²s)	Rms values of I prospective (kA)	I^2t (A²s)
16	0.27	291	0.55	1 210
20	0.40	640	0.79	2 500
25	0.55	1 210	1.00	4 000
32	0.79	2 500	1.20	5 750
40	1.00	4 000	1.50	9 000
50	1.20	5 750	1.85	13 700
63	1.50	9 000	2.30	21 200
80	1.85	13 700	3.00	36 000
100	2.30	21 200	4.00	64 000
125	3.00	36 000	5.10	104 000
160	4.00	64 000	6.80	185 000
200	5.10	104 000	8.70	302 000
250	6.80	185 000	11.80	557 000
315	8.70	302 000	15.00	900 000
400	11.80	557 000	20.00	1 600 000
500	15.00	900 000	26.00	2 700 000
630	20.00	1 600 000	37.00	5 470 000
800	26.00	2 700 000	50.00	10 000 000
1 000	37.00	5 470 000	66.00	17 400 000
1 250	50.00	10 000 000	90.00	33 100 000

■ upstream gG fuse-link / downstream aM fuse-link

The $I = f(t)$ curve for an aM fuse-link is steeper. aM fuse-links are just as fast as gG fuse-links for short-circuit currents, but slower for low overloads.

That is why the discrimination ratio between gG and aM fuse-links is approximately 2.5 to 4.



Upstream circuit breaker / Downstream fuse

Upstream circuit breaker with delayed ST (short time) protection function

This is the situation for a MLVS (main low-voltage switchboard) or sub-distribution switchboard protected by an incoming circuit breaker.

The upstream circuit breaker has an electrodynamic withstand capacity I_{cw} and ensures time discrimination.

Rule

Examination of discrimination at the critical points on the LT (long time) and ST (short time) curves results in a discrimination table.

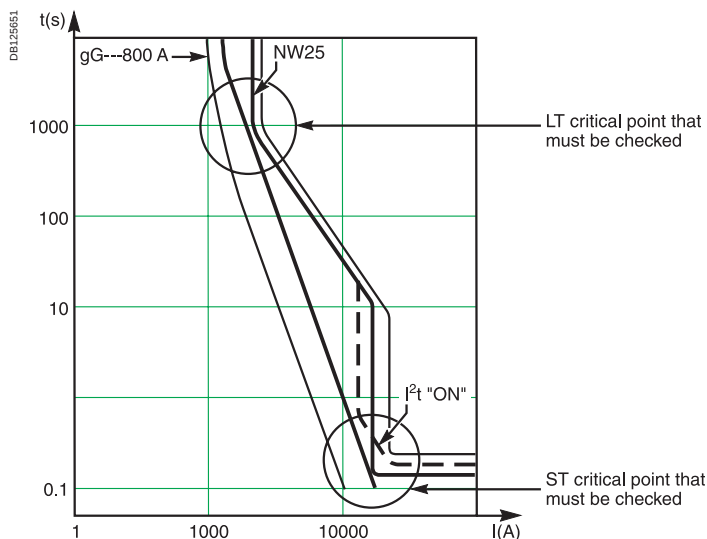
Analysis of the LT critical point indicates whether discrimination between the protection devices is possible or not.

Analysis of the ST (or I_{cw}) critical point indicates whether the discrimination limit is greater than or equal to the ST (or I_{cw}) value.

Note:

■ the LT critical point is the most restrictive

■ for circuit breakers with a I_{cw} value that is high and/or equal to I_{cu} , the ST critical point is almost never a problem, i.e. discrimination is total.

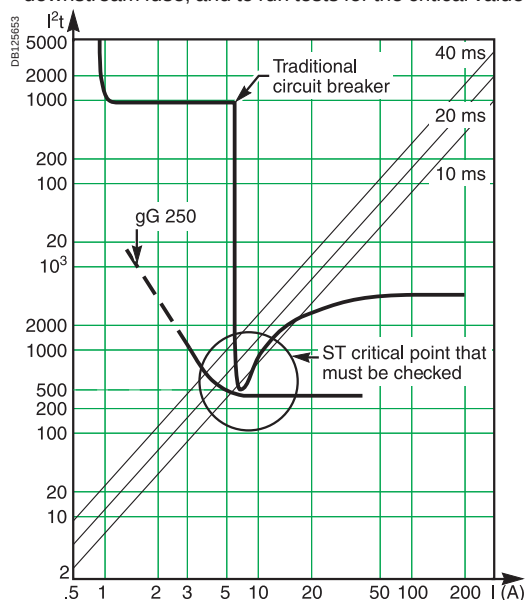


Time-current curves and critical points that must be checked.

Upstream circuit breaker with non-delayed ST (short time) protection and/or current-limiting function

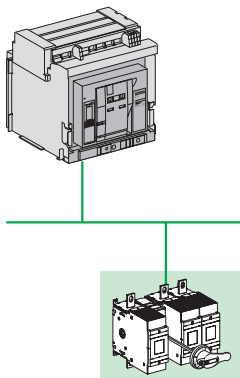
To make sure the ST critical point is OK, it is necessary to compare:

- the energy curves of the protection devices
- the non-tripping curves of the upstream circuit breaker and the fusing curves of the downstream fuse, and to run tests for the critical values.



Energy curves and critical points that must be checked.

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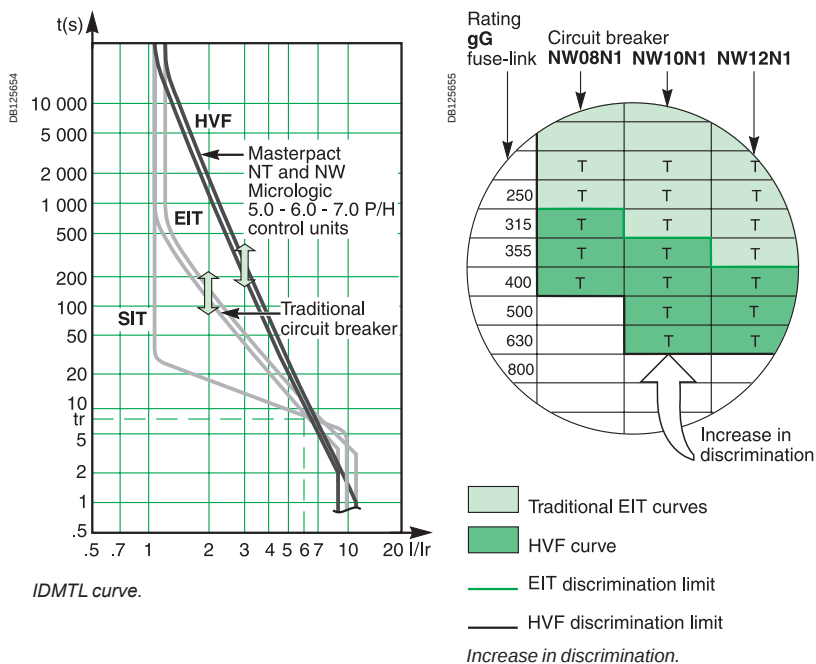


Feature exclusive to Schneider Electric

Masterpact NT or NW upstream of a Fupact equipped with a gG fuse-link

The new Micrologic control unit has a special LT delay setting for HVF very inverse time applications.

This curve is ideal for discrimination when fuse-based protection devices are installed downstream (LV distribution) or upstream (HV).



The new Micrologic 5.0 - 6.0 - 7.0 P / H control units are equipped as standard with four settings for LT inverse-time curves with adjustable slopes.

SIT: standard inverse time.

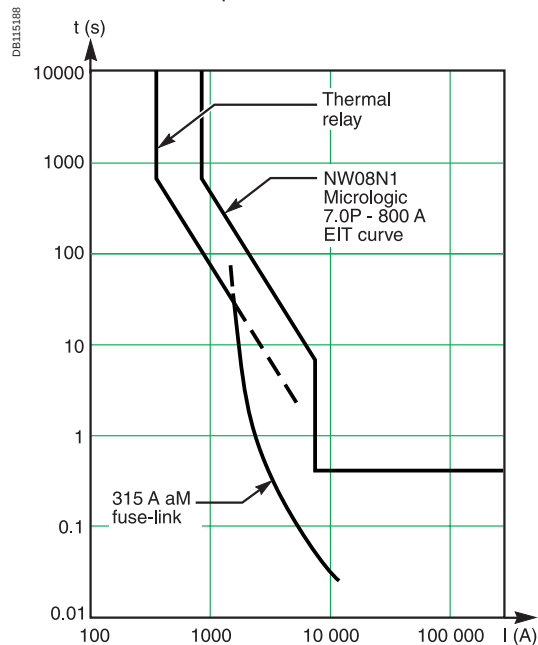
VIT: very inverse time.

EIT: extremely inverse time (traditional LT curve).

HVF: high-voltage fuse, inverse-time curve that follows the fuse thermal curve.

Masterpact NT or NW upstream of an aM fuse-link

The upstream protection circuit breaker must be coordinated with the thermal relay and the short-circuit protection aM fuse-link.



■ overload zone - coordination between Masterpact and the thermal relay

Masterpact offers an EIT long-time setting that is totally coordinated with the curves of the thermal relay. Discrimination is ensured as long as the setting ratio is greater than 1.6.

■ short-circuit zone - coordination between Masterpact and the aM fuse-link

Under short-circuit conditions $> 10 I_n$, the $I = f(t)$ characteristic of an aM fuse-link is very similar to that of a gG fuse-link with the same rating.

Given the above and using the EIT long-time setting, Masterpact offers the same discrimination ratios for both gG and aM downstream fuse-links. This ratio is very similar to that for gG fuse-links installed upstream of aM fuse-links.

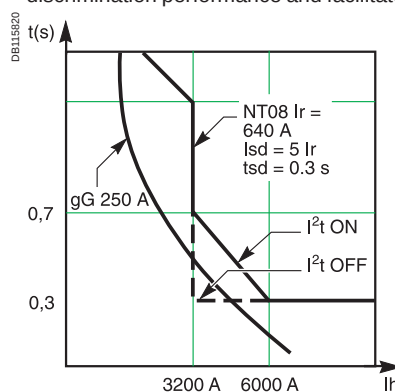
Note: if there are motor feeders protected by aM fuse-links and distribution lines protected by gG fuse-links downstream of a Masterpact circuit breaker, selection of HVF long-time curves is the means to ensure identical discrimination for both types of circuit.

See [pages 76 to 83](#) for the discrimination tables.

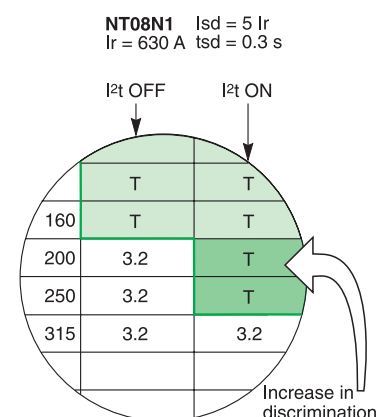
I²t ON setting

To significantly limit the stresses exerted on the installation (cables installed on trays, power supplied by an engine generator set, etc.), it may be necessary to set the ST protection function to a low value.

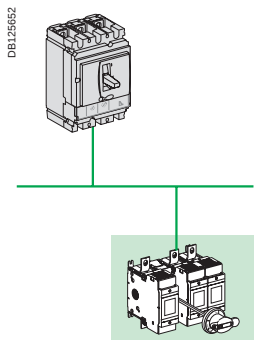
The I²t ON function, a constant-energy tripping curve, maintains the level of discrimination performance and facilitates total discrimination.



I²t ON curve.

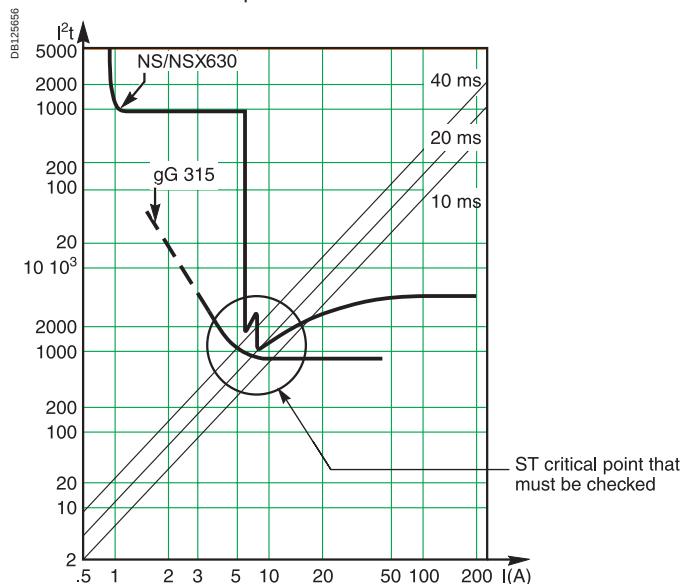


Increase in the discrimination limit.



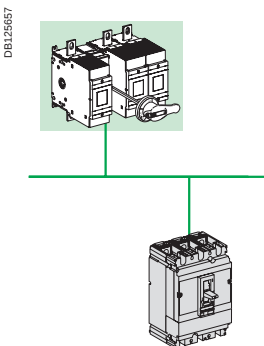
Compact NS/NSX upstream of gG or aM fuse-links

Compact NS/NSX is a current-limiting circuit breaker. Even without an ST (short time) delay setting, discrimination at the ST critical point is significantly improved because Compact NS/NSX has a mini-delay that considerably increases curve values at the ST critical point.



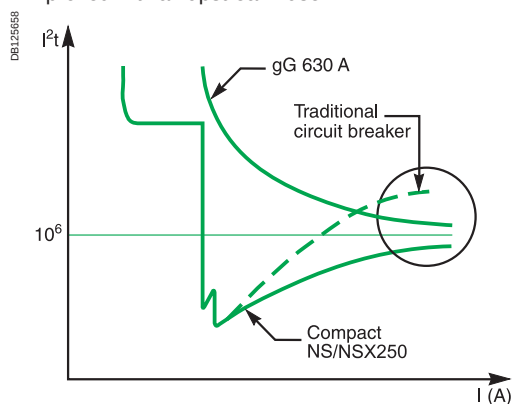
I^2t curve for Compact NS/NSX and a fuse.

See [pages 80](#) and [82](#) for the discrimination tables.



Compact NSX downstream of gG or aM fuse-links

Compact NSX offers an extremely high level of current-limiting performance due to the piston-based reflex tripping system. Again, discrimination is significantly improved with an upstream fuse.



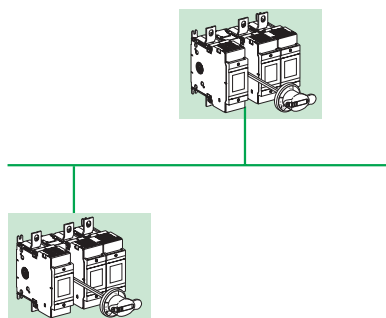
See [page 83](#) for the discrimination tables.

Discrimination tables

Upstream: Fupact (gG fuse-link)

Downstream: Fupact (gG or aM fuse-link)

DB125659



The tables below indicate the necessary ratings for the upstream and downstream fuse-links to achieve **total discrimination**. They take into account the standardised values stipulated in IEC 60269-1 and IEC 60269-2-1 for:

- the pre-arcing energies of the upstream fuse-links
- the total fusing energies of the downstream fuse-links.

Upstream fuse-link gG (In) / gM (Ich)	Downstream fuse-link gG (In) / gM (Ich)	aM (In)
Rating (A)		
16	6	4
20	10	6
25	16	8
32	20	10
40	25	12
50	32	16
63	40	20
80	50	25
100	63	32
125	80	40
160	100	63
200	125	80
250	160	125
315	200	125
400	250	160
500	315	200
630	400	250
800	500	315
1000	630	400
1250	8000	500

Examples:

- an upstream 125 A gG fuse-link ensures total discrimination with an 80 A gG fuse-link and/or a 40 A aM fuse-link situated downstream
- an upstream 125 A gG fuse-link ensures total discrimination with a 63 A gG 63M80 fuse-link (with an 80 A characteristic) situated downstream.

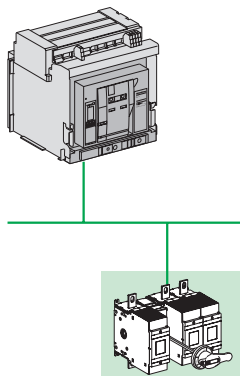
Discrimination tables

Upstream: Masterpact NT/NW

(HVF long-time curve)

Downstream: Fupact (gG or aM fuse-link)

DB125650



The Masterpact circuit breaker is equipped with a Micrologic 5.0 - 6.0 - 7.0 P / H control unit with the following settings:

- LT setting: HVF curve with Tld = 24 seconds
- ST setting: instantaneous OFF / Tsd = 0.4 seconds.

Upstream		Masterpact NTH1 / NWH1/H2/H3 Micrologic 5.0-6.0-7.0 P/H																	
		NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT10	NT12	NT16						
		H1	H1	H1	H1	H1	H1	H1	H1	H1	H1	H1	H1						
		NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW10	NW12	NW16	NW20	NW25	NW32	NW40	NW50	NW63
		N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	N1 H1/H2	H1/H2 H3	H1/H2 H3	H1/H2 H3	H1/H2 H3	H1/H2	H1/H2
Downstream	Rating (A) Ir setting	400	400	400	630	800	800	800	800	1000	1200	1600	2000	2500	3200	4000	5000	6300	
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	50	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	80	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	100	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	125		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	160			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	200				T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	250					T	T	T	T	T	T	T	T	T	T	T	T	T	
	315						5	T	T	T	T	T	T	T	T	T	T	T	
	355							T	T	T	T	T	T	T	T	T	T	T	
	400							6	T	T	T	T	T	T	T	T	T	T	
	500								8	T	T	T	T	T	T	T	T	T	
	630									T	T	T	T	T	T	T	T	T	
800										12	T	T	T	T	T	T	T		
1000											16	T	T	T	T	T	T		
1250												20	T	T	T	T	T		

Note: for Masterpacts rated 2500 A and above, with identical settings, discrimination is always total.

Table key

T	Total discrimination
16	Discrimination limit in kA
	No discrimination

Circuit breaker characteristics

NT08 to 16

H1 / Icu = Icw = 42 kA
L1 / Icu = 150 kA Icw = 10 kA

NW08 to NW16

N1 / Icu = Icw = 42 kA
H1 / Icu = Icw = 65 kA
H2 / Icu = 100 Icw = 85 kA

NW08 to NW20

L1 / Icu = 150 kA Icw = 30 kA

NW20 to NW40

H1 / Icu = Icw = 65 kA
H2 / Icu = 100 Icw = 85 kA
H3 / Icu = 150 Icw = 65 kA

NW40b to NW63

H1 / Icu = Icw = 100 kA
H2 / Icu = 150 Icw = 100 kA

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

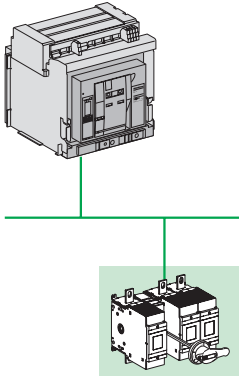
Discrimination tables

Upstream: Masterpact NT/NW

(HVF long-time curve)

Downstream: Fupact (gG or aM fuse-link)

DB125650



The Masterpact circuit breaker is equipped with a Micrologic 5.0 - 6.0 - 7.0 P / H control unit with the following settings:

- LT setting: HVF curve with Tld = 24 seconds
- ST setting: instantaneous OFF / Tsd = 0.4 seconds.

Upstream		Masterpact NT L1 Micrologic 5.0-6.0-7.0 P/H								
		NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT10
Down-stream	Rating (A)	400	400	400	630	630	630	630	800	1000
	Ir setting	160	200	240	315	400	480	630	800	1000
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T
	160			16	16	16	16	16	16	16
	200				10	10	10	10	10	10
	250					10	10	10	10	10
	315						5	10	10	10
	355							10	10	10
	400							6	10	10
	500								8	10
	630									10
	800									
	1000									
	1250									

Upstream		Masterpact NW L1 Micrologic 5.0-6.0-7.0 P/H											
		NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW10	NW12	NW16	NW20
Down-stream	Rating (A)	400	400	400	630	630	630	630	800	1000	1200	1600	2000
	Ir setting	160	200	240	315	400	480	630	800	1000	1200	1600	2000
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T	T	T
	200				T	T	T	T	T	T	T	T	T
	250					T	T	T	T	T	T	T	T
	315						5	T	T	T	T	T	T
	355							100	100	100	100	100	100
	400							6	83	83	83	83	83
	500								8	43	43	43	43
	630										30	30	30
	800										12	30	30
	1000											16	30
	1250												20

Table key

T	Total discrimination
16	Discrimination limit in kA
	No discrimination

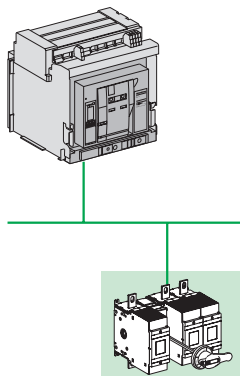
Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Discrimination tables

Upstream: Masterpact NT/NW

Downstream: Fupact (gG or aM fuse-link)

DB125650



The Masterpact circuit breaker is equipped with a Micrologic 5.0 - 6.0 - 7.0 A / P / H control unit with the following settings:

- LT setting: Tr = 24 seconds
- ST setting: instantaneous OFF / Tsd = 0.4 seconds.

Upstream		Masterpact NT H1 / NW H1/H2/H3															
		Micrologic 5.0-6.0-7.0 A/P/H															
		NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT10	NT12	NT16					
		H1	H1	H1	H1	H1	H1	H1	H1	H1	H1	H1					
Downstream	Rating (A)	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW10	NW12	NW16	NW20	NW25	NW32	NW40	NW50
	Ir setting	N1	N1	N1	N1	N1	N1	N1	N1	N1	N1	N1	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2
		H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H1/H2	H3	H3	H3	H3	H3
		160	200	240	315	400	480	630	800	1000	1200	1600	2000	2500	3200	4000	5000
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	80		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	100			T	T	T	T	T	T	T	T	T	T	T	T	T	T
	125				T	T	T	T	T	T	T	T	T	T	T	T	T
	160					T	T	T	T	T	T	T	T	T	T	T	T
	200						T	T	T	T	T	T	T	T	T	T	T
	250							T	T	T	T	T	T	T	T	T	T
	315								T	T	T	T	T	T	T	T	T
	355									T	T	T	T	T	T	T	T
	400									T	T	T	T	T	T	T	T
	500										T	T	T	T	T	T	T
	630											T	T	T	T	T	T
	800												T	T	T	T	T
	1000													T	T	T	T
	1250														T	T	T

Table key

T	Total discrimination
16	Discrimination limit in kA
	No discrimination

Circuit breaker characteristics

NT08 to 16

H1 / Icu = Icw = 42 kA
L1 / Icu = 150 kA Icw = 10 kA

NW08 to NW16

N1 / Icu = Icw = 42 kA
H1 / Icu = Icw = 65 kA
H2 / Icu = 100 Icw = 85 kA

NW08 to NW20
L1 / Icu = 150 kA Icw = 30 kA

NW20 to NW40

H1 / Icu = Icw = 65 kA
H2 / Icu = 100 Icw = 85 kA
H3 / Icu = 150 Icw = 65 kA

NW40b to NW63

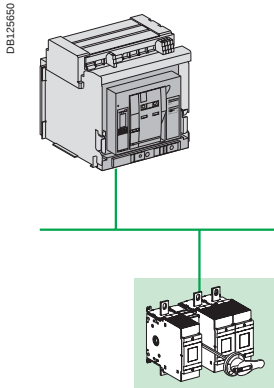
H1 / Icu = Icw = 100 kA
H2 / Icu = 150 Icw = 100 kA

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Protection discrimination

Upstream: Masterpact NT/NW

Downstream: Fupact (gG or aM fuse-link)



The Masterpact circuit breaker is equipped with a Micrologic 5.0 - 6.0 - 7.0 P / H control unit with the following settings:

- LT setting: HVF curve with Tld = 24 seconds
- ST setting: instantaneous OFF / Tsd = 0.4 seconds.

Upstream		Masterpact NT L1 Micrologic 5.0-6.0-7.0 P/H								
		NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT08	NT10
Down-stream	Rating (A)	400	400	400	630	630	630	630	800	1000
	Ir setting	160	200	240	315	400	480	630	800	1000
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T
	160			16	16	16	16	16	16	16
	200				10	10	10	10	10	10
	250					10	10	10	10	10
	315						5	10	10	10
	355							10	10	10
	400							6	10	10
	500								8	10
	630									10
	800									
	1000									
	1250									

Upstream		Masterpact NW L1 Micrologic 5.0-6.0-7.0 P/H											
		NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW08	NW10	NW12	NW16	NW20
Down-stream	Rating (A)	400	400	400	630	630	630	630	800	1000	1200	1600	2000
	Ir setting	160	200	240	315	400	480	630	800	1000	1200	1600	2000
gG/aM Fuse-link	32	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T
	125		T	T	T	T	T	T	T	T	T	T	T
	160			T	T	T	T	T	T	T	T	T	T
	200				T	T	T	T	T	T	T	T	T
	250					T	T	T	T	T	T	T	T
	315						5	T	T	T	T	T	T
	355							100	100	100	100	100	100
	400							6	83	83	83	83	83
	500								8	43	43	43	43
	630										30	30	30
	800										12	30	30
	1000											16	30
	1250												20

Table key

T	Total discrimination
16	Discrimination limit in kA
	No discrimination

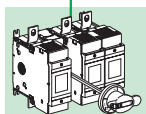
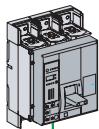
Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6., or check curves with curve direct software.

Discrimination tables

Upstream: Compact NS630b to 3200

Downstream: Fupact (gG fuse-link)

DB125660



The Compact NS630b to 3200 circuit breaker is equipped with a Micrologic 5.0-6.0-7.0 A control unit with the following settings:

- LT setting: $T_r = 24$ seconds
- ST setting: instantaneous OFF / $T_{sd} = 0.4$ seconds.

Upstream		Compact NS L Micrologic 5.0-6.0-7.0 A								
		NS630b	NS630b	NS630b	NS630b	NS630b	NS630b	NS630b	NS800	NS1000
Down-stream	Rating (A)	400	400	400	630	630	630	630	800	1000
gG fuse-link	I _r setting	160	200	240	315	400	500	630	800	1000
	32	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T
	100		74	74	74	74	74	74	74	74
	125			41	41	41	41	41	41	41
	160				16	16	16	16	16	16
	200					10	10	10	10	10
	250						10	10	10	10
	315								10	10
	355								10	10
	400									10
	500									
	630									
	800									
	1000									
	1250									

Upstream		Compact NS N/H Micrologic 5.0-6.0-7.0 A														
		NS630b	NS630b	NS630b	NS630b	NS630b	NS630b	NS630b	NS800	NS1000	NS1250	NS1600	NS1600b	NS2000	NS2500	NS3200
Down- stream	Rat. (A)	400	400	400	630	630	630	630	800	1000	1200	1600	1600	2000	2500	3200
	Ir setting	160	200	240	315	400	500	630	800	1000	1200	1600	1600	2000	2500	3200
gG fuse-link	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	100		T	T	T	T	T	T	T	T	T	T	T	T	T	T
	125			T	T	T	T	T	T	T	T	T	T	T	T	T
	160				T	T	T	T	T	T	T	T	T	T	T	T
	200					T	T	T	T	T	T	T	T	T	T	T
	250						T	T	T	T	T	T	T	T	T	T
	315								T	T	T	T	T	T	T	T
	355								44	44	44	44	T	T	T	T
	400									35	35	35	T	T	T	T
	500										25	25	T	T	T	T
	630											25	40	40	40	40
	800													40	40	40
1000														40	40	
1250															40	

Table key

Circuit breaker characteristics

T
41

Total discrimination
Discrimination limit in kA
No discrimination

NS630b/400 to 1000
L / I_{cu} = 150 kA I_{cw} = 10 kA / 0.5

NS630b to NS1600
N / I_{cu} = 50 kA, I_{cw} = 25 kA
H / I_{cu} = 70 kA, I_{cw} = 25 kA

NS1600b to NS3200
N / I_{cu} = 70 kA, I_{cw} = 40 kA
H / I_{cu} = 85 kA, I_{cw} = 40 kA
H3 / I_{cu} = 150 kA I_{cw} = 65 kA

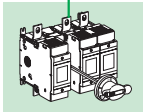
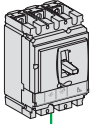
Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Discrimination tables

Upstream: Compact NS100 to 630

Downstream: Fupact (gG or aM fuse-link)

DB125652



The Compact NS100 to 630 circuit breaker is equipped with a thermal-magnetic or electronic trip unit without a delayed short-time setting.

Note: The discrimination rules are the same for a Compact NS with a delayed short-time setting.

Compact NS/gG fuse-link discrimination

Upstream		NS100N/H/L						NS160N/H/L				NS250N/H/L				NS400/630N/H/L		
Trip unit		TM-D						TM-D				TM-D		STR22		STR23/53		
Down-stream gG fuse-link	Rating (A)	16	25	40	63	80	100	80	100	125	160	160	200	250	160	250	400	630
	Im (kA)	0.19	0.3	0.5	0.5	0.63	0.8	1	1.25	1.25	1.25	1.25	2	2.5	1.6	2.5	4	6.3
	2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	16			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	25			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	32					T	T	T	T	T	T	T	T	T	T	T	T	T
	35							T	T	T	T	T	T	T	T	T	T	T
	40							T	T	T	T	T	T	T	T	T	T	T
	50								T	T	T	T	T	T	T	T	T	T
	63									T	T	T	T	T	T	T	T	T
	80												T	T	T	T	T	T
	100													T	T		T	T
	125													T	T			T
	160														T			T
	200																	T
	250																	T
315																		
355																		

Compact NS/aM fuse-link discrimination

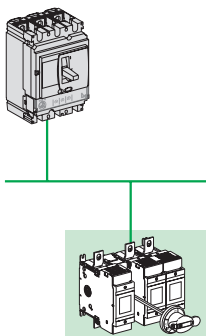
Upstream		NS100N/H/L						NS160N/H/L				NS250N/H/L				NS400/630N/H/L		
Trip unit		TM-D						TM-D				TM-D		STR22		STR23/53		
Down-stream	Rating (A)	16	25	40	63	80	100	80	100	125	160	160	200	250	160	250	400	630
	Im (kA)	0.19	0.3	0.5	0.5	0.63	0.8	1	1.25	1.25	1.25	1.25	2	2.5	1.6	2.5	4	6.3
aM fuse-link	2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	16				T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20					T	T	T	T	T	T	T	T	T	T	T	T	T
	32									T	T	T	T	T	T	T	T	T
	40												T	T		T	T	T
	50												T	T		T	T	T
	63												T	T		T	T	T
	80																T	T
	100																T	T
	125																	
	160																	
	200																	

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Discrimination tables

Upstream: Compact NSX100 to 630
Downstream: Fupact (aM fuse-link)

DB125661



The Compact NSX100 to 630 circuit breaker is equipped with a thermal-magnetic or electronic trip unit without a delayed short-time setting.

Note: The discrimination rules are the same for a Compact NSX with a delayed short-time setting.

Compact NSX /aM fuse-link discrimination

Compact NSX raw fuse-link discrimination																
Upstream		NSX100B/F/N/H/S/L TM-D								NSX160B/F/N/H/S/L TM-D				NSX250B/F/N/H/S/L TM-D		
	Trip unit															
Downstream	Rating (A)	16	25	32	40	50	63	80	100	80	100	125	160	160	200	250
	Im (kA)	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	1	1	1	1	1	2	2.5
aM fuse-link	2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10				T	T	T	T	T	T	T	T	T	T	T	T
	16						T	T	T	T	T	T	T	T	T	T
	20							T	T	T	T	T	T	T	T	T
	32											T	T	T	T	T
	35														T	T
	40														T	T
	50														T	T
63														T	T	

Upstream		NSX100B/F/N/H/S/L								NSX160B/F/N/H/S/L					NSX250B/F/N/H/S/L				
Trip unit		Micrologic								Micrologic					Micrologic				
Downstream	Rating (A)	40				100				160					250				
	Im (kA)	18	25	40	40	63	80	100	63	80	100	125	160	100	125	160	200	250	
aM fuse-link	2	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	6		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	10			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	16					T	T	T	T	T	T	T	T	T	T	T	T	T	
	20						T	T		T	T	T	T	T	T	T	T	T	
	32											T	T		T	T	T	T	
	35															T	T	T	
	40															T	T	T	
	50																T	T	
	63																	T	

Upstream		NSX400F/N/H/S/L Micrologic						NSX630F/N/H/S/L Micrologic				
	Trip unit											
Downstream	Rating (A)	400						630				
	160	200	250	320	400		250	320	400	500	630	
	Im (kA)	1.6	2	2.5	3.2	4	2.5	3.2	4	5	6.3	
aM fuse-link	2	T	T	T	T	T	T	T	T	T	T	
	4	T	T	T	T	T	T	T	T	T	T	
	6	T	T	T	T	T	T	T	T	T	T	
	10	T	T	T	T	T	T	T	T	T	T	
	16	T	T	T	T	T	T	T	T	T	T	
	20	T	T	T	T	T	T	T	T	T	T	
	32	T	T	T	T	T	T	T	T	T	T	
	35	T	T	T	T	T	T	T	T	T	T	
	40	T	T	T	T	T	T	T	T	T	T	
	50		T	T	T	T	T	T	T	T	T	
	63			T	T	T	T	T	T	T	T	
	80				T	T		T	T	T	T	
100					T			T	T	T		

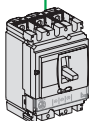
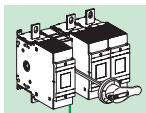
Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Discrimination tables

Upstream: Fupact (gG fuse-link)

Downstream: Compact NSX100 to 630 or
Multi 9

DB125662



The Compact NSX100 to 630 circuit breaker is equipped with a thermal-magnetic or electronic trip unit without a delayed short-time setting.

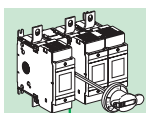
gG fuse-link / Compact NSX discrimination

Upstream	gG																
Downstream	Rating (A)	160	200	250	315	355	400	450	500	560	630	670	710	750	800	1000	1250
NSX100 TM-D	16	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	25	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	32	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	40	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	50	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	63	2.5	4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	80		4	7	15	T	T	T	T	T	T	T	T	T	T	T	T
	100			7	15	T	T	T	T	T	T	T	T	T	T	T	T
NSX160 TM-D	≤ 63			7	15	T	T	T	T	T	T	T	T	T	T	T	T
	80			7	15	T	T	T	T	T	T	T	T	T	T	T	T
	100					T	T	T	T	T	T	T	T	T	T	T	T
	125						T	T	T	T	T	T	T	T	T	T	T
	160						T	T	T	T	T	T	T	T	T	T	T
NSX250 TM-D	≤ 100						T	T	T	T	T	T	T	T	T	T	T
	125						T	T	T	T	T	T	T	T	T	T	T
	160						T	T	T	T	T	T	T	T	T	T	T
	200							T	T	T	T	T	T	T	T	T	T
NSX100 Micrologic	250							T	T	T	T	T	T	T	T	T	T
	40			4	10	T	T	T	T	T	T	T	T	T	T	T	T
	100			4	10	T	T	T	T	T	T	T	T	T	T	T	T
	160																
NSX160 Micrologic	40				7	8	T	T	T	T	T	T	T	T	T	T	T
	100				7	8	T	T	T	T	T	T	T	T	T	T	T
	160				7	8	T	T	T	T	T	T	T	T	T	T	T
	250																
NSX250 Micrologic	100						10	T	T	T	T	T	T	T	T	T	T
	160						10	T	T	T	T	T	T	T	T	T	T
	250							T	T	T	T	T	T	T	T	T	T
	400																
NSX400 Micrologic	160								6	7	9	10	T	T	T	T	T
	200								6	7	9	10	T	T	T	T	T
	250								6	7	9	10	T	T	T	T	T
	320								6	7	9	10	T	T	T	T	T
NSX630 Micrologic	400								6	7	9	10	T	T	T	T	T
	630																
													12	15	30	T	T
													12	15	30	T	T

Table key

T	Total discrimination
16	Discrimination limit in kA
	No discrimination

DB125663



Multi 9 downstream of a Fupact: see fuse discrimination tables
in the Multi 9 catalogue (for all fuse standards)

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

What is cascading?

Cascading is the use of the current limiting capacity of circuit breakers at a given point to permit installation of lower-rated and therefore lower-cost circuit breakers downstream.

The upstream Compact circuit breakers acts as a barrier against short-circuit currents. In this way, downstream circuit breakers with lower breaking capacities than the prospective short-circuit (at their point of installation) operate under their normal breaking conditions.

Since the current is limited throughout the circuit controlled by the limiting circuit breaker, cascading applies to all switchgear downstream. It is not restricted to two consecutive devices.

General use of cascading

With cascading, the devices can be installed in different switchboards. Thus, in general, cascading refers to any combination of circuit breakers where a circuit breaker with a breaking capacity less than the prospective I_{sc} at its point of installation can be used. Of course, the breaking capacity of the upstream circuit breaker must be greater than or equal to the prospective short-circuit current at its point of installation.

The combination of two circuit breakers in cascading configuration is covered by the following standards:

- IEC 60947-2 (construction)
- NF C 15-100, § 434.3.1 (installation).

Coordination between circuit breakers

The use of a protective device possessing a breaking capacity less than the prospective short-circuit current at its installation point is permitted as long as another device is installed upstream with at least the necessary breaking capacity. In this case, the characteristics of the two devices must be coordinated in such a way that the energy let through by the upstream device is not more than that which can be withstood by the downstream device and the cables protected by these devices without damage.

Cascading can only be checked by laboratory tests and the possible combinations can be specified only by the circuit breaker manufacturer.

Cascading and protection discrimination

In cascading configurations, due to the Roto-active breaking technique, discrimination is maintained and, in some cases, even enhanced. Consult the enhanced discrimination tables on pages 98 to 100 for data on discrimination limits

Cascading tables

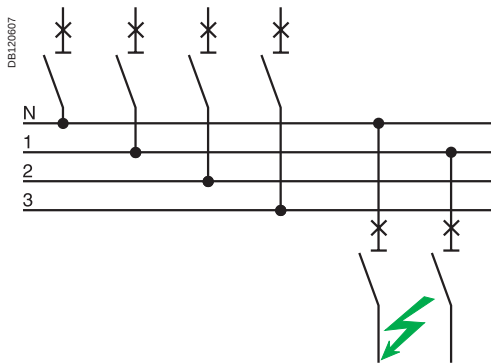
Schneider Electric cascading tables are:

- drawn up on the basis of calculations (comparison between the energy limited by the upstream device and the maximum permissible thermal stress for the downstream device)
- verified experimentally in accordance with IEC standard 60947-2.

For distribution systems with 220/240 V, 400/415 V and 440 V between phases, the tables of the following pages indicate cascading possibilities between upstream Compact and downstream Multi 9 and Compact circuit breakers as well as between upstream Masterpact and downstream Compact circuit breakers.

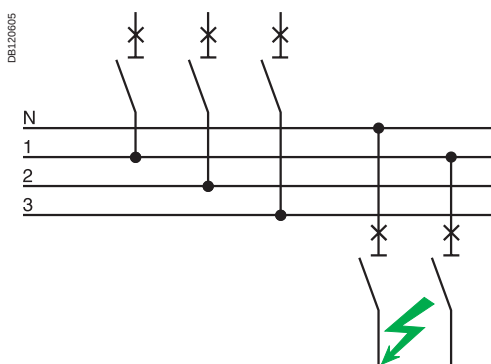
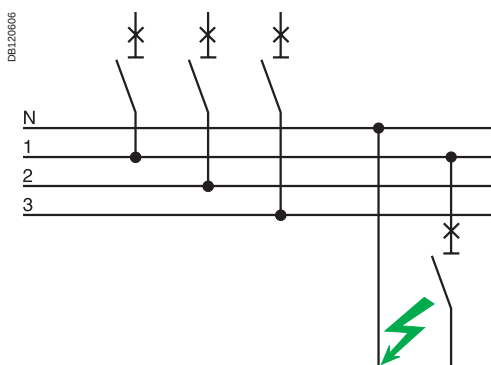
Contents

Application	Network	Upstream device	Downstream device	Table page
Distribution cascading	220/240 V	Multi 9	Multi 9	88
		Compact	Compact and Multi 9	89
		Compact and Masterpact	Compact	91
	380/415 V	Multi 9	Multi 9	92
		Compact	Compact and Multi 9	93
		Compact and Masterpact	Compact	95
	440 V	Compact	Compact and Multi 9	96
		Compact and Masterpact	Compact	97
		Compact	Compact	99
Cascading and enhanced discrimination	220/240 V	Compact	Multi 9	103
			NG160N, NSC100N	105
			Compact	106
	380/415 V	NSC100N, NG160E/N	Multi 9	105
			Multi 9	106
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	440 V	Compact	Compact	112

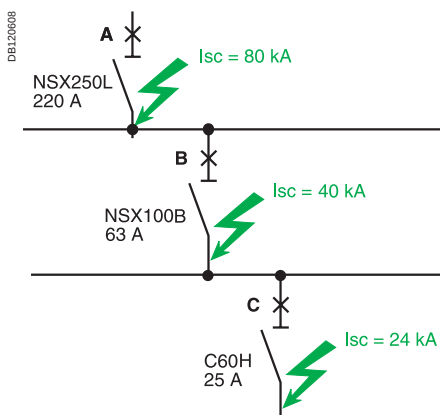


220/240 V network downstream from a 380/415 V network

For 1P + N or 2P circuit breakers connected between the phase and neutral on a 380/415 V network, with a TT or TNS neutral system, consult the 220/240 V cascading table to determinate cascading possibilities between upstream and downstream circuit breakers, for C60 upstream and consult the 380/415 V cascading table for iDPN.



For 1P + N or 2P circuit breakers connected to one phase of a 380/415 V network used together with the neutral to supply a single-phase circuit, consult the cascading tables for 380/415 V networks to determine the cascading possibilities between upstream and downstream circuit breakers.



Example of three level cascading

Consider three circuit breakers A, B and C connected in series. The criteria for cascading are fulfilled in the following two cases:

- the upstream device A is coordinated for cascading with both devices B and C (even if the cascading criteria are not fulfilled between B and C). It is simply necessary to check that the combinations A + B and A + C have the required breaking capacity
 - each pair of successive devices is coordinated, i.e. A with B and B with C (even if the cascading criteria are not fulfilled between A and C). It is simply necessary to check that the combinations A + B and B + C have the required breaking capacity.
- The upstream breaker A is a NSX250L (breaking capacity 150 kA) for a prospective I_{sc} of 80 kA across its output terminals.
- A NSX100B (breaking capacity 25 kA) can be used for circuit breaker B for a prospective I_{sc} of 40 kA across its output terminals, since the "reinforced" breaking capacity provided by cascading with the upstream NSX250L is 50 kA.
- A C60H (breaking capacity 15 kA) can be used for circuit breaker C for a prospective I_{sc} of 24 kA across its output terminals since the "reinforced" breaking capacity provided by cascading with the upstream NSX250L is 25 kA.
- Note that the "reinforced" breaking capacity of the C60H with the NSX100B upstream is only 20 kA, but:
- A + B = 50 kA
 - A + C = 25 kA.

Cascading, network 220/240 V

Upstream: iDPN, Multi 9, C120, NG125

Downstream: iDPN, Multi 9, C120, NG125

Upstream	iDPNN	C60N	C60H	C60L ≤ 25 A	32/40 A	50/63 A	C120N	C120H	NG125N	NG125H	NG125L
Breaking capacity (kA rms)	10	20	30	50	40	30	20	30	50	70	100
Downstream	Breaking capacity (kA rms)										
iDPN (130 V between phase and neutral)	10	15	20	30	25	20	15	20	20	40	50
iDPNN (130 V between phase and neutral)		20	30	50	40	30	20	30	30	40	50
C60N			30	50	40	30		30	50	50	50
C60H				50	40				50	70	70
C60L ≤ 25 A										70	100
C60L 32 A and 40 A									50	70	100
C60L 50 A and 63 A									50	70	70
C120N			30	50	40	30			50		70
C120H				50					50		70
NG125N											70
NG125H											100

Cascading 220/240 V

Upstream: NG160, NSC100N,

Compact NSX100-160

Downstream: iDPN, Multi 9, C120, NG125-160,
NSC100N, Compact NSX100-160

Upstream Breaking capacity (kA rms)	NG160E 25	NG160N 40	NG160H 50	NSC100N 42	NSX100B 40	NSX100F 85	NSX100N 90	NSX100H 100	NSX100S 120	NSX100L 150
Downstream	Reinforced breaking capacity (kA rms)									
iDPN (130 V between phase and neutral)					20	20	20	20	20	20
iDPNN (130 V between phase and neutral)					30	30	30	30	30	30
C60N	25	40	50	40	40	40	60	60	60	60
C60H		40	50	42	40	50	80	80	80	80
C60L ≤ 25 A		40	50			65	80	80	80	80
C60L 32 A and 40 A		40	50	42		65	80	80	80	80
C60L 50 A and 63 A		40	50	42	40	65	80	80	80	80
C120N		40	40	42	40	40	50	50	70	70
C120H		40	40	42	40	40	50	50	70	70
NG125N						60	70	70	85	85
NG125H						85	85	85	100	100
NG125L									120	150
NG160E			50							
NG160N										
NG160H										
NSC100N						85	90	100	100	100
NSX100B						85	90	90	100	100
NSX100F							90	100	120	150
NSX100N								100	120	150
NSX100H									120	150
NSX100S										150

Upstream Breaking capacity (rms)	NSX160B 40	NSX160F 85	NSX160N 90	NSX160H 100	NSX160S 120	NSX160L 150
Downstream	Reinforced breaking capacity (kA rms)					
iDPN (130 V between phase and neutral)	20	20	20	20	20	20
iDPNN (130 V between phase and neutral)	30	30	30	30	30	30
C60N	40	40	60	60	60	60
C60H	40	50	80	80	80	80
C60L ≤ 25 A		65	80	80	80	80
C60L 32 A and 40 A		65	80	80	80	80
C60L 50 A and 63 A	40	65	80	80	80	80
C120N	40	40	50	50	70	70
C120H	40	40	50	50	70	70
NG125N		60	70	70	85	85
NG125H		85	85	85	100	100
NG125L					120	150
NG160E	40	50	50	50	60	60
NG160N		85	90	100	100	100
NG160H		85	90	100	100	100
NSC100N		85	90	100	100	100
NSX100B		85	90	90	100	100
NSX100F			90	100	120	150
NSX100N				100	120	150
NSX100H					120	150
NSX100S						150
NSX160B		85	90	90	100	100
NSX160F			90	100	120	150
NSX160N				100	120	150
NSX160H					120	150
NSX160S						150

Cascading 220/240 V

Upstream: Compact NSX250

Downstream: iDPN, Multi 9, C120, NG125-160,
NSC100N, Compact NSX100-250

Upstream Breaking capacity (kA rms)	NSX250B 40	NSX250F 85	NSX250N 90	NSX250H 100	NSX250S 120	NSX250L 150
Downstream	Reinforced breaking capacity (kA rms)					
iDPN (130 V between phase and neutral)	20	20	20	20	20	20
iDPNN (130 V between phase and neutral)	30	30	30	30	30	30
C60N	40	40	60	60	60	60
C60H	40	50	65	65	65	65
C60L ≤ 25 A		65	80	80	80	80
C60L 32 A and 40 A		65	80	80	80	80
C60L 50 A and 63 A	40	50	65	65	65	65
C120N	40	40	50	50	70	70
C120H	40	40	50	50	70	70
NG125N		60	70	70	85	85
NG125H		85	85	85	100	100
NG125L					120	150
NG160E	40	50	50	50	60	60
NG160N		85	90	100	100	100
NG160H		85	90	100	100	100
NSC100N		85	90	100	100	100
NSX100B		85	90	90	100	100
NSX100F			90	100	120	150
NSX100N				100	120	150
NSX100H					120	150
NSX100S						150
NSX160B		85	90	90	100	100
NSX160F			90	100	120	150
NSX160N				100	120	150
NSX160H					120	150
NSX160S						150
NSX250B		85	90	90	100	100
NSX250F			90	100	120	150
NSX250N				100	120	150
NSX250H					120	150
NSX250S						150

Cascading 220/240 V

Upstream: Compact NSX400-630,
Compact NS630b-3200N, Masterpact NT NW
Downstream: NG160, NSC100N,
Compact NSX100-630

Upstream Breaking capacity (kA rms)	NSX400F 40	NSX400N 85	NSX400H 100	NSX400S 120	NSX400L 150	NSX630F 40	NSX630N 85	NSX630H 100	NSX630S 120	NSX630L 150
Downstream	Reinforced breaking capacity (kA rms)									
NG160E	40	50	50	60	60	40	50	50	60	60
NG160N		85	90	100	100	40	85	90	100	100
NG160H		85	90	100	100	40	85	90	100	100
NSC100N		85	90	100	100	40	85	90	100	100
NSX100B		85	90	100	100		85	90	100	100
NSX100F			100	120	150			100	120	150
NSX100N			100	120	150			100	120	150
NSX100H				120	150				120	150
NSX100S					150					150
NSX160B		85	90	100	100		85	90	100	100
NSX160F			100	120	150			100	120	150
NSX160N			100	120	150			100	120	150
NSX160H				120	150				120	150
NSX160S					150					150
NSX250B		85	90	100	100		85	90	100	100
NSX250F			100	120	150			100	120	150
NSX250N			100	120	150			100	120	150
NSX250H				120	150				120	150
NSX250S					150					150
NSX400F		85	100	120	150		85	100	120	150
NSX400N			100	120	150			100	120	150
NSX400H				120	150			100	120	150
NSX400S					150				120	150
NSX630F							85	100	120	150
NSX630N								100	120	150
NSX630H								100	120	150
NSX630S									120	150

Upstream	NS630bL	NS630LB	NS800L	NS800LB	NS1000L	Masterpact NT L1 150	Masterpact NW L1 150
Breaking capacity (kA rms)	150	200	150	200	150	150	150
Downstream	Reinforced breaking capacity (kA rms)						
NSX100B	50	50	50	50	50	50	
NSX100F	150	150	150	150	150	150	
NSX100N	150	150	150	150	150	150	
NSX100H	150	150	150	150	150	150	
NSX100S	150	200	150	200	150	150	
NSX100L		200		200			
NSX160B	50	50	50	50	50	50	
NSX160F	150	150	150	150	150	150	
NSX160N	150	150	150	150	150	150	
NSX160H	150	150	150	150	150	150	
NSX160S	150	200	150	200	150	150	
NSX160L		200		200			
NSX250B	50	50	50	50	50	50	
NSX250F	150	150	150	150	150	150	
NSX250N	150	150	150	150	150	150	
NSX250H	150	150	150	150	150	150	
NSX250S	150	200	150	200	150	150	
NSX250L		200		200			
NSX400F	150	150	150	150	150	150	
NSX400N	150	150	150	150	150	150	100
NSX400H	150	150	150	150	150	150	
NSX400S	150	200	150	200	150	150	
NSX400L		200		200			
NSX630F	150	150	150	150	150	150	
NSX630N	150	150	150	150	150	150	100
NSX630H	150	150	150	150	150	150	
NSX630S	150	200	150	200	150	150	
NSX630L		200		200			

Cascading, network 380/415 V

Upstream: iDPN, Multi 9, C120, NG125

Downstream: iDPN, Multi 9, C120, NG125

Upstream	C60N iDPNN 10	C60H 15	C60L ≤ 25 A 25	32/40 A 20	50/63 A 15	C120N 10	C120H 15	NG125N 25	NG125H 36	NG125L 50
Downstream	Breaking capacity (kA rms)									
iDPN (230 V between phase and neutral)	10 kA	10 kA	20 kA	15 kA	10 kA	10 kA	10 kA	10 kA	15 kA	20 kA
iDPNN (230 V between phase and neutral)		15	25	20	15		15	15	20	25
C60N		15	25	20	15		15	25	25	25
C60H			25					25	36	36
C60L ≤ 25 A									36	50
C60L 32 A and 40 A								25	36	50
C60L 50 A and 63 A								25	36	36
C120N							15	25	25	36
C120H							15	25	25	36
NG125N									36	36
NG125H										50

Cascading, network 380/415 V

Upstream: NG160, NSC100N,

Compact NSX100-160

Downstream: iDPN, Multi 9, C120, NG125,

NSC100N, Compact NSX100-160

Upstream Breaking capacity (kA rms)	NG160E 16	NG160N 25	NG160H 36	NSC100N 18	NSX100B 25	NSX100F 36	NSX100N 50	NSX100H 70	NSX100S 100	NSX100L 150
Downstream	Reinforced breaking capacity (kA rms)									
iDPN (230 V between phase and neutral)	10	10	10	10	10	10	10	10	10	10
iDPNN (230 V between phase and neutral)	15	15	15	15	15	15	15	15	15	15
C60N	15	20	25	18	20	25	30	30	30	30
C60H	15	25	25	18	25	36	40	40	40	40
C60L ≤ 25 A			25			36	40	40	40	40
C60L 32 A and 40 A		25	25		25	36	40	40	40	40
C60L 50 A and 63 A		25	25	18	25	36	40	40	40	40
C120N		25	25	18	25	25	25	25	25	25
C120H		25	25	18	25	25	25	25	25	25
NG125N						36	36	36	50	70
NG125H							40	50	70	100
NG125L								70	100	150
NSC100N					25	36	50	50	50	50
NSX100B						36	36	50	50	50
NSX100F							50	70	100	150
NSX100N								70	100	150
NSX100H									100	150
NSX100S										150

Upstream Breaking capacity (kA rms)	NSX160B 25	NSX160F 36	NSX160N 50	NSX160H 70	NSX160S 100	NSX160L 150
Downstream						
iDPN (230 V between phase and neutral)	10	10	10	10	10	10
iDPNN (230 V between phase and neutral)	15	15	15	15	15	15
C60N	20	25	30	30	30	30
C60H ≤ 40 A	25	36	40	40	40	40
C60H 50 A and 63 A	25	30	30	30	30	30
C60L ≤ 25 A		36	40	40	40	40
C60L 32 A and 40 A	25	36	40	40	40	40
C60L 50 A and 63 A	25	30	30	30	30	30
C120N	25	25	25	25	25	25
C120H	25	25	25	25	25	25
NG125N		36	36	36	50	70
NG125H			40	50	70	100
NG125L			50	70	100	150
NG160E	25	25	30	30	30	30
NG160N		36	36	50	50	50
NG160H			50	50	50	50
NSC100N	25	36	50	50	50	50
NSX100B		36	36	50	50	50
NSX100F			50	70	100	150
NSX100N				70	100	150
NSX100H					100	150
NSX100S						150
NSX160B		36	36	50	50	50
NSX160F			50	70	100	150
NSX160N				70	100	150
NSX160H					100	150
NSX160S						150

Cascading, network 380/415 V

Upstream: Compact NSX250-630

Downstream: iDPN, Multi 9, C120, NG125-160, NSC100N, Compact NSX100-630

Upstream Breaking capacity (kA rms)	NSX250B 25	NSX250F 36	NSX250N 50	NSX250H 70	NSX250S 100	NSX250L 150
Downstream	Reinforced breaking capacity (kA rms)					
iDPN (230 V between phase and neutral)	10	10	10	10	10	10
iDPNN (230 V between phase and neutral)	15	15	15	15	15	15
C60N ≤ 40 A	20	25	30	30	30	30
C60N 50 A and 63 A	20	25	25	25	25	25
C60H ≤ 40 A	25	30	30	30	30	30
C60H 50 A and 63 A	25	25	25	25	25	25
C60L ≤ 25 A	25	30	30	30	30	30
C60L 32 A and 40 A	25	30	30	30	30	30
C60L 50 A and 63 A	25	25	25	25	25	25
C120N	25	25	25	25	25	25
C120H	25	25	25	25	25	25
NG125N		36	36	36	50	70
NG125H			40	50	70	100
NG125L			50	70	100	150
NG160E	25	25	30	30	30	30
NG160N		36	36	50	50	50
NG160H			50	50	50	50
NSC100N	25	36	50	50	50	50
NSX100B		36	36	50	50	50
NSX100F			50	70	100	150
NSX100N				70	100	150
NSX100H					100	150
NSX100S						150
NSX160B		36	36	50	50	50
NSX160F			50	70	100	150
NSX160N				70	100	150
NSX160H					100	150
NSX160S						150
NSX250B		36	36	50	50	50
NSX250F			50	70	100	150
NSX250N				70	100	150
NSX250H					100	150
NSX250S						150

Upstream Breaking capacity (kA rms)	NSX400F 36	NSX400N 50	NSX400H 70	NSX400S 100	NSX400L 150	NSX630F 36	NSX630N 50	NSX630H 70	NSX630S 100	NSX630L 150
Downstream	Reinforced breaking capacity (kA rms)									
NG160E	25	25	30	30	30	25	25	30	30	30
NG160N		36	50	50	50		36	50	50	50
NG160H		50	50	50	50		50	50	50	50
NSC100N		50	50	50	50		50	50	50	50
NSX100B	36	36	50	50	50	36	36	50	50	50
NSX100F		50	70	100	150		50	70	100	150
NSX100N			70	100	150			70	100	150
NSX100H				100	150				100	150
NSX100S					150					150
NSX160B	36	36	50	50	50	36	36	50	50	50
NSX160F		50	70	100	150		50	70	100	150
NSX160N			70	100	150			70	100	150
NSX160H				100	150				100	150
NSX160S					150					150
NSX250B	36	36	50	50	50	36	36	50	50	50
NSX250F		50	70	100	150		50	70	100	150
NSX250N			70	100	150			70	100	150
NSX250H				100	150				100	150
NSX250S					150					150
NSX400F		50	70	100	150		50	70	100	150
NSX400N			70	100	150			70	100	150
NSX400H				100	150				100	150
NSX400S					150					150
NSX630F							50	70	100	150
NSX630N								70	100	150
NSX630H									100	150
NSX630S										150

Cascading, network 380/415 V

Upstream: Compact NS630b-3200N,

Masterpact NT NW

Downstream: Compact NSX100-630,

Compact NS630b-1600

Upstream	NS630bN to NS1600N	NS630b H	NS630b L	NS630b LB	NS800 H	NS800 L	NS800 LB	NS1000 H	NS1000 L	NS1250H NS1600H	NS2000N NS2500N NS3200N 70	Masterpact NT L1	Masterpact NW L1
Breaking capacity (kA rms)	50	70	150	200	70	150		70	150	70		150	150

Downstream	Reinforced breaking capacity (kA rms)												
NSX100B	50	50	50	50	50	50	50	50	50	50		50	
NSX100F	50	70	150	150	70	150	150	70	150	70		150	
NSX100N		70	150	150	70	150	150	70	150	70		150	
NSX100H			150	150		150	150		150			150	
NSX100S			150	200		150	200		150			150	
NSX100L				200			200						
NSX160B	50	50	50	50	50	50	50	50	50	50		50	
NSX160F	50	70	150	150	70	150	150	70	150	70		150	
NSX160N		70	150	150	70	150	150	70	150	70		150	
NSX160H			150	150		150	150		150			150	
NSX160S			150	200		150	200		150			150	
NSX160L				200			200						
NSX250B	50	50	50	50	50	50	50	50	50	50		50	
NSX250F	50	70	150	150	70	150	150	70	150	70		150	
NSX250N		70	150	150	70	150	150	70	150	70		150	
NSX250H			150	150		150	150		150			150	
NSX250S			150	200		150	200		150			150	
NSX250L				200			200						
NSX400F	50	70	150	150	70	150	150	70	150	70		150	
NSX400N		70	150	150	70	150	150	70	150	70		150	
NSX400H			150	150		150	150		150			150	
NSX400S			150	200		150	200		150			150	
NSX400L				200			200						
NSX630F	50	70	150	150	70	150	150	70	150	70		150	
NSX630N		70	150	150	70	150	150	70	150	70		150	
NSX630H			150	150		150	150		150			150	
NSX630S			150	200		150	200		150			150	
NSX630L				200			200						
NS630bN		70	150	200	70	150	200	70	150	70	70	150	65
NS630bH			150	200		150	200		150			150	
NS800N					70	150	200	70	150	70	70	150	65
NS800H						150	200		150			150	
NS1000N							200	70	150	70	70	150	65
NS1000H							200		150			150	
NS1250N										70	70		65
NS1600N											70		65

Cascading, network 440 V

Upstream: Compact NSX100-250
Downstream: Multi 9, NG160, NSC100N,
Compact NSX100-250

Upstream Breaking capacity (kA rms)	NSX100B 20	NSX100F 35	NSX100N 50	NSX100H 65	NSX100S 90	NSX100L 130	NSX160B 20	NSX160F 35	NSX160N 50	NSX160H 65	NSX160S 90	NSX160L 130
Downstream	Reinforced breaking capacity (kA rms)											
C60N	15	15	20	20	20	20	15	15	20	20	20	20
C60H	20	20	25	25	25	25	20	20	25	25	25	25
C60L ≤ 25 A			25	25	25	25			25	25	25	25
C60L 32 A and 40 A	20	20	25	25	25	25	20	20	25	25	25	25
NG160E							20	20	30	30	30	30
NG160N								35	35	50	50	50
NG160H									50	50	50	50
NSC100N	20	35	50	50	50	50	20	35	50	50	50	50
NSX100B		35	35	50	50	50		35	35	50	50	50
NSX100F			50	65	90	130			50	65	90	130
NSX100N				65	90	130				65	90	130
NSX100H					90	130					90	130
NSX100S						130						130
NSX160B								35	35	50	50	50
NSX160F									50	65	90	130
NSX160N										65	90	130
NSX160H											90	130
NSX160S												130

Upstream Breaking capacity (rms)	NSX250B 20	NSX250F 35	NSX250N 50	NSX250H 65	NSX250S 90	NSX250L 130
Downstream	Reinforced breaking capacity (rms)					
NG160E	20	20	30	30	30	30
NG160N		35	35	50	50	50
NG160H			50	50	50	50
NSC100N	20	35	50	50	50	50
NSX100B		35	35	50	50	50
NSX100F			50	65	90	130
NSX100N				65	90	130
NSX100H					90	130
NSX100S						130
NSX160B		35	35	50	50	50
NSX160F			50	65	90	130
NSX160N				65	90	130
NSX160H					90	130
NSX160S						130
NSX250B		35	35	50	50	50
NSX250F			50	65	90	130
NSX250N				65	90	130
NSX250H					90	130
NSX250S						130

Cascading, network 440 V

Upstream: Compact NSX400-630,
Compact NS630b-3200, Masterpact NT NW
Downstream: NG160, NSC100N,
Compact NSX100-630, Compact NS630b-1600

Upstream Breaking capacity (rms)	NSX400F 30	NSX400N 42	NSX400H 65	NSX400S 90	NSX400L 130	NSX630F 30	NSX630N 42	NSX630H 65	NSX630S 90	NSX630L 130
Downstream	Reinforced breaking capacity (rms)									
NG160E	20	30	30	30	30	20	30	30	30	30
NG160N	30	30	50	50	50	30	30	50	50	50
NG160H		42	50	50	50		42	50	50	50
NSC100N	30	42	50	50	50	30	42	50	50	50
NSX100B	30	30	50	50	50	30	30	50	50	50
NSX100F		42	65	90	130		42	65	90	130
NSX100N			65	90	130			65	90	130
NSX100H				90	130				90	130
NSX100S					130					130
NSX160B	30	30	50	50	50	35	30	50	50	50
NSX160F		42	65	90	130		42	65	90	130
NSX160N			65	90	130			65	90	130
NSX160H				90	130				90	130
NSX160S					130					130
NSX250B	30	30	50	50	50	35	30	50	50	50
NSX250F		42	65	90	130		42	65	90	130
NSX250N			65	90	130			65	90	130
NSX250H				90	130				90	130
NSX250S					130					130
NSX400F		42	65	90	130		42	65	90	130
NSX400N			65	90	130			65	90	130
NSX400H				90	130				90	130
NSX400S					130					130
NSX630F							42	65	90	130
NSX630N								65	90	130
NSX630H									90	130
NSX630S										130

Upstream	NS630bN to NS1600N	NS630b H	NS630b L	NS630b LB	NS800 H	NS800 L	NS800 LB	NS1000 H	NS1000 L	NS1250H NS1600H	NS2000N NS2500N NS3200N	Masterpact NT L1	Masterpact NW L1
Breaking capacity (rms)	50	65	130	200	65	130	200	65	130	65	65	130	150
Downstream	Reinforced breaking capacity (rms)												
NSX100B	50	50	50	50	50	50	50	50	50	50		50	
NSX100F	50	65	130	130	65	130	130	65	130	65		130	
NSX100N		65	130	130	65	130	130	65	130	65		130	
NSX100H			130	130		130	130		130			130	
NSX100S			130	200		130	200		130			130	
NSX100L				200			200						
NSX160B	50	50	50	50	50	50	50	50	50	50		50	
NSX160F	50	65	130	130	65	130	130	65	130	65		130	
NSX160N		65	130	130	65	130	130	65	130	65		130	
NSX160H			130	130		130	130		130			130	
NSX160S			130	200		130	200		130			130	
NSX160L				200			200						
NSX250B	50	50	50	50	50	50	50	50	50	50		50	
NSX250F	50	65	130	130	65	130	130	65	130	65		130	
NSX250N		65	130	130	65	130	130	65	130	65		130	
NSX250H			130	130		130	130		130			130	
NSX250S			130	200		130	200		130			130	
NSX250L				200			200						
NSX400F	50	65	130	130	65	130	130	65	130	65		130	
NSX400N		65	130	130	65	130	130	65	130	65		130	
NSX400H			130	130		130	130		130			130	
NSX400S			130	200		130	200		130			130	
NSX400L				200			200						
NSX630F	50	65	130	130	65	130	130	65	130	65		130	
NSX630N		65	130	130	65	130	130	65	130	65		130	
NSX630H			130	130		130	130		130			130	
NSX630S			130	200		130	200		130			130	
NSX630L				200			200						
NS630bN		65	130	200	65	130	200	65	130	65	65	130	65
NS630bH			130	200		130	200		130			130	
NS800N					65	130	200	65	130	65	65	130	65
NS800H						130	200		130			130	
NS1000N								65	130	65	65	130	65
NS1000H									130			130	
NS1250N										65	65		65
NS1600N													65

Cascading and enhanced discrimination

With traditional circuit breakers, cascading between two devices generally results in the loss of discrimination.

With Compact circuit breakers, the discrimination characteristics in the tables remain applicable and are in some cases even enhanced. Protection discrimination is ensured for short-circuit currents greater than the rated breaking capacity of the circuit breaker and even, in some cases, for its enhanced breaking capacity. In the later case, **protection discrimination is total**, i.e. only the downstream device trips for any and all possible faults at its point in the installation.

Example

Consider a combination between:

- a Compact NSX250H with trip unit TM250D
- a Compact NSX100F with trip unit TM25D.

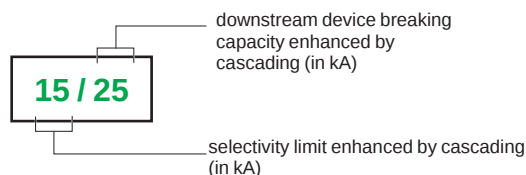
The discrimination tables indicate total discrimination. Protection discrimination is therefore ensured up to the breaking capacity of the NSX100F, i.e. **36 kA**.

The cascading tables indicate an enhanced breaking capacity of **70 kA**.

The enhanced discrimination tables indicate that in a cascading configuration, discrimination is ensured up to **70 kA**, i.e. for any and all possible faults at that point in the installation.

Enhanced discrimination tables - 380/415 V

For each combination of two circuit breakers, the tables indicate the:



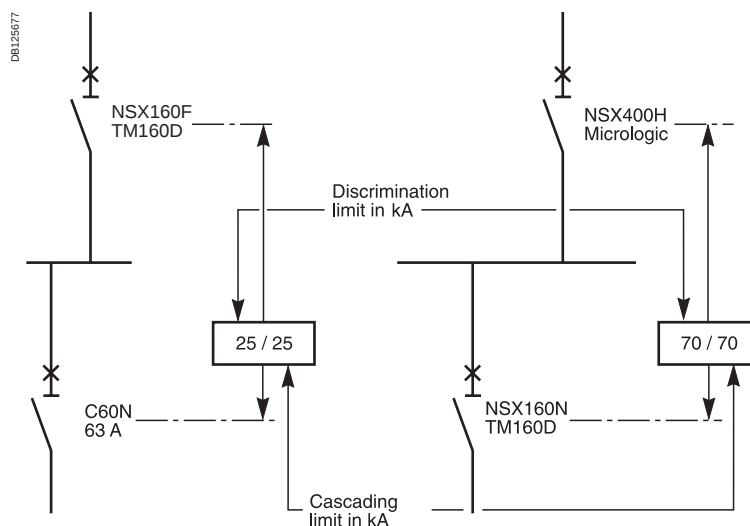
In a table, a box containing two equal values indicates that discrimination is provided up to the reinforced breaking capacity of the downstream device.

These tables apply only to cases with combined discrimination and cascading between two devices. For all other cases, refer to the normal cascading and discrimination tables.

Technical principle

Enhanced discrimination is the result of the exclusive Compact NSX Roto-active breaking technique which operates as follows:

- due to the short-circuit current (electrodynamic forces), the contacts in both devices simultaneously separate. The result is major limitation of the short-circuit current
- the dissipated energy provokes the reflex tripping of the downstream device, but is insufficient to trip the upstream device.



Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced
discrimination 220/240 V

Upstream: Compact NSX160, TM-D

Downstream: Multi 9, C120, NG125

Upstream		NSX160B		NSX160F		NSX160N		NSX160H		NSX160S		NSX160L	
Breaking capacity		40 kA		85 kA		90 kA		100 kA		120 kA		150 kA	
Trip unit		TM-D		TM-D		TM-D		TM-D		TM-D		TM-D	
Downstream	Rating	80-100	125-160	80-100	125-160	80-100	125-160	80-100	125-160	80-100	125-160	80-100	125-160
C60N	20 kA	≤ 16	40/40		40/40		60/60		60/60		60/60		60/60
		20	40/40		40/40		60/60		60/60		60/60		60/60
		25	40/40		40/40		60/60		60/60		60/60		60/60
		32	40/40		40/40		60/60		60/60		60/60		60/60
		40	40/40		40/40		60/60		60/60		60/60		60/60
		50	40/40		40/40		60/60		60/60		60/60		60/60
		63	40/40		40/40		60/60		60/60		60/60		60/60
C60H	30 kA	≤ 16	40/40		50/50		80/80		80/80		80/80		80/80
		20	40/40		50/50		80/80		80/80		80/80		80/80
		25	40/40		50/50		80/80		80/80		80/80		80/80
		32	40/40		50/50		80/80		80/80		80/80		80/80
		40	40/40		50/50		80/80		80/80		80/80		80/80
		50	40/40		50/50		80/80		80/80		80/80		80/80
		63	40/40		50/50		80/80		80/80		80/80		80/80
C60L	50 kA	≤ 16			65/65		80/80		80/80		80/80		80/80
		20			65/65		80/80		80/80		80/80		80/80
		25			65/65		80/80		80/80		80/80		80/80
	40 kA	32			65/65		80/80		80/80		80/80		80/80
		40			65/65		80/80		80/80		80/80		80/80
	30 kA	50	40/40		65/65		80/80		80/80		80/80		80/80
		63	40/40		65/65		80/80		80/80		80/80		80/80
	20/30 kA	≤ 16	40/40		40/40		50/50		50/50		70/70		70/70
		20 - 25	40/40		40/40		50/50		50/50		70/70		70/70
		32 - 40	40/40		40/40		50/50		50/50		70/70		70/70
		50 - 63											
NG125N	50 kA	80											
		100											
		125											
		≤ 16			60/60		70/70		70/70		85/85		85/85
		20 - 25			60/60		70/70		70/70		85/85		85/85
		32 - 40			60/60		70/70		70/70		85/85		85/85
		50 - 63											
NG125H	70 kA	80											
		100											
		125											
		≤ 16			85/85		85/85		85/85		100/100		100/100
		20 - 25			85/85		85/85		85/85		100/100		100/100
		32 - 40			85/85		85/85		85/85		100/100		100/100

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 220/240 V

Upstream: Compact NSX250, TM-D

Downstream: Multi 9, C120, NG125

Upstream		NSX250B	NSX250F	NSX250N	NSX250H	NSX250S	NSX250L
Breaking capacity		40 kA	85 kA	90 kA	100 kA	120 kA	150 kA
Trip unit		TM-D	TM-D	TM-D	TM-D	TM-D	TM-D
Downstream	Rating	160/200/250	160/200/250	160/200/250	160/200/250	160/200/250	160/200/250
C60N	20 kA	≤ 16	40/40	40/40	60/60	60/60	60/60
		20	40/40	40/40	60/60	60/60	60/60
		25	40/40	40/40	60/60	60/60	60/60
		32	40/40	40/40	60/60	60/60	60/60
		40	40/40	40/40	60/60	60/60	60/60
		50	40/40	40/40	60/60	60/60	60/60
		63	40/40	40/40	60/60	60/60	60/60
C60H	30 kA	≤ 16	40/40	50/50	65/65	65/65	65/65
		20	40/40	50/50	65/65	65/65	65/65
		25	40/40	50/50	65/65	65/65	65/65
		32	40/40	50/50	65/65	65/65	65/65
		40	40/40	50/50	65/65	65/65	65/65
		50	40/40	50/50	65/65	65/65	65/65
		63	40/40	50/50	65/65	65/65	65/65
C60L	50 kA	≤ 16		65/65	80/80	80/80	80/80
		20		65/65	80/80	80/80	80/80
		25		65/65	80/80	80/80	80/80
	40 kA	32		65/65	80/80	80/80	80/80
		40		65/65	80/80	80/80	80/80
	30 kA	50	40/40	50/50	65/65	65/65	65/65
		63	40/40	50/50	65/65	65/65	65/65
C120N/H	20/30 kA	≤ 16	40/40	40/40	50/50	50/50	70/70
		20 - 25	40/40	40/40	50/50	50/50	70/70
		32 - 40	40/40	40/40	50/50	50/50	70/70
		50 - 63	40/40	40/40	50/50	50/50	70/70
		80	40/40	40/40	50/50	50/50	70/70
		100	40/40	40/40	50/50	50/50	70/70
		125					
NG125N	50 kA	≤ 16		60/60	70/70	70/70	85/85
		20 - 25		60/60	70/70	70/70	85/85
		32 - 40		60/60	70/70	70/70	85/85
		50 - 63		60/60	70/70	70/70	85/85
		80		60/60	70/70	70/70	85/85
		100		60/60	70/70	70/70	85/85
		125					
NG125H	70 kA	≤ 16		85/85	85/85	85/85	100/100
		20 - 25		85/85	85/85	85/85	100/100
		32 - 40		85/85	85/85	85/85	100/100
		50 - 63		85/85	85/85	85/85	100/100
		80		85/85	85/85	85/85	100/100

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced
discrimination 220/240 V

Upstream: Compact NSX100-160, Micrologic

Downstream: Multi 9

Upstream		NSX100B		NSX100F		NSX100N		NSX100H		NSX100S		NSX100L	
Breaking capacity		40 kA		85 kA		90 kA		100 kA		120 kA		150 kA	
Trip unit		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating	40	100	40	100	40	100	40	100	40	100	40	100
C60N	20 kA	≤ 16	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		20	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		25	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		32		40/40		40/40		60/60		60/60		60/60	60/60
		40		40/40		40/40		60/60		60/60		60/60	60/60
		50											
C60H	30 kA	≤ 16	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		20	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		25	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		32		40/40		50/50		80/80		80/80		80/80	80/80
		40		40/40		50/50		80/80		80/80		80/80	80/80
		50											
C60L	50 kA	≤ 16			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		20			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		25			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
	40 kA	32				65/65		80/80		80/80		80/80	80/80
		40				65/65		80/80		80/80		80/80	80/80
	30 kA	50											
		63											

Upstream		NSX160B		NSX160F		NSX160N		NSX160H		NSX160S		NSX160L	
Breaking capacity		40 kA		85 kA		90 kA		100 kA		120 kA		150 kA	
Trip unit		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating	80	160	80	160	80	160	80	160	80	160	80	160
C60N	20 kA	≤ 16	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		20	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		25	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		32	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		40	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
		50	40/40	40/40	40/40	40/40	60/60	60/60	60/60	60/60	60/60	60/60	60/60
C60H	30 kA	≤ 16	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		20	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		25	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		32	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		40	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		50	40/40	40/40	50/50	50/50	80/80	80/80	80/80	80/80	80/80	80/80	80/80
C60L	50 kA	≤ 16			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		20			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		25			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
	40 kA	32			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		40			65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
	30 kA	50	40/40	40/40	65/65	65/65	80/80	80/80	80/80	80/80	80/80	80/80	80/80
		63		40/40		65/65		80/80		80/80		80/80	80/80

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 220/240 V AC

Upstream: Compact NSX250, Micrologic
Downstream: Multi 9, C120, NG125

Upstream			NSX250B	NSX250F	NSX250N	NSX250H	NSX250S	NSX250L
Breaking capacity			40 kA	85 kA	90 kA	100 kA	150 kA	150 kA
Trip unit			Micrologic	Micrologic	Micrologic	Micrologic	Micrologic	Micrologic
Downstream	Rating		250	250	250	250	250	250
C60N	20 kA	≤ 16	40/40	40/40	60/60	60/60	60/60	60/60
		20	40/40	40/40	60/60	60/60	60/60	60/60
		25	40/40	40/40	60/60	60/60	60/60	60/60
		32	40/40	40/40	60/60	60/60	60/60	60/60
		40	40/40	40/40	60/60	60/60	60/60	60/60
		50	40/40	40/40	60/60	60/60	60/60	60/60
		63	40/40	40/40	60/60	60/60	60/60	60/60
C60H	30 kA	≤ 16	40/40	50/50	65/65	65/65	65/65	65/65
		20	40/40	50/50	65/65	65/65	65/65	65/65
		25	40/40	50/50	65/65	65/65	65/65	65/65
		32	40/40	50/50	65/65	65/65	65/65	65/65
		40	40/40	50/50	65/65	65/65	65/65	65/65
		50	40/40	50/50	65/65	65/65	65/65	65/65
		63	40/40	50/50	65/65	65/65	65/65	65/65
C60L	50 kA	≤ 16		65/65	80/80	80/80	80/80	80/80
		20		65/65	80/80	80/80	80/80	80/80
		25		65/65	80/80	80/80	80/80	80/80
	40 kA	32		65/65	80/80	80/80	80/80	80/80
		40		65/65	80/80	80/80	80/80	80/80
	30 kA	50	40/40	65/65	65/65	65/65	65/65	65/65
		63	40/40	65/65	65/65	65/65	65/65	65/65
C120N/H	20/30 kA	≤ 16	40/40	40/40	50/50	50/50	70/70	70/70
		20 - 25	40/40	40/40	50/50	50/50	70/70	70/70
		32 - 40	40/40	40/40	50/50	50/50	70/70	70/70
		50 - 63	40/40	40/40	50/50	50/50	70/70	70/70
		80	40/40	40/40	50/50	50/50	70/70	70/70
		100	40/40	40/40	50/50	50/50	70/70	70/70
		125	40/40	40/40	50/50	50/50	70/70	70/70
NG125N	50 kA	≤ 16		60/60	70/70	70/70	85/85	85/85
		20 - 25		60/60	70/70	70/70	85/85	85/85
		32 - 40		60/60	70/70	70/70	85/85	85/85
		50 - 63		60/60	70/70	70/70	85/85	85/85
		80		60/60	70/70	70/70	85/85	85/85
		100		60/60	70/70	70/70	85/85	85/85
		125		60/60	70/70	70/70	85/85	85/85
NG125H	70 kA	≤ 16		85/85	85/85	85/85	100/100	100/100
		20 - 25		85/85	85/85	85/85	100/100	100/100
		32 - 40		85/85	85/85	85/85	100/100	100/100
		50 - 63		85/85	85/85	85/85	100/100	100/100
		80		85/85	85/85	85/85	100/100	100/100

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 220/240 V

Upstream: Compact NSX250, TM-D, Micrologic
Downstream: NG160, NSC100N,
Compact NSX100

Upstream		NSX250F		NSX250N		NS250H		NSX250S		NSX250L	
Breaking capacity		85 kA		90 kA		100 kA		120 kA		150 kA	
Trip unit		TM-D		TM-D		TM-D		TM-D		TM-D	
Downstream	Rating	160	200-250	160	200-250	160	200-250	160	200-250	160	200-250
NG160N/H	25 kA		40/40		50/50		50/50		60/60		60/60
NG160N/H	50 kA		85/85		90/90		100/100		100/100		100/100
NSC100N	42 kA		85/85		90/90		100/100		100/100		100/100
NSX100B	40 kA		85/85		90/90		100/100		100/100		100/100
	TM-D ≤ 25										
	TM-D 40 - 100		36/85		36/90		36/100		36/120		36/150
NSX100F	85 kA				90/90		100/100		120/120		150/150
	TM-D ≤ 25										
	TM-D 40 - 100				36/90		36/100		36/120		36/150
NSX100N	90 kA						100/100		120/120		150/150
	TM-D ≤ 25										
	TM-D 40 - 100						36/100		36/120		36/150
NSX100H	100 kA								120/120		150/150
	TM-D ≤ 25										
	TM-D 40 - 100								36/120		36/150
NSX100S	120 kA										150/150
	TM-D ≤ 25										
	TM-D 40 - 100										36/150
NSX100B	40 kA		36/85		36/90		36/100		36/120		36/100
NSX100F	85 kA				36/90		36/100		36/120		36/150
NSX100N	90 kA						36/100		36/120		36/150
NSX100H	100 kA								36/120		36/150
NSX100S	120 kA										36/150

Upstream		NSX250F		NSX250N		NS250H		NSX250S		NSX250L	
Breaking capacity		85 kA		90 kA		100 kA		120 kA		150 kA	
Trip unit		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating	160	200-250	160	200-250	160	200-250	160	200-250	160	200-250
NG160E	50 kA	40/40	40/40	50/50	50/50	50/50	50/50	60/60	60/60	60/60	60/60
NG160N/H		85/85	85/85	90/90	90/90	100/100	100/100	100/100	100/100	100/100	100/100
NSC100N	42 kA	85/85	85/85	90/90	90/90	100/100	100/100	100/100	100/100	100/100	100/100
NSX100B	40 kA										
	TM-D ≤ 25	85/85	85/85	90/90	90/90	100/100	100/100	100/100	100/100	100/100	100/100
	TM-D 40 - 100	36/85	36/85	36/90	36/90	36/100	36/100	36/120	36/120	36/150	36/150
NSX100F	85 kA										
	TM-D ≤ 25			90/90	90/90	100/100	100/100	120/120	120/120	150/150	150/150
	TM-D 40 - 100			36/90	36/90	36/100	36/100	36/120	36/120	36/150	36/150
NSX100N	90 kA										
	TM-D ≤ 25					100/100	100/100	120/120	120/120	150/150	150/150
	TM-D 40 - 100					36/100	36/100	36/120	36/120	36/150	36/150
NSX100H	100 kA										
	TM-D ≤ 25							120/120	120/120	150/150	150/150
	TM-D 40 - 100							36/120	36/120	36/150	36/150
NSX100S	120 kA										
	TM-D ≤ 25									150/150	150/150
	TM-D 40 - 100									36/150	36/150
NSX100B	40 kA	36/85	36/85	36/90	36/90	36/100	36/100	36/100	36/100	36/100	36/100
NSX100F	85 kA			36/90	36/90	36/100	36/100	36/120	36/120	36/150	36/150
NSX100N	90 kA					36/100	36/100	36/120	36/120	36/150	36/150
NSX100H	100 kA							36/120	36/120	36/150	36/150
NSX100S	120 kA									36/150	36/150

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 220/240 V

Upstream: Compact NSX400-630,

Compact NS800-1000, Micrologic

Downstream: NG160, NSC100N, Compact NSX100-630

Upstream Breaking capacity	NSX400N 85 kA	NSX400H 100 kA	NSX400S 120 kA	NSX400L 150 kA	NSX630N 85 kA	NSX630H 100 kA	NSX630S 120 kA	NSX630L 150 kA	NS800L 150 kA	NS800LB 200 kA	NS1000L 150 kA
Trip unit	Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		
Downstream	400	400	400	400	400	400	400	400	800		1000
NG160E 25 kA TM-D	50/50	50/50	60/60	60/60	50/50	50/50	60/60	60/60			
NG160N/H 50 kA TM-D	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100			
NSC100N 42 kA TM-D	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100			
NSX100B 40 kA TM-D	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX100F 85 kA TM-D		90/90	120/120	150/150		90/90	120/120	150/150	150/150	150/150	150/150
NSX100N 90 kA TM-D		100/100	120/120	150/150		100/100	120/120	150/150	150/150	150/150	150/150
NSX100H 100 kA TM-D			120/120	150/150			120/120	150/150	150/150	150/150	150/150
NSX100S 120 kA TM-D				150/150				150/150	150/150	200/200	150/150
NSX100L 150 kA TM-D										200/200	
NSX160B 40 kA TM-D	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX160F 85 kA TM-D		90/90	120/120	150/150		90/90	120/120	150/150	150/150	150/150	150/150
NSX160N 90 kA TM-D		100/100	120/120	150/150		100/100	120/120	150/150	150/150	150/150	150/150
NSX160H 100 kA TM-D			120/120	150/150			120/120	150/150	150/150	150/150	150/150
NSX160S 120 kA TM-D				150/150				150/150	150/150	200/200	150/150
NSX160L 150 kA TM-D										200/200	
NSX250B 40 kA TM-D					85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX250F 85 kA TM-D						90/90	120/120	150/150	150/150	150/150	150/150
NSX250N 90 kA TM-D						100/100	120/120	150/150	150/150	150/150	150/150
NSX250H 100 kA TM-D							120/120	150/150	150/150	150/150	150/150
NSX250S 120 kA TM-D								150/150	150/150	200/200	150/150
NSX250L 150 kA TM-D										200/200	
NSX100B 40 kA Micrologic	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX100F 85 kA Micrologic		90/90	120/120	150/150		90/90	120/120	150/150	150/150	150/150	150/150
NSX100N 90 kA Micrologic		100/100	120/120	150/150		100/100	120/120	150/150	150/150	150/150	150/150
NSX100H 100 kA Micrologic			120/120	150/150			120/120	150/150	150/150	150/150	150/150
NSX100S 120 kA Micrologic				150/150				150/150	150/150	200/200	150/150
NSX100L 150 kA Micrologic										200/200	
NSX160B 40 kA Micrologic	85/85	90/90	100/100	100/100	85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX160F 85 kA Micrologic		90/90	120/120	150/150		90/90	120/120	150/150	150/150	150/150	150/150
NSX160N 90 kA Micrologic		100/100	120/120	150/150		100/100	120/120	150/150	150/150	150/150	150/150
NSX160H 100 kA Micrologic			120/120	150/150			120/120	150/150	150/150	150/150	150/150
NSX160S 120 kA Micrologic				150/150				150/150	150/150	200/200	150/150
NSX160L 150 kA Micrologic										200/200	
NSX250B 40 kA Micrologic					85/85	90/90	100/100	100/100	50/50	50/50	50/50
NSX250F 85 kA Micrologic						90/90	120/120	150/150	150/150	150/150	150/150
NSX250N 90 kA Micrologic						100/100	120/120	150/150	150/150	150/150	150/150
NSX250H 100 kA Micrologic							120/120	150/150	150/150	150/150	150/150
NSX250S 120 kA Micrologic								150/150	150/150	200/200	150/150
NSX250L 150 kA Micrologic										200/200	
NSX400F 40 kA Micrologic									10/150	10/150	15/150
NSX400N 85 kA Micrologic									10/150	10/150	15/150
NSX400H 100 kA Micrologic									10/150	10/150	15/150
NSX400S 120 kA Micrologic									10/150	10/200	15/150
NSX400L 150 kA Micrologic										10/200	
NSX630F 40 kA Micrologic											10/150
NSX630N 85 kA Micrologic											10/150
NSX630H 100 kA Micrologic											10/150
NSX630S 120 kA Micrologic											10/150

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 380/415 V

Upstream: NSC100N, NG160E/N

Downstream: Multi 9

Upstream	NSC100N
Breaking capacity	18 kA
Trip unit	TM-D

Downstream	Rating	63	70	80	100
C60N	10 kA	≤ 16	18/18	18/18	18/18
		20	18/18	18/18	18/18
		25	18/18	18/18	18/18
		32	6/18	6/18	8/18
		40		6/18	8/18
		50		6/18	6/18
		63			6/18

Upstream	NG160E	NG160N
Breaking capacity	16 kA	25 kA
Trip unit	TM-D	TM-D

Downstream	Rating	63	80	100	125	160	63	80	100	125	160
C60N	10 kA	≤ 16	15/15	15/15	15/15	15/15	15/25	15/25	15/25	15/25	15/25
		20	15/15	15/15	15/15	15/15	15/25	15/25	15/25	15/25	15/25
		25	15/15	15/15	15/15	15/15	15/25	15/25	15/25	15/25	15/25
		32	6/15	6/15	8/15	8/15	6/25	6/25	8/25	8/25	8/25
		40		6/15	8/15	8/15		6/25	8/25	8/25	8/25
		50		6/15	6/15	6/15		6/25	6/25	6/25	6/25
		63		6/15	6/15	6/15		6/25	6/25	6/25	6/25
C60H	15 kA	≤ 16					15/25	15/25	25/25	25/25	25/25
		20					15/25	15/25	25/25	25/25	25/25
		25					15/25	15/25	25/25	25/25	25/25
		32					6/25	6/25	8/25	8/25	8/25
		40						6/25	8/25	8/25	8/25
		50						6/25	6/25	6/25	6/25
		63						6/25	6/25	6/25	6/25
C60L	25 kA	≤ 16					15/25	15/25	25/25	25/25	25/25
		20					15/25	15/25	25/25	25/25	25/25
		25					15/25	15/25	25/25	25/25	25/25
	20 kA	32					6/25	6/25	8/25	8/25	8/25
		40						6/25	8/25	8/25	8/25
	15 kA	50						6/25	6/25	6/25	6/25
		63						6/25	6/25	6/25	6/25

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 380/415 V

Upstream: Compact NSX160, TM-D

Downstream: Multi 9, C120, NG125

Upstream		NSX160B		NSX160F		NSX160N		NSX160H		NSX160S		NSX160L	
Breaking capacity		25 kA		36 kA		50 kA		70 kA		100 kA		150 kA	
Trip unit		TM-D		TM-D		TM-D		TM-D		TM-D		TM-D	
Downstream	Rating	80-100	125- 160	80-100	125- 160	80-100	125- 160	80-100	125- 160	80-100	125- 160	80-100	125- 160
C60N	10 kA	≤ 16	20/20		25/25		30/30		30/30		30/30		30/30
		20		20/20		25/25		30/30		30/30		30/30	
		25		20/20		25/25		30/30		30/30		30/30	
		32		20/20		25/25		30/30		30/30		30/30	
		40		20/20		25/25		30/30		30/30		30/30	
		50		20/20		25/25		30/30		30/30		30/30	
C60H	15 kA	63	20/20		25/25		30/30		30/30		30/30		30/30
		≤ 16		25/25		36/36		40/40		40/40		40/40	
		20		25/25		36/36		40/40		40/40		40/40	
		25		25/25		36/36		40/40		40/40		40/40	
		32		25/25		36/36		40/40		40/40		40/40	
		40		25/25		36/36		40/40		40/40		40/40	
C60L	25 kA	50		25/25		30/30		30/30		30/30		30/30	
		63		25/25		30/30		30/30		30/30		30/30	
		≤ 16		25/25		36/36		40/40		40/40		40/40	
	20 kA	20		25/25		36/36		40/40		40/40		40/40	
		25		25/25		36/36		40/40		40/40		40/40	
		32		25/25		36/36		40/40		40/40		40/40	
	15 kA	40		25/25		36/36		40/40		40/40		40/40	
		50		25/25		30/30		40/40		40/40		40/40	
		63		25/25		30/30		40/40		40/40		40/40	
		≤ 16		25/25		30/30		40/40		40/40		40/40	
C120N/H	10/15 kA	20 - 25		25/25		25/25		25/25		25/25		25/25	
		32 - 40		25/25		25/25		25/25		25/25		25/25	
		50 - 63											
		80											
		100											
		125											
NG125N	25 kA	≤ 16			36/36		36/36		36/36		36/36		70/70
		20 - 25			36/36		36/36		36/36		36/36		70/70
		32 - 40			36/36		36/36		36/36		36/36		70/70
		50 - 63											
		80											
		100											
NG125H	36 kA	125											
		≤ 16				50/50		50/50		50/50		100/100	
		20 - 25				50/50		50/50		50/50		100/100	
		32 - 40				50/50		50/50		50/50		100/100	
		50 - 63											
NG125L	50 kA	80											
		≤ 16						70/70		100/100		150/150	
		20 - 25						70/70		100/100		150/150	
		32 - 40						70/70		100/100		150/150	
		50 - 63											

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 380/415 V

Upstream: Compact NSX250, TM-D

Downstream: Multi 9, C120, NG125

Upstream			NSX250B	NSX250F	NSX250N	NSX250H	NSX250S	NSX250L
Breaking capacity			25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Trip unit			TM-D	TM-D	TM-D	TM-D	TM-D	TM-D
Downstream	Rating		200/250	200/250	200/250	200/250	200/250	200/250
C60N	10 kA	≤ 16	20/20	25/25	30/30	30/30	30/30	30/30
		20	20/20	25/25	30/30	30/30	30/30	30/30
		25	20/20	25/25	30/30	30/30	30/30	30/30
		32	20/20	25/25	30/30	30/30	30/30	30/30
		40	20/20	25/25	30/30	30/30	30/30	30/30
		50	20/20	25/25	25/25	25/25	25/25	25/25
		63	20/20	25/25	25/25	25/25	25/25	25/25
C60H	15 kA	≤ 16	25/25	30/30	30/30	30/30	30/30	30/30
		20	25/25	30/30	30/30	30/30	30/30	30/30
		25	25/25	30/30	30/30	30/30	30/30	30/30
		32	25/25	30/30	30/30	30/30	30/30	30/30
		40	25/25	30/30	30/30	30/30	30/30	30/30
		50	25/25	25/25	25/25	25/25	25/25	25/25
		63	25/25	25/25	25/25	25/25	25/25	25/25
C60L	25 kA	≤ 16	25/25	30/30	30/30	30/30	30/30	30/30
		20	25/25	30/30	30/30	30/30	30/30	30/30
		25	25/25	30/30	30/30	30/30	30/30	30/30
	20 kA	32	25/25	30/30	30/30	30/30	30/30	30/30
		40	25/25	30/30	30/30	30/30	30/30	30/30
	15 kA	50	25/25	25/25	25/25	25/25	25/25	25/25
		63	25/25	25/25	25/25	25/25	25/25	25/25
C120N/H	10/15 kA	≤ 16	25/25	25/25	25/25	25/25	25/25	25/25
		20 - 25	25/25	25/25	25/25	25/25	25/25	25/25
		32 - 40	25/25	25/25	25/25	25/25	25/25	25/25
		50 - 63	25/25	25/25	25/25	25/25	25/25	25/25
		80	25/25	25/25	25/25	25/25	25/25	25/25
		100	25/25	25/25	25/25	25/25	25/25	25/25
		125	25/25	25/25	25/25	25/25	25/25	25/25
NG125N	25 kA	≤ 16		36/36	36/36	36/36	36/36	70/70
		20 - 25		36/36	36/36	36/36	36/36	70/70
		32 - 40		36/36	36/36	36/36	36/36	70/70
		50 - 63		36/36	36/36	36/36	36/36	70/70
		80		36/36	36/36	36/36	36/36	70/70
		100		36/36	36/36	36/36	36/36	70/70
		125		36/36	36/36	36/36	36/36	70/70
NG125H	36 kA	≤ 16			50/50	50/50	50/50	100/100
		20 - 25			50/50	50/50	50/50	100/100
		32 - 40			50/50	50/50	50/50	100/100
		50 - 63			50/50	50/50	50/50	100/100
		80			50/50	50/50	50/50	100/100
NG125L	50 kA	≤ 16				70/70	100/100	150/150
		20 - 25				70/70	100/100	150/150
		32 - 40				70/70	100/100	150/150
		50 - 63				70/70	100/100	150/150
		80				70/70	100/100	150/150

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced
discriminationUpstream: Compact NSX100-160, Micrologic
Downstream: Multi 9

Upstream		NSX100B		NSX100F		NSX100N		NSX100H		NSX100S		NSX100L	
Breaking capacity		25 kA		36 kA		50 kA		70 kA		100 kA		150 kA	
Trip unit		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating	40	100	40	100	40	100	40	100	40	100	40	100
C60N	10 kA	≤ 16	20/20	20/20	25/25	25/25	30/30	30/30	30/30	30/30	30/30	30/30	30/30
		20	20/20	20/20	25/25	25/25	30/30	30/30	30/30	30/30	30/30	30/30	30/30
		25	20/20	20/20	25/25	25/25	30/30	30/30	30/30	30/30	30/30	30/30	30/30
		32		20/20		25/25		30/30		30/30		30/30	30/30
		40		20/20		25/25		30/30		30/30		30/30	30/30
		50											
C60H	15 kA	≤ 16	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		20	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		25	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		32		25/25		36/36		40/40		40/40		40/40	40/40
		40		25/25		36/36		40/40		40/40		40/40	40/40
		50											
C60L	25 kA	≤ 16			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		20			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		25			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
	20 kA	32		25/25		36/36		40/40		40/40		40/40	40/40
		40		25/25		36/36		40/40		40/40		40/40	40/40
	15 kA	50											
		63											

Upstream		NSX160B		NSX160F		NSX160N		NSX160H		NSX160S		NSX160L	
Breaking capacity		25 kA		36 kA		50 kA		70 kA		100 kA		150 kA	
Trip unit		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating	80	160	80	160	80	160	80	160	80	160	80	160
C60N	10 kA	≤ 16	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
		20	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
		25	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
		32	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
		40	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
		50	20/20	20/20	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25
C60H	15 kA	≤ 16		20/20		25/25		25/25		25/25		25/25	25/25
		20	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		25	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		32	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		40	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		50	25/25	25/25	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30
C60L	25 kA	≤ 16			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		20			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		25			36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
	20 kA	32	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
		40	25/25	25/25	36/36	36/36	40/40	40/40	40/40	40/40	40/40	40/40	40/40
	15 kA	50	25/25	25/25	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30
		63		25/25		30/30		30/30		30/30		30/30	30/30

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 380/415 V

Upstream: Compact NSX250, Micrologic

Downstream: Multi 9

Upstream		NSX250B	NSX250F	NSX250N	NSX250H	NSX250S	NSX250L
Breaking capacity		25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Trip unit		Micrologic	Micrologic	Micrologic	Micrologic	Micrologic	Micrologic
Downstream	Rating	250	250	250	250	250	250
C60N	10 kA	≤ 16	20/20	25/25	30/30	30/30	30/30
		20	20/20	25/25	30/30	30/30	30/30
		25	20/20	25/25	30/30	30/30	30/30
		32	20/20	25/25	30/30	30/30	30/30
		40	20/20	25/25	30/30	30/30	30/30
		50	20/20	25/25	25/25	25/25	25/25
		63	20/20	25/25	25/25	25/25	25/25
C60H	15 kA	≤ 16	25/25	30/30	30/30	30/30	30/30
		20	25/25	30/30	30/30	30/30	30/30
		25	25/25	30/30	30/30	30/30	30/30
		32	25/25	30/30	30/30	30/30	30/30
		40	25/25	30/30	30/30	30/30	30/30
		50	25/25	25/25	25/25	25/25	25/25
		63	25/25	25/25	25/25	25/25	25/25
C60L	25 kA	≤ 16		30/30	30/30	30/30	30/30
		20		30/30	30/30	30/30	30/30
		25		30/30	30/30	30/30	30/30
	20 kA	32	25/25	30/30	30/30	30/30	30/30
		40	25/25	30/30	30/30	30/30	30/30
	15 kA	50	25/25	25/25	25/25	25/25	25/25
		63	25/25	25/25	25/25	25/25	25/25
C120N/H	10/15 kA	≤ 16	25/25	25/25	25/25	25/25	25/25
		20 - 25	25/25	25/25	25/25	25/25	25/25
		32 - 40	25/25	25/25	25/25	25/25	25/25
		50 - 63	25/25	25/25	25/25	25/25	25/25
		80	25/25	25/25	25/25	25/25	25/25
		100	25/25	25/25	25/25	25/25	25/25
		125	25/25	25/25	25/25	25/25	25/25
NG125N	25 kA	≤ 16		36/36	36/36	36/36	70/70
		20 - 25		36/36	36/36	36/36	70/70
		32 - 40		36/36	36/36	36/36	70/70
		50 - 63		36/36	36/36	36/36	70/70
		80		36/36	36/36	36/36	70/70
		100		36/36	36/36	36/36	70/70
		125		36/36	36/36	36/36	70/70
NG125H	36 kA	≤ 16		50/50	50/50	50/50	100/100
		20 - 25		50/50	50/50	50/50	100/100
		32 - 40		50/50	50/50	50/50	100/100
		50 - 63		50/50	50/50	50/50	100/100
		80		50/50	50/50	50/50	100/100
NG125L NG125LMA	50 kA	≤ 16			70/70	100/100	150/150
		20 - 25			70/70	100/100	150/150
		32 - 40			70/70	100/100	150/150
		50 - 63			70/70	100/100	150/150
		80			70/70	100/100	150/150

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced
discrimination 380/415 VUpstream: Compact NSX250-630, TM-D, Micrologic
Downstream: NG160, NSC100N,
Compact NSX100-630

Upstream		NSX250F 36 kA		NSX250N 50 kA		NSX250H 70 kA		NSX250S 100 kA		NSX250L 150 kA	
Breaking capacity											
Trip unit		TM-D		TM-D		TM-D		TM-D		TM-D	
Downstream	Rating	160	200-250	160	200-250	160	200-250	160	200-250	160	200-250
NG160E	16 kA		25/25		30/30		30/30		30/30		30/30
NG160N	25 kA		36/36		36/36		50/50		50/50		50/50
NG160H	36 kA				50/50		50/50		50/50		50/50
NSC100N	18 kA 16 - 100		36/36		50/50		50/50		50/50		50/50
NSX100B	25 kA TM-D ≤ 25		36/36		36/36		50/50		50/50		50/50
	TM-D 40 - 100		36/36		36/36		36/50		36/50		36/50
NSX100F	36 kA TM-D ≤ 25				50/50		70/70		100/100		150/150
	TM-D 40 - 100				36/50		36/70		36/100		36/150
NSX100N	50 kA TM-D ≤ 25						70/70		100/100		150/150
	TM-D 40 - 100						36/70		36/100		36/150
NSX100H	70 kA TM-D ≤ 25								100/100		150/150
	TM-D 40 - 100								36/100		36/150
NSX100S	100 kA TM-D ≤ 25										150/150
	TM-D 40 - 100										36/150
NSX100B	25 kA Micrologic		36/36		36/36		36/50		36/50		36/50
NSX100F	36 kA Micrologic				36/50		36/70		36/100		36/150
NSX100N	50 kA Micrologic						36/70		36/100		36/150
NSX100H	70 kA Micrologic								36/100		36/150
NSX100S	100 kA Micrologic										36/150

Upstream		NSX400F 36 kA	NSX400N 50 kA	NSX400H 70 kA	NSX400S 100 kA	NSX400L 150 kA	NSX630F 36 kA	NSX630N 50 kA	NSX630H 70 kA	NSX630S 100 kA	NSX630L 150 kA
Breaking capacity		Micrologic									
Trip unit											
Downstream	Rating	400	400	400	400	400	630	630	630	630	630
NG160E	16 kA	25/25	30/30	30/30	30/30	30/30	25/25	30/30	30/30	30/30	30/30
NG160N	25 kA	36/36	36/36	50/50	50/50	50/50	36/36	36/36	50/50	50/50	50/50
NG160H	36 kA		50/50	50/50	50/50	50/50		50/50	50/50	50/50	50/50
NSC100N	18 kA 16 - 100	36/36	36/36	50/50	50/50	50/50	36/36	36/36	50/50	50/50	50/50
NSX100B	25 kA TM-D	36/36	36/36	50/50	50/50	50/50	36/36	36/36	50/50	50/50	50/50
	TM-D		50/50	70/70	100/100	150/150		50/50	70/70	100/100	150/150
NSX100F	36 kA TM-D			70/70	100/100	150/150			70/70	100/100	150/150
NSX100N	50 kA TM-D			70/70	100/100	150/150			70/70	100/100	150/150
NSX100H	70 kA TM-D				100/100	150/150				100/100	150/150
NSX100S	100 kA TM-D					150/150					150/150
NSX160B	25 kA TM-D	36/36	36/36	50/50	50/50	50/50	36/36	36/36	50/50	50/50	50/50
NSX160F	36 kA TM-D		50/50	70/70	100/100	150/150		50/50	70/70	100/100	150/150
NSX160N	50 kA TM-D			70/70	100/100	150/150			70/70	100/100	150/150
NSX160H	70 kA TM-D				100/100	150/150				100/100	150/150
NSX160S	100 kA TM-D					150/150					150/150
NSX250B	25 kA TM-D						36/36	36/36	50/50	50/50	50/50
NSX250F	36 kA TM-D							50/50	70/70	100/100	150/150
NSX250N	50 kA TM-D								70/70	100/100	150/150
NSX250H	70 kA TM-D									100/100	150/150
NSX250S	100 kA TM-D										150/150
NSX100B	25 kA Micrologic	36/36	50/50	50/50	50/50	50/50	36/36	50/50	50/50	50/50	50/50
NSX100F	36 kA Micrologic		50/50	70/70	100/100	150/150		50/50	70/70	100/100	150/150
NSX100N	50 kA Micrologic			70/70	100/100	150/150			70/70	100/100	150/150
NSX100H	70 kA Micrologic				100/100	150/150				100/100	150/150
NSX100S	100 kA Micrologic					150/150					150/150
NSX160B	25 kA Micrologic	36/36	50/50	50/50	50/50	50/50	36/36	50/50	50/50	50/50	50/50
NSX160F	36 kA Micrologic		50/50	70/70	100/100	150/150		50/50	70/70	100/100	150/150
NSX160N	50 kA Micrologic			70/70	100/100	150/150			70/70	100/100	150/150
NSX160H	70 kA Micrologic				100/100	150/150				100/100	150/150
NSX160S	100 kA Micrologic					150/150					150/150
NSX250B	25 kA Micrologic						36/36	50/50	50/50	50/50	50/50
NSX250F	36 kA Micrologic							50/50	70/70	100/100	150/150
NSX250N	50 kA Micrologic								70/70	100/100	150/150
NSX250H	70 kA Micrologic									100/100	150/150
NSX250S	100 kA Micrologic										150/150
NSX400F	36 kA Micrologic										
NSX400N	50 kA Micrologic										
NSX400H	70 kA Micrologic										
NSX400S	100 kA Micrologic										
NSX630F	36 kA Micrologic										
NSX630N	50 kA Micrologic										
NSX630H	70 kA Micrologic										
NSX630S	100 kA Micrologic										

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 380/415 V

Upstream: Compact NSX250,

Compact NS800-1600, Micrologic

Downstream: NG160, NSC100N, Compact NSX100-630

Upstream			NSX250F	NSX250N	NSX250H	NSX250S	NSX250L
Breaking capacity			36 kA	50 kA	70 kA	100 kA	150 kA
Trip unit			Micrologic				
Downstream	Rating		250	250	250	250	250
NG160E	16 kA		25/25	30/30	30/30	30/30	30/30
NG160N	25 kA		36/36	36/36	50/50	50/50	50/50
NG160H	36 kA			50/50	50/50	50/50	50/50
NSC100N	18 kA	16 - 100	36/36	50/50	50/50	50/50	50/50
NSX100B	25 kA	TM-D ≤ 25	36/36	50/50	50/50	50/50	50/50
		TM-D 40 - 100	36/36	36/50	36/50	36/50	36/50
NSX100F	36 kA	TM-D ≤ 25		50/50	70/70	100/100	150/150
		TM-D 40 - 100		36/50	36/70	36/100	36/150
NSX100N	50 kA	TM-D ≤ 25			70/70	100/100	150/150
		TM-D 40 - 100			36/70	36/100	36/150
NSX100H	70 kA	TM-D ≤ 25				100/100	150/150
		TM-D 40 - 100				36/100	36/150
NSX100S	100 kA	TM-D ≤ 25					150/150
		TM-D 40 - 100					36/150
NSX100B	25 kA	Micrologic	36/36	36/50	36/50	36/50	36/50
NSX100F	36 kA	Micrologic		36/50	36/70	36/100	36/150
NSX100N	50 kA	Micrologic			36/70	36/100	36/150
NSX100H	70 kA	Micrologic				36/100	36/150
NSX100S	100 kA	Micrologic					36/150

Upstream			NS800N	NS800H	NS800L	NS800LB	NS1000N	NS1000H	NS1000L	NS1250N	NS1250H	NS1600N	NS1600H
Breaking capacity			50 kA	70 kA	150 kA	200 kA	50 kA	70 kA	150 kA	50 kA	70 kA	50 kA	70 kA
Trip unit			Micrologic										
Downstream	Rating		800	800	800		1000	1000	1000	1250	1250	1600	1600
NSX100B	25 kA	TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX100F	36 kA	TM-D / Micrologic	50/50	70/70	150/150	150/150	50/50	70/70	150/150	50/50	70/70	50/50	70/70
NSX100N	50 kA	TM-D / Micrologic		70/70	150/150	150/150		70/70	150/150		70/70		70/70
NSX100H	70 kA	TM-D / Micrologic			150/150	150/150			150/150				
NSX100S	100 kA	TM-D / Micrologic			150/150	200/200			150/150				
NSX100L	150 kA	TM-D / Micrologic				200/200							
NSX160B	25 kA	TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX160F	36 kA	TM-D / Micrologic	50/50	70/70	150/150	150/150	50/50	70/70	150/150	50/50	70/70	50/50	70/70
NSX160N	50 kA	TM-D / Micrologic		70/70	150/150	150/150		70/70	150/150		70/70		70/70
NSX160H	70 kA	TM-D / Micrologic			150/150	150/150			150/150				
NSX160S	100 kA	TM-D / Micrologic			150/150	200/200			150/150				
NSX160L	150 kA	TM-D / Micrologic				200/200							
NSX250B	25 kA	TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX250F	36 kA	TM-D / Micrologic	50/50	70/70	150/150	150/150	50/50	70/70	150/150	50/50	70/70	50/50	70/70
NSX250N	50 kA	TM-D / Micrologic		70/70	150/150	150/150		70/70	150/150		70/70		70/70
NSX250H	70 kA	TM-D / Micrologic			150/150	150/150			150/150				
NSX250S	100 kA	TM-D / Micrologic			150/150	200/200			150/150				
NSX250L	150 kA	TM-D / Micrologic				200/200							
NSX400F	36 kA	Micrologic	50/50	70/70	10/150	10/150	50/50	70/70	15/150	50/50	70/70	50/50	70/70
NSX400N	50 kA	Micrologic		70/70	10/150	10/150		70/70	15/150		70/70		70/70
NSX400H	70 kA	Micrologic			10/150	10/150			15/150				
NSX400S	100 kA	Micrologic			10/150	10/200			15/150				
NSX400L	150 kA	Micrologic				10/200							
NSX630F	36 kA	Micrologic					50/50	65/70	10/150	50/50	65/70	50/50	65/70
NSX630N	50 kA	Micrologic						65/70	10/150		65/70		65/70
NSX630H	70 kA	Micrologic							10/150				
NSX630S	100 kA	Micrologic							10/150				

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 440 V

Upstream: Compact NSX250, TM-D, Micrologic

Downstream: Compact NSX100

Upstream			NSX250F 35 kA		NSX250N 50 kA		NSX250H 65 kA		NSX250S 90 kA		NSX250L 130 kA	
Breaking capacity												
Trip unit			TM-D		TM-D		TM-D		TM-D		TM-D	
Downstream	Rating		200	250	200	250	200	250	200	250	200	250
NSX100B	20 kA	TM-D ≤ 25	35/35	35/35	35/35	35/35	50/50	50/50	50/50	50/50	50/50	50/50
		4 TM-D 0 - 100	35/35	35/35	35/35	35/35	35/50	35/50	35/50	35/50	35/50	35/50
NSX100F	35 kA	TM-D ≤ 25			35/35	35/35	65/65	65/65	90/90	90/90	130/130	130/130
		TM-D 40 - 100			35/35	35/35	35/65	35/65	35/90	35/90	35/130	35/130
NSX100N	50 kA	TM-D ≤ 25					65/65	65/65	90/90	90/90	130/130	130/130
		TM-D 40 - 100					35/65	35/65	35/90	35/90	35/130	35/130
NSX100H	65 kA	TM-D ≤ 25							90/90	90/90	130/130	130/130
		TM-D 40 - 100							35/90	35/90	35/130	35/130
NSX100S	90 kA	TM-D ≤ 25									130/130	130/130
		TM-D 40 - 100									35/130	35/130
NSX100B	20 kA	Micrologic	35/35	35/35	35/35	35/35	35/50	35/50	35/50	35/50	35/50	35/50
NSX100F	35 kA	Micrologic			35/50	35/50	35/50	35/50	35/50	35/50	35/50	35/50
NSX100N	50 kA	Micrologic					35/65	35/65	35/90	35/90	35/130	35/130
NSX100H	65 kA	Micrologic							35/90	35/90	35/130	35/130
NSX100S	90 kA	Micrologic									35/130	35/130

Upstream			NSX250N 35 kA		NSX250S 50 kA		NSX250H 65 kA		NSX250S 90 kA		NSX250L 130 kA	
Breaking capacity												
Trip unit			Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downstream	Rating		250	250	250	250	250	250	250	250	250	250
NSX100B	20 kA	TM-D ≤ 25	35/35	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
		4 TM-D 0 - 100	35/35	35/50	35/50	35/50	35/50	35/50	35/50	35/50	35/50	35/50
NSX100F	35 kA	TM-D ≤ 25		50/50	65/65	65/65	90/90	90/90	130/130	130/130	130/130	130/130
		TM-D 40 - 100		35/50	35/65	35/65	35/90	35/90	35/130	35/130	35/130	35/130
NSX100N	50 kA	TM-D ≤ 25		50/50	65/65	65/65	90/90	90/90	130/130	130/130	130/130	130/130
		TM-D 40 - 100		35/50	35/65	35/65	35/90	35/90	35/130	35/130	35/130	35/130
NSX100H	65 kA	TM-D ≤ 25					90/90	90/90	130/130	130/130	130/130	130/130
		TM-D 40 - 100					35/90	35/90	35/130	35/130	35/130	35/130
NSX100S	90 kA	TM-D ≤ 25							130/130	130/130	130/130	130/130
		TM-D 40 - 100							35/130	35/130	35/130	35/130
NSX100B	20 kA	Micrologic	35/35	35/35	35/35	35/35	35/50	35/50	35/50	35/50	35/50	35/50
NSX100F	35 kA	Micrologic		35/35	35/50	35/50	35/50	35/50	35/50	35/50	35/50	35/50
NSX100N	50 kA	Micrologic					35/65	35/65	35/90	35/90	35/130	35/130
NSX100H	65 kA	Micrologic							35/90	35/90	35/130	35/130
NSX100S	90 kA	Micrologic									35/130	35/130

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Cascading and enhanced discrimination 440 V

Upstream: Compact NSX400-630,

Compact NS800-1600, Micrologic

Downstream: Compact NSX100-630

Upstream Breaking capacity	NSX400F 30 kA	NSX400N 42 kA	NSX400H 65 kA	NSX400S 90 kA	NSX400L 130 kA	NSX630F 30 kA	NSX630N 42 kA	NSX630H 65 kA	NSX630S 90 kA	NSX630L 130 kA
Trip unit	Micrologic									
Downstream	400	400	400	400	400	630	630	630		630
NSX100B 25 kA TM-D / Micrologic	30/30	30/30	50/50	50/50	50/50	30/30	30/30	50/50	50/50	50/50
NSX100F 35 kA TM-D / Micrologic		42/42	65/65	90/90	130/130		42/42	65/65	90/90	130/130
NSX100N 50 kA TM-D / Micrologic			65/65	90/90	130/130			65/65	90/90	130/130
NSX100H 65 kA TM-D / Micrologic				90/90	130/130				90/90	130/130
NSX100S 90 kA TM-D / Micrologic					130/130					130/130
NSX160B 25 kA TM-D / Micrologic	30/30	30/30	50/50	50/50	50/50	30/30	30/30	50/50	50/50	50/50
NSX160F 35 kA TM-D / Micrologic		42/42	65/65	90/90	130/130		42/42	65/65	90/90	130/130
NSX160N 50 kA TM-D / Micrologic			65/65	90/90	130/130			65/65	90/90	130/130
NSX160H 65 kA TM-D / Micrologic				90/90	130/130				90/90	130/130
NSX160S 90 kA TM-D / Micrologic					130/130					130/130
NSX250B 25 kA TM-D / Micrologic						35/35	30/30	50/50	50/50	50/50
NSX250F 35 kA TM-D / Micrologic							42/42	65/65	90/90	130/130
NSX250N 50 kA TM-D / Micrologic								65/65	90/90	130/130
NSX250H 65 kA TM-D / Micrologic									90/90	130/130
NSX250S 90 kA TM-D / Micrologic										130/130

Upstream Breaking capacity	NS800N 50 kA	NS800H 65 kA	NS800L 130 kA	NS800LB 200 kA	NS1000N 50 kA	NS1000H 65 kA	NS1000L 130 kA	NS1250N 50 kA	NS1250H 65 kA	NS1600N 50 kA	NS1600H 65 kA
Trip unit	Micrologic										
Downstream	800	800	800		1000	1000	1000	1250	1250	1600	1600
NSX100B 25 kA TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX100F 35 kA TM-D / Micrologic	50/50	65/65	130/130	130/130	50/50	65/65	130/130	50/50	65/65	50/50	65/65
NSX100N 50 kA TM-D / Micrologic		65/65	130/130	130/130		65/65	130/130		65/65		65/65
NSX100H 65 kA TM-D / Micrologic			130/130	130/130			130/130				
NSX100S 90 kA TM-D / Micrologic			130/130	200/200			130/130				
NSX100L 130 kA TM-D / Micrologic				200/200							
NSX160B 25 kA TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX160F 35 kA TM-D / Micrologic	50/50	65/65	130/130	130/130	50/50	65/65	130/130	50/50	65/65	50/50	65/65
NSX160N 50 kA TM-D / Micrologic		65/65	130/130	130/130		65/65	130/130		65/65		65/65
NSX160H 65 kA TM-D / Micrologic			130/130	130/130			130/130				
NSX160S 90 kA TM-D / Micrologic			130/130	200/200			130/130				
NSX160L 130 kA TM-D / Micrologic				200/200							
NSX250B 25 kA TM-D / Micrologic	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
NSX250F 35 kA TM-D / Micrologic	50/50	65/65	130/130	130/130	50/50	65/65	130/130	50/50	65/65	50/50	65/65
NSX250N 50 kA TM-D / Micrologic		65/65	130/130	130/130		65/65	130/130		65/65		65/65
NSX250H 65 kA TM-D / Micrologic			130/130	130/130			130/130				
NSX250S 90 kA TM-D / Micrologic			130/130	200/200			130/130				
NSX250L 130 kA TM-D / Micrologic				200/200							
NSX400F 35 kA Micrologic	50/50	65/65	10/130	10/200	50/50	65/65	15/130	50/50	65/65	50/50	65/65
NSX400N 50 kA Micrologic		65/65	10/130	10/200		65/65	15/130		65/65		65/65
NSX400H 65 kA Micrologic			10/130	10/200			15/130				
NSX400S 90 kA Micrologic			10/130	10/200			15/130				
NSX400L 130 kA Micrologic				10/200							
NSX630F 35 kA Micrologic					50/50	65/65	10/130	50/50	65/65	50/50	65/65
NSX630N 50 kA Micrologic						65/65	10/130		65/65		65/65
NSX630H 65 kA Micrologic							10/130				
NSX630S 90 kA Micrologic							10/130				

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 6, or check curves with Curve Direct software.

Contents

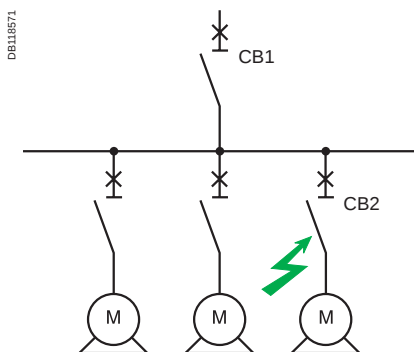
Using the tables

Two circuit breakers offer total discrimination when the corresponding box in the discrimination table is shaded or contains the letter T.

When discrimination is partial for the combination, the corresponding box indicates the maximum value of the fault current for which discrimination is provided.

For fault currents above this value, the two circuit breakers trip simultaneously.

Application	Upstream device	Downstream device	Table page
Motor protection discrimination	Compact NSC100N TM-D	GV2, LUB12, LUB32	116
	Compact NSX100 to 250 TM-D	GV2, GV3, LUB12, LUB32, Integral 63	117
	Compact NSX100 to 630 Micrologic	Multi 9, Compact NS80H-MA, NSX100 to 250	120
		GV2, GV3, LUB12, LUB32, Integral 63	118
	Compact NS630b to 1600 Micrologic	Multi 9, Compact NS80H-MA, NSX100 to 630	121
		Multi 9, Compact NS80H-MA, NSX100 to 630	123
		Multi 9, Compact NS80H-MA, NSX100 to 630	124
Cascading and enhanced discrimination 380/415 V	Compact NS1600 to 3200 Micrologic	Multi 9, Compact NS80H-MA, NSX100 to 630	130
	Compact NSX	Compact NS, LUB, GV, Integral	131
	Compact NSX160 to 400	LUB12, LUB32, Integral 63	133
	Compact NSX160	GV2 M	134
Cascading and enhanced discrimination 440 V	Compact NSX160	GV2 P	135
	Compact NSX160 to 400	GV2 L	136
		LUB12, LUB32	137
Protection of motor circuits	Circuit breaker/contactors coordination		138
	Using the circuit breaker/contactors		143
	Type 2 coordination		147
	Type 1 coordination		149



Discrimination between circuit breakers used for motor protection.

How to use the discrimination tables

■ for discrimination between a circuit breaker and a motor control and protection assembly

If discrimination is partial, the table indicates the maximum fault current value for which discrimination is ensured. For fault currents above this value, the 2 devices trip simultaneously.

Requisite conditions

The values indicated in the tables (for 220, 380, 415 and 440 V) are guaranteed if the following conditions are respected:

Upstream	Downstream	Thermal protection $I_r \text{ up}/I_r \text{ down}$	Magnetic protection $I_m \text{ up}/I_m \text{ down}$
TM	MA + separate therm. relay	≥ 3	≥ 2
	Thermal-magnetic motor type	≥ 3	≥ 2
Micrologic	MA + separate therm. relay	≥ 3	≥ 1.5
	Thermal-magnetic motor type	≥ 3	≥ 1.5

Upstream			NSC100N									
Breaking capacity			18 kA									
Trip unit			TM-D									
Downstream	Thermal relay	Rating (A) Setting Ir	16	20	25	32	40	50	63	70	80	100
Discrimination limit (kA)												
GV2 M01	integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T
GV2 M02	integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T
GV2 M03	integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T
GV2 M04	integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T
GV2 M05	integrated	0.63/1	T	T	T	T	T	T	T	T	T	T
GV2 M06	integrated	1/1.6	T	T	T	T	T	T	T	T	T	T
GV2 M07	integrated	1.6/2.5	T	T	T	T	T	T	T	T	T	T
GV2 M08	integrated	2.5/4	T	T	T	T	T	T	T	T	T	T
GV2 M10	integrated	4/6.3		0.6	0.6	0.6	0.6	1	1	1	1	T
GV2 M14	integrated	6/10				0.6	0.6	1	1	1	1	T
GV2 M16	integrated	9/14						1	1	1	1	T
GV2 M20	integrated	13/18							1	1	1	T
GV2 M21	integrated	17/23								1	1	T
GV2 M22	integrated	20/25									1	T
GV2 M32	integrated	24/32										T
GW2 P01	integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T
GV2 P02	integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T
GV2 P03	integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T
GV2 P04	integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T
GV2 P05	integrated	0.63/1	T	T	T	T	T	T	T	T	T	T
GV2 P06	integrated	1/1.6	T	T	T	T	T	T	T	T	T	T
GV2 P07	integrated	1.6/2.5	T	T	T	T	T	T	T	T	T	T
GV2 P08	integrated	2.5/4	T	T	T	T	T	T	T	T	T	T
GV2 P10	integrated	4/6.3		0.6	0.6	0.6	0.6	1	1	1	1	T
GV2 P14	integrated	6/10				0.6	0.6	1	1	1	1	T
GV2 P16	integrated	9/14						1	1	1	1	T
GV2 P20	integrated	13/18							1	1	1	T
GV2 P21	integrated	17/23								1	1	T
GV2 P22	integrated	20/25									1	T
GV2 L03	LR2 D13 03	0.25/0.40	T	T	T	T	T	T	T	T	T	T
GV2 L04	LR2 D13 04	0.40/0.63	T	T	T	T	T	T	T	T	T	T
GV2 L05	LR2 D13 05	0.63/1	T	T	T	T	T	T	T	T	T	T
GV2 L06	LR2 D13 06	1/1.6	T	T	T	T	T	T	T	T	T	T
GV2 L07	LR2 D13 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
GV2 L08	LR2 D13 08	2.5/4	T	T	T	T	T	T	T	T	T	T
GV2 L10	LR2 D13 10	4/6.3		0.6	0.6	0.6	0.6	1	1	1	1	T
GV2 L14	LR2 D13 14	7/10				0.6	0.6	1	1	1	1	T
GV2 L16	LR2 D13 16	9/13						1	1	1	1	T
GV2 L20	LR2 D13 21	12/18							1	1	1	T
GV2 L22	LR2 D13 22	17/25									1	T
LUB12	LUC*X6	0.15/0.6	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*1X	0.35/1.4	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*05	1.25/5	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*12	3/12					1	1	1	1	1	1.25
LUB32	LUC*X6	0.15...0.6	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*1X	0.35...1.4	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*05	1.25...5	0.6	0.6	0.6	0.6	1	1	1	1	1	1.25
	LUC*12	3...12					1	1	1	1	1	1.25
	LUC*18	4.5...18							1	1	1	1.25
	LUC*32	8...32										1.25

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream			NSX100B/F/N/H/S/L								NSX160B/F/N/H/S/L				NSX250B/F/N/H/S/L			
Trip unit			TM-D								TM-D				TM-D			
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	16	25	32	40	50	63	80	100	80	100	125	160	160	200	250	
Discrimination limit (kA)																		
GV2 M01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M06	Integrated	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M07	Integrated	1.6/2.5	0.19	0.25	0.4	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 M08	Integrated	2.5/4	0.19	0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M10	Integrated	4/6.3		0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M14	Integrated	6/10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M16	Integrated	9/14					0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M20	Integrated	13/18							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M21	Integrated	17/23							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M22	Integrated	20/25							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 M32	Integrated	24/32							0.8		0.8	0.8	T	T	T	T	T	
GV2 P01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P06	Integrated	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P07	Integrated	1.6/2.5	0.19	0.25	0.4	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 P08	Integrated	2.5/4	0.19	0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P10	Integrated	4/6.3		0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P14	Integrated	6/10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P16	Integrated	9/14					0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P20	Integrated	13/18							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P21	Integrated	17/23							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P22	Integrated	20/25							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 P32	Integrated	24/32							0.8		0.8	0.8	T	T	T	T	T	
GV2 L03	LRD 03	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 L04	LRD 04	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 L05	LRD 05	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 L06	LRD 06	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 L07	LRD 07	1.6/2.5	0.19	0.25	0.4	T	T	T	T	T	T	T	T	T	T	T	T	
GV2 L08	LRD 08	2.5/4	0.19	0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L10	LRD 10	4/6.3		0.25	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L14	LRD 14	7/10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L16	LRD 16	9/13					0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L20	LRD 21	12/18							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L22	LRD 22	17/25							0.63	0.8	0.63	0.8	T	T	T	T	T	
GV2 L32	LRD 32	23/32							0.8		0.8	0.8	T	T	T	T	T	
GV3 P13	Integrated	9/13														T	T	
GV3 P18	Integrated	12/18														T	T	
GV3 P25	Integrated	17/25														T	T	
GV3 P32	Integrated	23/32														T	T	
GV3 P40	Integrated															T	T	
GV3 P50	Integrated															T	T	
GV3 P65	Integrated															T	T	
GV3 L25	LRD 22	20/25														T	T	
GV3 L32	LRD 32	23/32														T	T	
GV3 L40	LRD 33 55	30/40														T	T	
GV3 L50	LRD 33 57	37/50														T	T	
GV3 L65	LRD 33 59	48/65														T	T	
LUB12	LUC*X6	0.15...0.6	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	T	T	T	T	T	
	LUC*1X	0.35...1.4	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	T	T	T	T	T	
	LUC*05	1.25...5	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	T	T	T	T	T	
	LUC*12	3...12				0.5	0.5	0.5	0.7	0.8	0.7	0.8	T	T	T	T	T	
LUB32	LUC*X6	0.15...0.6	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	5	5	5	T	T	
	LUC*1X	0.35...1.4	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	5	5	5	T	T	
	LUC*05	1.25...5	0.19	0.3	0.4	0.5	0.5	0.5	0.7	0.8	0.7	0.8	5	5	5	T	T	
	LUC*12	3...12				0.5	0.5	0.5	0.7	0.8	0.7	0.8	5	5	5	T	T	
	LUC*18	4.5...18						0.5	0.7	0.8	0.7	0.8	5	5	5	T	T	
	LUC*32	8...32							0.8		0.8	0.8	5	5	5	T	T	
Integral 63	LB1-LD03M16	10/13				0.5	0.5	0.5	0.63	0.8	0.63	0.8	1	1	1	T	T	
	LB1-LD03M21	13/18						0.5	0.63	0.8	0.63	0.8	1	1	1	T	T	
	LB1-LD03M22	18/25							0.63	0.8	0.63	0.8	1	1	1	T	T	
	LB1-LD03M53	23/32								0.8		0.8	1	1	1	T	T	
	LB1-LD03M55	28/40											1	1	1	T	T	
	LB1-LD03M57	35/50												1	1	T	T	
	LB1-LD03M61															T	T	

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream Trip unit			NSX100B/F/N/H/S/L Micrologic							NSX160B/F/N/H/S/L Micrologic				
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	40 16	40 25	40 40	100 40	100 63	100 80	100 100	160 63	160 80	160 100	160 125	160 160
Discrimination limit (kA)														
GV2 M01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M06	Integrated	1/1.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 M07	Integrated	1.6/2.5	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 M08	Integrated	2.5/4	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 M10	Integrated	4/6.3		0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 M14	Integrated	6 /10			0.6	T	T	T	T	T	T	T	T	T
GV2 M16	Integrated	9/14					T	T	T	T	T	T	T	T
GV2 M20	Integrated	13/18					T	T	T	T	T	T	T	T
GV2 M21	Integrated	17/23						T	T		T	T	T	T
GV2 M22	Integrated	20/25						T	T		T	T	T	T
GV2 M32	Integrated	24/32							T			T	T	T
GV2 P01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P06	Integrated	1/1.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 P07	Integrated	1.6/2.5	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 P08	Integrated	2.5/4	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 P10	Integrated	4/6.3		0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 P14	Integrated	6 /10			0.6	T	T	T	T	T	T	T	T	T
GV2 P16	Integrated	9/14					T	T	T	T	T	T	T	T
GV2 P20	Integrated	13/18					T	T	T	T	T	T	T	T
GV2 P21	Integrated	17/23						T	T		T	T	T	T
GV2 P22	Integrated	20/25						T	T		T	T	T	T
GV2 P32	Integrated	24/32							T			T	T	T
GV2 L03	LRD 03	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L04	LRD 04	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L05	LRD 05	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L06	LRD 06	1/1.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 L07	LRD 07	1.6/2.5	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 L08	LRD 08	2.5/4	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 L10	LRD 10	4/6.3		0.6	0.6	T	T	T	T	T	T	T	T	T
GV2 L14	LRD 14	7 /10			0.6	T	T	T	T	T	T	T	T	T
GV2 L16	LRD 16	9/13					T	T	T	T	T	T	T	T
GV2 L20	LRD 21	12/18						T	T	T	T	T	T	T
GV2 L22	LRD 22	17/25						T	T	T	T	T	T	T
GV2 L32	LRD 32	23/32							T	T	T	T	T	T
GV3 P13	Integrated	9/13			0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
GV3 P18	Integrated	12/18					1.5	1.5	1.5	T	T	T	T	T
GV3 P25	Integrated	17/25						1.5	1.5		T	T	T	T
GV3 P32	Integrated	23/32							1.5			T	T	T
GV3 P40	Integrated	30/40											2.4	2.4
GV3 P50	Integrated	37/50												2.4
GV3 P65	Integrated	48/65												
GV3 L25	LRD 22	20/25						1.5	1.5		T	T	T	T
GV3 L32	LRD 32	23/32							1.5			T	T	T
GV3 L40	LRD 33 55	30/40											2.4	2.4
GV3 L50	LRD 33 57	37/50												2.4
GV3 L65	LRD 33 59	48/65												
LUB12	LUC*X6	0.15...0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*1X	0.35...1.4	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*05	1.25...5	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*12	3...12			0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
LUB32	LUC*X6	0.15...0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*1X	0.35...1.4	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*05	1.25...5	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*12	3...12			0.6	1.5	1.5	1.5	1.5	T	T	T	T	T
	LUC*18	4.5...18					1.5	1.5	1.5	T	T	T	T	T
	LUC*32	8...32							1.5			T	T	T
Integral 63	LB1-LD03M16	10/13			0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4
	LB1-LD03M21	13/18					1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4
	LB1-LD03M22	18/25						1.5	1.5		2.4	2.4	2.4	2.4
	LB1-LD03M53	23/32							1.5			2.4	2.4	2.4
	LB1-LD03M55	28/40											2.4	2.4
	LB1-LD03M57	35/50												2.4
	LB1-LD03M61	45/63												

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NSX250 to 630
Downstream: GV2, GV3, LUB12, LUB32,
Integral 63

Upstream Trip unit			NSX250B/F/N/H/S/L Micrologic					NSX400F/N/H/S/L Micrologic					NSX630F/N/H/S/L Micrologic				
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	250 100	125	160	200	250	400 160	200	250	320	400	630 250	320	400	500	630
Discrimination limit (kA)																	
GV2 M01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M06	Integrated	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M07	Integrated	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M08	Integrated	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M10	Integrated	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M14	Integrated	6 /10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M16	Integrated	9/14	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M20	Integrated	13/18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M21	Integrated	17/23	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M22	Integrated	20/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 M32	Integrated	24/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P01	Integrated	0.1/0.16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P02	Integrated	0.16/0.25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P03	Integrated	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P04	Integrated	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P05	Integrated	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P06	Integrated	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P07	Integrated	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P08	Integrated	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P10	Integrated	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P14	Integrated	6 /10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P16	Integrated	9/14	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P20	Integrated	13/18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P21	Integrated	17/23	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P22	Integrated	20/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 P32	Integrated	24/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L03	LRD 03	0.25/0.40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L04	LRD 04	0.40/0.63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L05	LRD 05	0.63/1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L06	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L07	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L08	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L10	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L14	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L16	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L20	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L22	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV2 L32	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P13	Integrated	9/13	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P18	Integrated	12/18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P25	Integrated	17/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P32	Integrated	23/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P40	Integrated	30/40		T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P50	Integrated	37/50			T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 P65	Integrated	48/65				T	T	T	T	T	T	T	T	T	T	T	T
GV3 L25	LRD 22	20/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 L32	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 L40	LRD 33 55	30/40			T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 L50	LRD 33 57	37/50			T	T	T	T	T	T	T	T	T	T	T	T	T
GV3 L65	LRD 33 59	48/65				T	T	T	T	T	T	T	T	T	T	T	T
LUB12	LUC*X6	0.15...0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*1X	0.35...1.4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*05	1.25...5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*12	3...12	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
LUB32	LUC*X6	0.15...0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*1X	0.35...1.4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*05	1.25...5	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*12	3...12	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*18	4.5...18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LUC*32	8...32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Integral 63	LB1-LD03M16	10/13	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M21	13/18	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M22	18/25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M53	23/32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M55	28/40		T	T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M57	35/50			T	T	T	T	T	T	T	T	T	T	T	T	T
	LB1-LD03M61	45/63				T	T	T	T	T	T	T	T	T	T	T	T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NSX100 to 250

Downstream: C60L MA, NG125L MA,
NS80H-MA, NSX100 to 250

Upstream Trip unit			NSX100B/F/N/H/S/L TM-D								NSX160B/F/N/H/S/L TM-D					NSX250B/F/N/H/S/L TM-D			
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	16	25	32	40	50	63	80	100	80	100	125	160	160	200	250		
Discrimination limit (kA)																			
C60L MA 1.6	LRD 06	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
C60L MA 2.5	LRD 07	1.6/2.5	0.19	0.3	0.4	T	T	T	T	T	T	T	T	T	T	T	T		
C60L MA 4	LRD 08	2.5/4	0.19	0.3	0.4	0.5	0.5	0.5	0.63	T	0.63	T	T	T	T	T	T		
C60L MA 6.3	LRD 10	4/6.3		0.3	0.4	0.5	0.5	0.5	0.63	5	0.63	5	T	T	T	T	T		
C60L MA 10	LRD 12	5.5/8		0.3	0.4	0.5	0.5	0.5	0.63	2	0.63	2	T	T	T	T	T		
C60L MA 10	LRD 14	7 /10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
C60L MA 12.5	LRD 16	9/13				0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
C60L MA 16	LRD 21	12/18						0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
C60L MA 25	LRD 22	17/25							0.63	0.8	0.63	0.8	T	T	T	T	T		
C60L MA 40	LRD 32	23/32								0.8		0.8	T	T	T	T	T		
C60L MA 40	LRD 33 55	30/40								0.8		0.8	T	T	T	T	T		
NG125L MA 1.6	LRD 06	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
NG125L MA 2.5	LRD 07	1.6/2.5	0.19	0.3	0.4	T	T	T	T	T	T	T	T	T	T	T	T		
NG125L MA 4	LRD 08	2.5/4	0.19	0.3	0.4	0.5	0.5	0.5	0.63	T	0.63	T	T	T	T	T	T		
NG125L MA 6.3	LRD 10	4/6.3		0.3	0.4	0.5	0.5	0.5	0.63	5	0.63	5	T	T	T	T	T		
NG125L MA 10	LRD 12	5.5/8		0.3	0.4	0.5	0.5	0.5	0.63	2	0.63	2	T	T	T	T	T		
NG125L MA 10	LRD 14	7 /10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NG125L MA 12.5	LRD 16	9/13				0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NG125L MA 16	LRD 21	12/18						0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NG125L MA 25	LRD 22	17/25							0.63	0.8	0.63	0.8	T	T	T	T	T		
NG125L MA 40	LRD 32	23/32								0.8		0.8	T	T	T	T	T		
NG125L MA 40	LRD 33 55	30/40								0.8		0.8	T	T	T	T	T		
NG125L MA 63	LRD 33 57	37/50												T	T	T	T		
NG125L MA 63	LRD 33 59	48/65														T	T		
NS80H-MA 2.5	LRD 06	1/1.6	0.19	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
NS80H-MA 2.5	LRD 07	1.6/2.5	0.19	0.3	0.4	T	T	T	T	T	T	T	T	T	T	T	T		
NS80H-MA 6.3	LRD 08	2.5/4	0.19	0.3	0.4	0.5	0.5	0.5	0.63	T	0.63	T	T	T	T	T	T		
NS80H-MA 6.3	LRD 10	4/6.3		0.3	0.4	0.5	0.5	0.5	0.63	5	0.63	5	T	T	T	T	T		
NS80H-MA 12.5	LRD 12	5.5/8		0.3	0.4	0.5	0.5	0.5	0.63	2	0.63	2	T	T	T	T	T		
NS80H-MA 12.5	LRD 14	7 /10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NS80H-MA 12.5	LRD 16	9/13				0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NS80H-MA 25	LRD 21	12/18						0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NS80H-MA 25	LRD 22	17/25							0.63	0.8	0.63	0.8	T	T	T	T	T		
NS80H-MA 50	LRD 32	23/32								0.8		0.8	1	1	1	T	T		
NS80H-MA 50	LRD 33 55	30/40								0.8		0.8	1	1	1	T	T		
NS80H-MA 50	LRD 33 57	37/50											1	1	1	T	T		
NS80H-MA 80	LRD 33 59	48/65												1	1	T	T		
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	0.19	0.3	T	T	T	T	T	T	T	T	T	T	T	T	T		
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	0.19	0.3	0.4	0.5	0.5	0.5	T	T	T	T	T	T	T	T	T		
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	T	T	T	T	T		
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	1	1	1	T	T		
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10			0.4	0.5	0.5	0.5	0.63	0.8	0.63	0.8	1	1	1	T	T		
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13				0.5	0.5	0.5	0.63	0.8	0.63	0.8	1	1	1	T	T		
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18						0.5	0.63	0.8	0.63	0.8	1	1	1	T	T		
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25							0.63	0.8	0.63	0.8	1	1	1	T	T		
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32								0.8		0.8	1	1	1	36	36		
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40											1	1	1	36	36		
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50												1	1	36	36		
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65														36	36		
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80														36	36		
NSX100B/F	Micrologic 2.2 M or 6.2 E-M	25/50 100								0.8		0.8	1	1	1	T	T		
NSX100N/H/S/L	Micrologic 2.2 M or 6.2 E-M	25/50 100								0.8		0.8	1	1	1	36	36		
NSX160B/F	Micrologic 2.2 M or 6.2 E-M	≤ 100 150											1	1	1	2	2.5		
NSX160N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤ 100 150											1	1	1	2	2.5		
NSX250B/F	Micrologic 2.2 M or 6.2 E-M	≤ 150 220												1	1		2.5		
NSX250N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤ 150 220															2.5		

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NSX100 to 250

Downstream: C60L MA, NG125L MA,
NS80H-MA, NSX100 to 250

Upstream Trip unit			NSX100B/F/N/H/S/L Micrologic								NSX160B/F/N/H/S/L Micrologic					NSX250B/F/N/H/S/L Micrologic				
Downstream	Trip unit or th. relay	Rat. (A) Setting Ir	40	100	160	250	40	100	160	250	40	100	160	250	40	100	160	250	40	100
Discrimination limit (kA)																				
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	1	1	1	1	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	0.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	0.6	0.6	0.6	0.6	5	5	5	5	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8		0.6	0.6	0.6	2	2	2	2	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7/10			0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13				0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18						1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25							1.5	1.5	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32								1.5				T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40												T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	1	1	1	1	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	0.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	0.6	0.6	0.6	0.6	5	5	5	5	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8		0.6	0.6	0.6	2	2	2	2	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7/10			0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13				0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18						1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25							1.5	1.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32								1.5				T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40												T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50													T	T		T	T	T
NG125L MA 63	LRD 33 59	48/65													T			T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	1	1	1	1	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	0.6	0.6	0.6	0.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	0.6	0.6	0.6	0.6	5	5	5	5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8		0.6	0.6	0.6	2	2	2	2	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7/10			0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13				0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18						1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25							1.5	1.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32								1.5				T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40												T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50													T			T	T	T
NS80H-MA 80	LRD 33 59	48/65													T			T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	1	1	1	1	T	T	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	0.6	0.6	0.6	0.6	1.5	1.5	1.5	1.5	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8		0.6	0.6	0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7/10			0.6	0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13				0.6	1.5	1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18						1.5	1.5	1.5	2.4	2.4	2.4	2.4	2.4	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25							1.5	1.5		2.4	2.4	2.4	2.4	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32								1.5				2.4	2.4	2.4	36	36	36	36
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40												2.4	2.4	36	36	36	36	36
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50													2.4		36	36	36	36
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65																	36	36
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80																		36
NSX100 B/F/N/H/S/L MA	MA	100																		36
NSX100B/F	Micrologic 2.2 M or 6.2 E-M	25/50 100								1.5			2.4	2.4	2.4	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M or 6.2 E-M	25/50 100								1.5			2.4	2.4	2.4	36	36	36	36	36
NSX160B/F	Micrologic 2.2 M or 6.2 E-M	≤ 100 150											2.4	2.4	2.4	3	3	3	3	3
NSX160N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤ 100 150											2.4	2.4	2.4	3	3	3	3	3
NSX250B/F	Micrologic 2.2 M or 6.2 E-M	≤ 150 220																		3
NSX250N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤ 150 220																		3

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NSX400 to 630

Downstream: C60LMA, NG125LMA,
NS80H-MA, NSX100 to 630

Upstream Trip unit			NSX400F/N/H/S/L Micrologic					NSX630F/N/H/S/L Micrologic				
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	400 160	200	250	320	400	630 250	320	400	500	630
Discrimination limit (kA)												
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65		T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65		T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80		T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100			T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150					T			T	T	T
NSX250 B/F/N/H/S/L	MA	220										T
NSX100B/F	Micrologic 2.2 M or 6.2 E-M	25/50 100	T	T	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M or 6.2 E-M	25/50 100	T		T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M or 6.2 E-M	≤100 150	T	T	T	T	T	T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤100 150	T	T	T	T	T	T	T	T	T	T
NSX250B/F	Micrologic 2.2 M or 6.2 E-M	≤150 220			4.8	4.8	4.8	T	T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M or 6.2 E-M	≤150 220			4.8	4.8	4.8	T	T	T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M or 6.3 E-M	160 220					4.8			6.9	6.9	6.9

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream Trip unit			NS630b/800/1000/1250/1600N/H Micrologic 2.0								
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	630 250	320	400	500	630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)											
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150			T	T	T	T	T	T	T
NSX250 B/F/N/H/S/L	MA	220					T	T	T	T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320						T	T	T	T
NSX630 F/N/H/S/L	Micrologic 1.3 M	500								T	T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150			T	T	T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150			T	T	T	T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	160			T	T	T	T	T	T	T
		220					T	T	T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160			T	T	T	T	T	T	T
	or 6.3 E-M	200				T	T	T	T	T	T
		250					T	T	T	T	T
		320						T	T	T	T
NSX630F/N/H/S/L	Micrologic 2.3 M	250					T	T	T	T	T
	or 6.3 E-M	320						T	T	T	T
		400							T	T	T
		500								T	T

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NS630b to 1600

Downstream: C60LMA, NG125LMA,
NS80H-MA, NSX100 to 630

Upstream Trip unit			NS630b/800/1000/1250/1600N/H Micrologic 5.0/6.0/7.0								
			Inst position OFF								
Downstream	Trip unit or th. relay	Rating (A) Setting I _r	630 250	320	400	500	630	800 800	1000 1000	1250 1250	1600 1600
Discrimination limit (kA)											
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150			T	T	T	T	T	T	T
NSX250 B/F/N/H/S/L	MA	220					T	T	T	T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320						T	T	T	T
NSX630 F/N/H/S/L	Micrologic 1.3 M	500								T	T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤100	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150			T	T	T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤100	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150			T	T	T	T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤150	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤150	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T	T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160			T	T	T	T	T	T	T
	or 6.3 E-M	200				T	T	T	T	T	T
		250					T	T	T	T	T
		320						T	T	T	T
NSX630F/N/H/S/L	Micrologic 2.3 M	250					T	T	T	T	T
	or 6.3 E-M	320						T	T	T	T
		400							T	T	T
		500								T	T

T

 Total discrimination, up to the breaking capacity of the downstream circuit breaker.

 No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Discrimination limit = 4 kA.

No discrimination.

Schneider
Electric

Motor protection discrimination

Upstream: NS630b to 800

Downstream: C60LMA, NG125LMA,
NS80H-MA, NSX100 to 630

Upstream Trip unit			NS630b/800L Micrologic 2.0						Micrologic 5.0/6.0/7.0				Inst 15 In	
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	250	320	400	500	630	800	250	320	400	500	630	800
Discrimination limit (kA)														
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T	T	T
NS80H MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150			T	T	T	T			T	T	T	T
NSX250 B/F/N/H/S/L	MA	220					T	T					T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320						T						T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	160			T	T	T	T			T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	160			T	T	T	T			T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T			T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T					T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160			18	18	18	18			18	18	18	18
	or 6.3 E-M	200				18	18	18				18	18	18
		250					18	18					18	18
		320						18						18
NSX630F/N/H/S/L	Micrologic 2.3 M	250					12	12					12	12
	or 6.3 E-M	320						12						12

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream Trip unit			NS1000N/H Micrologic 5.0/6.0/7.0					Inst 15 In					NS1000L Micrologic 5.0/6.0/7.0					Inst 15 In				
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	1000 400	500	630	800	1000	1000 400	500	630	800	1000										
Discrimination limit (kA)																						
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T										
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T										
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T										
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T										
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T										
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T										
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T										
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T										
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T										
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T										
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T										
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T										
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T										
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T										
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T										
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T										
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T										
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T										
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T										
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T										
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T										
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T										
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T										
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T										
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T	T	T										
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T	T	T										
NSX160 B/F/N/H/S/L	MA	150		T	T	T	T		T	T	T	T										
NSX250 B/F/N/H/S/L	MA	220			T	T	T			T	T	T										
NSX400 F/N/H/S/L	Micrologic 1.3 M	320				T	T				T	T										
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T										
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T										
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	150	T	T	T	T	T	T	T	T	T	T										
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	150	T	T	T	T	T	T	T	T	T	T										
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	220			T	T	T			T	T	T										
NSX250N/H/S/L	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T										
	or 6.2 E-M	220			T	T	T			T	T	T										
NSX400F/N/H/S/L	Micrologic 2.3 M	160	T	T	T	T	T	T	18	18	18	18										
	or 6.3 E-M	200		T	T	T	T		18	18	18	18										
		250			T	T	T			18	18	18										
		320				T	T				18	18										
NSX630F/N/H/S/L	Micrologic 2.3 M	250			T	T	T			12	12	12										
	or 6.3 E-M	320				T	T				12	12										
		400					T					12										

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NS1200 to 1600

Downstream: C60LMA, NG125LMA,
NS80H-MA, NSX100 to 630

Upstream Trip unit			NS1200N/H Micrologic 5.0/ 6.0/7.0					NS1600N/H Micrologic 5.0/ 6.0/7.0				
			Inst 15 In					Inst 15 In				
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	1250 500	630	800	1000	1250	1600 630	800	1000	1250	1600
Discrimination limit (kA)												
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150	T	T	T	T	T	T	T	T	T	T
NSX250 B/F/N/H/S/L	MA	220		T	T	T	T	T	T	T	T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320			T	T	T		T	T	T	T
NSX630 F/N/H/S/L	Micrologic 1.3 M	500					T				T	T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150	T	T	T	T	T	T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	150	T	T	T	T	T	T	T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220		T	T	T	T	T	T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T	T	T
	or 6.2 E-M	220		T	T	T	T	T	T	T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160	T	T	T	T	T	T	T	T	T	T
	or 6.3 E-M	200	T	T	T	T	T	T	T	T	T	T
		250		T	T	T	T	T	T	T	T	T
		320			T	T	T		T	T	T	T
NSX630F/N/H/S/L	Micrologic 2.3 M	250		T	T	T	T	T	T	T	T	T
	or 6.3 E-M	320			T	T	T		T	T	T	T
		400				T	T			T	T	T
		500					T				T	T

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Upstream Trip unit			NS630b/800/1000L Micrologic 5.0/6.0/7.0					Inst OFF	
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	630 250	320	400	500	630	800 800	1000 1000
Discrimination limit (kA)									
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150			T	T	T	T	T
NSX250 B/F/N/H/S/L	MA	220					T	T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320		T	T			T	T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T
	or 6.2 E-M	150	T		T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T
	or 6.2 E-M	150	T		T	T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T
	or 6.2 E-M	220					T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160	18	18	18	18	18	18	18
	or 6.3 E-M	200				18	18	18	18
		250					18	18	18
		320						18	18
NSX630F/N/H/S/L	Micrologic 2.3 M	250					12	12	12
	or 6.3 E-M	320						12	12
		400							12

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection discrimination

Upstream: NS1600 to 3200

Downstream: C60L MA, NG125L MA,
NS80H-MA, NSX100 to 630

Upstream Trip unit			NS1600/2000/2500/3200N Micrologic 2.0				Micrologic 5.0/6.0/7.0 Inst OFF			
Downstream	Trip unit or th. relay	Rating (A) Setting Ir	1600 1600	2000 2000	2500 2500	3200 3200	1600 1600	2000 2000	2500 2500	3200 3200
Discrimination limit (kA)										
C60L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T
C60L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T
C60L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T
C60L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T
C60L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T
C60L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T
C60L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T
C60L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T
C60L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T
C60L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T
C60L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T
NG125L MA 1.6	LRD 06	1/1.6	T	T	T	T	T	T	T	T
NG125L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T
NG125L MA 4	LRD 08	2.5/4	T	T	T	T	T	T	T	T
NG125L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 12	5.5/8	T	T	T	T	T	T	T	T
NG125L MA 10	LRD 14	7 /10	T	T	T	T	T	T	T	T
NG125L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T
NG125L MA 16	LRD 21	12/18	T	T	T	T	T	T	T	T
NG125L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 32	23/32	T	T	T	T	T	T	T	T
NG125L MA 40	LRD 33 55	30/40	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 57	37/50	T	T	T	T	T	T	T	T
NG125L MA 63	LRD 33 59	48/65	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T
NS80H-MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T
NS80H-MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T
NS80H-MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T
NS80H-MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T
NS80H-MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T
NS80H-MA 80	LRD 33 59	48/65	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 06	1/1.6	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 2.5	LRD 07	1.6/2.5	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 08	2.5/4	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 6.3	LRD 10	4/6.3	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 12	5.5/8	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 14	7 /10	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 12.5	LRD 16	9/13	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 21	12/18	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 25	LRD 22	17/25	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 32	23/32	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 55	30/40	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 50	LRD 33 57	37/50	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 59	48/65	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L MA 100	LRD 33 63	63/80	T	T	T	T	T	T	T	T
NSX100 B/F/N/H/S/L	MA	100	T	T	T	T	T	T	T	T
NSX160 B/F/N/H/S/L	MA	150	T	T	T	T	T	T	T	T
NSX250 B/F/N/H/S/L	MA	220	T	T	T	T	T	T	T	T
NSX400 F/N/H/S/L	Micrologic 1.3 M	320	T	T	T	T	T	T	T	T
NSX630 F/N/H/S/L	Micrologic 1.3 M	500	T	T	T	T	T	T	T	T
NSX100B/F	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T
NSX100N/H/S/L	Micrologic 2.2 M	25/50	T	T	T	T	T	T	T	T
	or 6.2 E-M	100	T	T	T	T	T	T	T	T
NSX160B/F	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T
	or 6.2 E-M	150	T	T	T	T	T	T	T	T
NSX160N/H/S/L	Micrologic 2.2 M	≤ 100	T	T	T	T	T	T	T	T
	or 6.2 E-M	150	T	T	T	T	T	T	T	T
NSX250B/F	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T
	or 6.2 E-M	220	T	T	T	T	T	T	T	T
NSX250N/H/S/L	Micrologic 2.2 M	≤ 150	T	T	T	T	T	T	T	T
	or 6.2 E-M	220	T	T	T	T	T	T	T	T
NSX400F/N/H/S/L	Micrologic 2.3 M	160	T	T	T	T	T	T	T	T
	or 6.3 E-M	200	T	T	T	T	T	T	T	T
		250	T	T	T	T	T	T	T	T
		320	T	T	T	T	T	T	T	T
NSX630F/N/H/S/L	Micrologic 2.3 M	250	T	T	T	T	T	T	T	T
	or 6.3 E-M	320	T	T	T	T	T	T	T	T
		400	T	T	T	T	T	T	T	T
		500	T	T	T	T	T	T	T	T

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection cascading

Upstream: Compact NSX

Downstream: Compact NS, LUB, GV,
Integral

Network 220/240 V											
Upstream	NSX100B NSX160B NSX250B	NSX100F NSX250F	NSX100N	NSX100H	NSX100S	NSX100L NSX160L	NSX160F	NSX160N	NSX160H	NSX160S	NSX160L
Breaking capacity (kA rms)	40	85	90	100	120	150	85	90	100	120	150
Downstream	Breaking capacity (kA rms)										
NS80H-MA					120	150				120	150
LUB12				100	120	150			100	120	150
LUB22				100	120	150			100	120	150
GV2M ≥ 23 A		85	90	100	120	100	85	90	100	100	100
Integral 63 ≥ 32 A		85	90	100		150		85	90	100	150
Upstream	NSX250N	NSX250H	NSX250S	NSX250L	NSX400F NSX630F 40	NSX400N NSX630N 85	NSX400H NSX630H 100	NSX400S	NSX400L	NSX630S	NSX630L
Breaking capacity (kA rms)	90	100	120	150				120	150	120	150
Downstream	Breaking capacity (kA rms)										
NS80H-MA			120	150				120	150		150
LUB12		100	120	150							
LUB22		100	120	150							
GV2M ≥ 23 A	90	100	100	100							
Integral 63 ≥ 32 A		90	100	150					150		
Network 380/415 V											
Upstream	NSX100B NSX160B NSX250B	NSX100F NSX160F NSX250F	NSX100N NSX160N NSX250N	NSX100H NSX160H NSX250H	NSX100S NSX160S NSX250S	NSX100L NSX160L NSX250L					
Breaking capacity (kA rms)	25	36	50	70	100	150					
Downstream	Breaking capacity (kA rms)										
NS80H-MA					100	150					
LUB12				70	100	150					
LUB22				70	100	150					
GV2M ≥ 14 A	25	36	40	50	50	50					
GV2L ≥ 18 A				70	100	150					
GV2P ≥ 18 A				70	100	150					
GV3M			50	70		150					
Integral 63 ≥ 32 A				70		150					
Upstream	NSX400F NSX630F 36	NSX400N NSX630N 50	NSX400H	NSX400S NSX630S 100	NSX400L	NSX630F	NSX630N	NSX630H	NSX630S	NSX630L	
Breaking capacity (kA rms)			70		150	36	50	70	100	150	
Downstream	Breaking capacity (kA rms)										
NS80H-MA				100	150				100	150	
Integral 63 ≥ 32 A			70		150						

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Motor protection cascading

Upstream: Compact NSX

Downstream: Compact NS, LUB, GV,
Integral

Network 440 V						
Upstream	NSX100B NSX160B NSX250B	NSX100F NSX160F NSX250F	NSX100N NSX160N NSX250N	NSX100H NSX160H NSX250H	NSX100S NSX160S NSX250S	NSX100L NSX160L NSX250L
Breaking capacity (kA rms)	20	35	50	65	90	130
Downstream	Breaking capacity (kA rms)					
NS80H-MA					90	130
LUB12				65	90	130
LUB32				65	90	130
Integral 63 ≥ 25 A			50	65		130
Upstream	NSX400F NSX630F	NSX400N NSX630N	NSX400H NSX630H	NSX400S NSX630S	NSX400L	NSX630L
Breaking capacity (kA rms)	35	50	65	90	130	130
Downstream	Breaking capacity (kA rms)					
NS80H-MA				90	90	90
Integral 63 ≥ 25 A			65		130	

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Cascading and enhanced
discrimination 380/415

Upstream: NSX160 to 400

Downstream: LUB, Integral

Upstream			NSX160H 70 kA		NSX160S 100 kA		NSX160L 150 kA		NSX250H 70 kA		NSX250S 100 kA		NSX250L 150 kA	
Breaking capacity			TM-D		TM-D		TM-D		TM-D		TM-D		TM-D	
Trip unit			TM-D		TM-D		TM-D		TM-D		TM-D		TM-D	
Downst.	Thermal relay	Rating (A)	80/100	125/160	80/100	125/160	80/100	125/160	160	200/250	160	200/250	160	200/250
Tesys U LUB12	LUC*X6	0.15/0.6		70/70		100/100		150/150	70/70	70/70	100/100	100/100	100/100	100/100
	LUC*1X	0.35/1.4		70/70		100/100		150/150	70/70	70/70	100/100	100/100	100/100	100/100
	LUC*05	1.25/5		70/70		100/100		150/150	70/70	70/70	100/100	100/100	100/100	100/100
	LUC*12	3/12		70/70		100/100		150/150	70/70	70/70	100/100	100/100	100/100	100/100
Tesys U LUB32	LUC*X6	0.15/0.6		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
	LUC*1X	0.35/1.4		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
	LUC*05	1.25/5		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
	LUC*12	3/12		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
Integral 63 LD1-LD030	LUC*18	4.5/18		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
	LUC*32	8/32		5/70		5/100		5/150	5/70	70/70	5/100	100/100	5/100	100/100
	LB1-LD03M16	10/13								70/70		100/100		150/150
	LB1-LD03M21	11/18								70/70		100/100		150/150
LD4-LD130	LB1-LD03M22	18/25								70/70		100/100		150/150
	LB1-LD03M53	23/32								70/70		100/100		150/150
	LB1-LD03M55	28/40								70/70		100/100		150/150
	LB1-LD03M57	35/50								70/70		100/100		150/150
LD4-LD030	LB1-LD03M61	45/63								70/70		100/100		150/150

Upstream			NSX160H 70 kA		NSX160L 100 kA		NSX160L 150 kA		NSX250H 70 kA		NSX250S 100 kA		NSX250L 150 kA		NSX400H 70 kA		NSX400S 100 kA		NSX400L 150 kA	
Breaking capacity			Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Trip unit			Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downst.	Thermal relay	Rating (A)	160	160	160	250	250	250	400	400	400									
Tesys U LUB12	LUC*X6	0.15/0.6	70/70	100/100	150/150	70/70	100/100	100/100												
	LUC*1X	0.35/1.4	70/70	100/100	150/150	70/70	100/100	100/100												
	LUC*05	1.25/5	70/70	100/100	150/150	70/70	100/100	100/100												
	LUC*12	3/12	70/70	100/100	150/150	70/70	100/100	100/100												
Tesys U LUB32	LUC*X6	0.15/0.6	5/70	5/100	5/150	70/70	100/100	100/100												
	LUC*1X	0.35/1.4	5/70	5/100	5/150	70/70	100/100	100/100												
	LUC*05	1.25/5	5/70	5/100	5/150	70/70	100/100	100/100												
	LUC*12	3/12	5/70	5/100	5/150	70/70	100/100	100/100												
Integral 63 LD1-LD030	LUC*18	4.5/18	5/70	5/100	5/150	70/70	100/100	100/100												
	LUC*32	8/32	5/70	5/100	5/150	70/70	100/100	100/100												
	LB1-LD03M16	10/13	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
	LB1-LD03M21	11/18				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
LD4-LD130	LB1-LD03M22	18/25				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
	LB1-LD03M53	23/32				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
	LB1-LD03M55	28/40				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
	LB1-LD03M57	35/50				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150
LD4-LD030	LB1-LD03M61	45/63				70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150	70/70	100/100	150/150

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Cascading and enhanced
discrimination 380/415

Upstream: NSX160

Downstream: GV2 M

Upstream			NSX160B										NSX160F									
Breaking capacity			25 kA										36 kA									
Trip unit			TM-D										TM-D									
Downst.	Thermal relay	Rating (A)	16	25	40	63	80	100	125	160	16	25	32	40/50	63	80	100	125	160			
GV2 M01	Integrated	0.1/0.16	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M02	Integrated	0.16/0.25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M03	Integrated	0.25/0.40	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M04	Integrated	0.40/0.63	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M05	Integrated	0.63/1	25/25	25/25	25/25	25/25	25/25	25/25	25/25	25/25	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M06	Integrated	1/1.6		25/25	25/25	25/25	25/25	25/25	25/25	25/25		36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M07	Integrated	1.6/2.5			25/25	25/25	25/25	25/25	25/25	25/25			36/36	36/36	36/36	36/36	36/36	36/36	36/36	36/36		
GV2 M08	Integrated	2.5/4							25/25	25/25									36/36	36/36		
GV2 M10	Integrated	4/6.3							25/25	25/25									36/36	36/36		
GV2 M14	Integrated	6/10							25/25	25/25									36/36	36/36		
GV2 M16	Integrated	9/14							25/25	25/25									36/36	36/36		
GV2 M20	Integrated	13/18							25/25	25/25									36/36	36/36		
GV2 M21	Integrated	17/23							25/25	25/25									36/36	36/36		
GV2 M22	Integrated	20/25							25/25	25/25									36/36	36/36		
GV2 M32	Integrated	24/32							25/25	25/25									36/36	36/36		

Upstream			NSX160N/H/S/L									
Breaking capacity			50/70/100/150 kA									
Trip unit			TM-D									
Downst.	Thermal relay	Rating (A)	16	25	32	40	50	63	80	100	125	160
GV2 M01	Integrated	0.1/0.16	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M02	Integrated	0.16/0.25	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M03	Integrated	0.25/0.40	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M04	Integrated	0.40/0.63	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M05	Integrated	0.63/1	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M06	Integrated	1/1.6		50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M07	Integrated	1.6/2.5			50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
GV2 M08	Integrated	2.5/4									50/50	50/50
GV2 M10	Integrated	4/6.3									50/50	50/50
GV2 M14	Integrated	6/10									50/50	50/50
GV2 M16	Integrated	9/14									50/50	50/50
GV2 M20	Integrated	13/18									50/50	50/50
GV2 M21	Integrated	17/23									50/50	50/50
GV2 M22	Integrated	20/25									50/50	50/50
GV2 M32	Integrated	24/32									50/50	50/50

Upstream			NSX160B					NSX160F					NSX160F				
Breaking capacity			25 kA					36 kA					50/70/100/150 kA				
Trip unit			Micrologic					Micrologic					Micrologic				
Downst.	Thermal relay	Rating (A)	160					160					160				
GV2 M01	Integrated	0.1/0.16	25/25					36/36					50/50				
GV2 M02	Integrated	0.16/0.25	25/25					36/36					50/50				
GV2 M03	Integrated	0.25/0.40	25/25					36/36					50/50				
GV2 M04	Integrated	0.40/0.63	25/25					36/36					50/50				
GV2 M05	Integrated	0.63/1	25/25					36/36					50/50				
GV2 M06	Integrated	1/1.6	25/25					36/36					50/50				
GV2 M07	Integrated	1.6/2.5	25/25					36/36					50/50				
GV2 M08	Integrated	2.5/4	25/25					36/36					50/50				
GV2 M10	Integrated	4/6.3	25/25					36/36					50/50				
GV2 M14	Integrated	6/10	25/25					36/36					50/50				
GV2 M16	Integrated	9/14	25/25					36/36					50/50				
GV2 M20	Integrated	13/18	25/25					36/36					50/50				
GV2 M21	Integrated	17/23	25/25					36/36					50/50				
GV2 M22	Integrated	20/25	25/25					36/36					50/50				
GV2 M32	Integrated	24/32	25/25					36/36					50/50				

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Cascading and enhanced
discrimination 380/415

Upstream: NSX160

Downstream: GV2 P

Upstream			NSX160H				NSX160S			
Breaking capacity			70 kA				100 kA			
Trip unit			TM-D				TM-D			
Downst.	Thermal relay	Rating (A)	80	100	125	160	80	100	125	160
GV2 P01	Integrated	0.1/0.16	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P02	Integrated	0.16/0.25	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P03	Integrated	0.25/0.40	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P04	Integrated	0.40/0.63	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P05	Integrated	0.63/1	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P06	Integrated	1/1.6	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P07	Integrated	1.6/2.5	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 P08	Integrated	2.5/4			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P10	Integrated	4/6.3			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P14	Integrated	6/10			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P16	Integrated	9/14			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P20	Integrated	13/18			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P21	Integrated	17/23			70/70	70/70	100/100	100/100	100/100	100/100
GV2 P22	Integrated	20/25			70/70	70/70	100/100	100/100	100/100	100/100

Upstream			NSX160L				NSX160H	NSX160S	NSX160L
Breaking capacity			150 kA				70 kA	100 kA	150 kA
Trip unit			TM-D				Micrologic	Micrologic	Micrologic
Downst.	Thermal relay	Rating (A)	80	100	125	160	160	160	160
GV2 P01	Integrated	0.1/0.16	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P02	Integrated	0.16/0.25	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P03	Integrated	0.25/0.40	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P04	Integrated	0.40/0.63	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P05	Integrated	0.63/1	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P06	Integrated	1/1.6	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P07	Integrated	1.6/2.5	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 P08	Integrated	2.5/4			150/150	150/150	70/70	100/100	150/150
GV2 P10	Integrated	4/6.3			150/150	150/150	70/70	100/100	150/150
GV2 P14	Integrated	6/10			150/150	150/150	70/70	100/100	150/150
GV2 P16	Integrated	9/14			150/150	150/150	70/70	100/100	150/150
GV2 P20	Integrated	13/18			150/150	150/150	70/70	100/100	150/150
GV2 P21	Integrated	17/23			150/150	150/150	70/70	100/100	150/150
GV2 P22	Integrated	20/25			150/150	150/150	70/70	100/100	150/150

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Cascading and enhanced discrimination 380/415

Upstream: NSX160

Downstream: GV2 L

Upstream			NSX160H 70 kA				NSX160S 100 kA			
Breaking capacity										
Trip unit			TM-D				TM-D			
Downst.	Thermal relay	Rating (A)	80	100	125	160	80	100	125	160
GV2 L03	LR2 D13 03	0.25/0.40	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 L04	LR2 D13 04	0.40/0.63	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 L05	LR2 D13 05	0.63/1	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 L06	LR2 D13 06	1/1.6	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 L07	LR2 D13 07	1.6/2.5	70/70	70/70	70/70	70/70	100/100	100/100	100/100	100/100
GV2 L08	LR2 D13 08	2.5/4			70/70	70/70	100/100	100/100	100/100	100/100
GV2 L10	LR2 D13 10	4/6.3			70/70	70/70	100/100	100/100	100/100	100/100
GV2 L14	LR2 D13 14	7/10			70/70	70/70	100/100	100/100	100/100	100/100
GV2 L16	LR2 D13 16	9/13			70/70	70/70	100/100	100/100	100/100	100/100
GV2 L20	LR2 D13 21	12/18			70/70	70/70	100/100	100/100	100/100	100/100
GV2 L22	LR2 D13 22	17/25			70/70	70/70	100/100	100/100	100/100	100/100

Upstream			NSX160L 150 kA				NSX160H 70 kA	NSX160S 100 kA	NSX160L 150 kA
Breaking capacity									
Trip unit			TM-D				Micrologic	Micrologic	Micrologic
Downst.	Thermal relay	Rating (A)	80	100	125	160	160	160	160
GV2 L03	LR2 D13 03	0.25/0.40	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 L04	LR2 D13 04	0.40/0.63	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 L05	LR2 D13 05	0.63/1	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 L06	LR2 D13 06	1/1.6	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 L07	LR2 D13 07	1.6/2.5	150/150	150/150	150/150	150/150	70/70	100/100	150/150
GV2 L08	LR2 D13 08	2.5/4			150/150	150/150	70/70	100/100	150/150
GV2 L10	LR2 D13 10	4/6.3			150/150	150/150	70/70	100/100	150/150
GV2 L14	LR2 D13 14	7/10			150/150	150/150	70/70	100/100	150/150
GV2 L16	LR2 D13 16	9/13			150/150	150/150	70/70	100/100	150/150
GV2 L20	LR2 D13 21	12/18			150/150	150/150	70/70	100/100	150/150
GV2 L22	LR2 D13 22	17/25			150/150	150/150	70/70	100/100	150/150

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

Cascading and enhanced
discrimination 440 V

Upstream: NSX160 to 400

Downstream: LUB12 to LUB32

Upstream			NSX160H		NSX160S		NSX160L		NSX250H		NSX250S		NSX250L	
Breaking capacity			65 kA		90 kA		130 kA		65 kA		90 kA		130 kA	
Trip unit			TM-D		TM-D		TM-D		TM-D		TM-D		TM-D	
Downst.	Thermal relay	Rating (A)	80/100	125/160	80/100	125/160	80/100	125/160	160	200/250	160	200/250	160	200/250
Tesy U LUB12	LUC*X6	0.15/0.6		65/65		90/90		130/130	65/65	65/65	90/90	90/90	100/100	100/100
	LUC*1X	0.35/1.4		65/65		90/90		130/130	65/65	65/65	90/90	90/90	100/100	100/100
	LUC*05	1.25/5		65/65		90/90		130/130	65/65	65/65	90/90	90/90	100/100	100/100
	LUC*12	3/12		65/65		90/90		130/130	65/65	65/65	90/90	90/90	100/100	100/100
Tesy U LUB32	LUC*X6	0.15/0.6		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100
	LUC*1X	0.35/1.4		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100
	LUC*05	1.25/5		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100
	LUC*12	3/12		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100
	LUC*18	4.5/18		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100
	LUC*32	8/32		5/65		5/90		5/130	5/65	65/65	5/90	90/90	5/100	100/100

Upstream			NSX160H		NSX160S		NSX160L		NSX250H		NSX250S		NSX250L		NSX400H		NSX400L	
Breaking capacity			65 kA		90 kA		130 kA		65 kA		90 kA		130 kA		65 kA		90 kA	
Trip unit			Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic		Micrologic	
Downst.	Thermal relay	Rating (A)	160	160	160	250	250	250	400	400								
Tesy U LUB12	LUC*X6	0.15/0.6	65/65	90/90	130/130	65/65	90/90	100/100										
	LUC*1X	0.35/1.4	65/65	90/90	130/130	65/65	90/90	100/100										
	LUC*05	1.25/5	65/65	90/90	130/130	65/65	90/90	100/100										
	LUC*12	3/12	65/65	90/90	130/130	65/65	90/90	100/100										
Tesy U LUB32	LUC*X6	0.15/0.6	5/65	5/90	5/130	65/65	90/90	100/100										
	LUC*1X	0.35/1.4	5/65	5/90	5/130	65/65	90/90	100/100										
	LUC*05	1.25/5	5/65	5/90	5/130	65/65	90/90	100/100										
	LUC*12	3/12	5/65	5/90	5/130	65/65	90/90	100/100										
	LUC*18	4.5/18	5/65	5/90	5/130	65/65	90/90	100/100										
	LUC*32	8/32	5/65	5/90	5/130	65/65	90/90	100/100										

Note: respect the basic rules of discrimination, in terms of overcurrent, short-circuit, see page 6, or check curves with curve direct software.

A circuit supplying a motor may include one, two, three or four switchgear or controlgear devices fulfilling one or more functions.

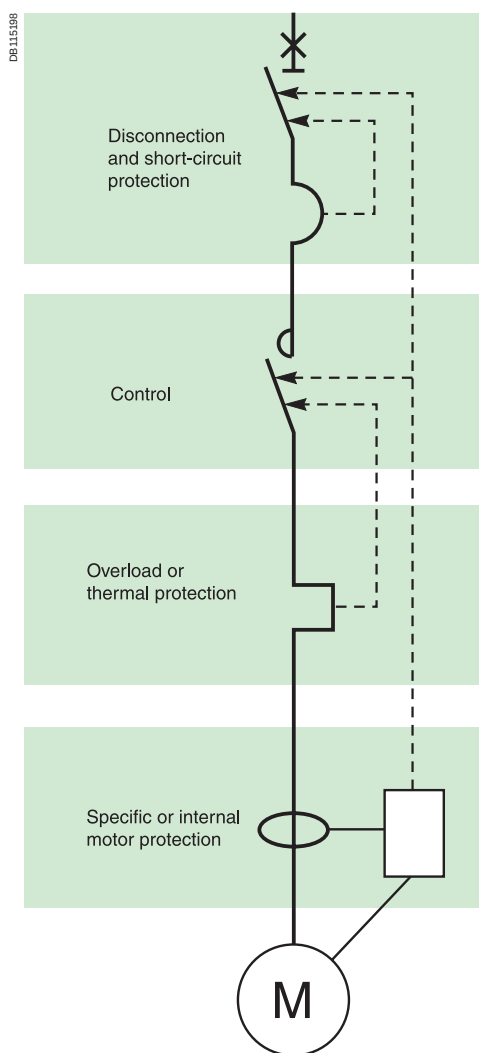
When a number of devices are used, they must be coordinated to ensure optimum operation of the motor.

Protection of a motor circuit involves a number of parameters that depend on:

- the application (type of machine driven, operating safety, starting frequency, etc.)
- the level of service continuity imposed by the load or the application
- the applicable standards to ensure protection of life and property.

The necessary electrical functions are of very different natures:

- protection (motor-dedicated for overloads)
- control (generally with high endurance levels)
- isolation.



Protection functions

Disconnection functions:

- Isolate a motor circuit prior to maintenance operations.

Short-circuit protection:

Protect the starter and the cables against major overcurrents ($> 10 I_n$).

Control:

Start and stop the motor, and, if applicable:

- gradual acceleration
- speed control.

Overload protection:

Protect the starter and the cables against minor overcurrents ($< 10 I_n$).

Additional specific protection:

- limitative fault protection (while the motor is running)
- preventive fault protection (monitoring of motor insulation with motor off).

Overloads ($I < 10 I_n$).

An overload may be caused by:

- an electrical problem, for instance on the mains (loss of a phase, voltage outside tolerances, etc.)
- a mechanical problem, for instance excessive torque due to abnormally high demands by the process or motor damage (bearing vibrations, etc.)

A further consequence of these two origins is excessively long starting.

Impedant short-circuit ($10 < I < 50 I_n$)

Deterioration of motor-winding insulation is the primary cause.

Short-circuit ($I > 50 I_n$)

This type of fault is relatively rare. A possible cause may be a connection error during maintenance.

Overload protection

Thermal relays provide protection against this type of fault. They may be:

- integrated in the short-circuit protective device
- separate.

Short-circuit protection

This type of protection is provided by a circuit breaker.

Protection against insulation faults

This type of protection may be provided by:

- a residual current device (RCD)
- an insulation monitoring device (IMD).

Applicable standards

A circuit supplying a motor must comply with the general rules set out in IEC standard 60947-4-1 and in particular with those concerning contactors, motor starters and their protection as stipulated in IEC 60947-4-1, notably:

- coordination of the components of the motor circuit
- trip class for thermal relays
- contactor utilisation categories
- coordination of insulation.

Coordination of the components of the motor circuit

Two types of coordination

The standard defines tests at different current levels. The purpose of these tests is to place the switchgear and controlgear in extreme conditions. Depending on the state of the components following the tests, the standard defines two types of coordination:

■ type 1:

Deterioration of the contactor and the relay is acceptable under two conditions:

- ☐ no danger to operating personnel
- ☐ no danger to any components other than the contactor and the relay

■ type 2:

Only minor welding of the contactor or starter contacts is permissible and the contacts must be easily separated.

- ☐ following type-2 coordination tests, the switchgear and controlgear functions must be fully operational.

Which type of coordination is needed?

Selection of a type of coordination depends on the operating conditions encountered.

The goal is to achieve the best balance between the user's needs and the cost of the installation.

■ type 1:

qualified maintenance service

- ☐ low cost of switchgear and controlgear
- ☐ continuity of service is not imperative or may be ensured by simply replacing the faulty motor drawer

■ type 2:

- ☐ continuity of service is imperative
- ☐ limited maintenance service
- ☐ specifications stipulating type 2.

The different test currents

"Ic", "r" and "Iq" test currents

To qualify for type-2 coordination, the standard requires three fault-current tests to check that the switchgear and controlgear operates correctly under overload and short-circuit conditions.

"Ic" current (overload $I < 10 I_n$)

The thermal relay provides protection against this type of fault, up to the I_c value (a function of I_m or I_{sd}) defined by the manufacturer.

IEC standard 60947-4-1 stipulates two tests that must be carried out to guarantee coordination between the thermal relay and the short-circuit protective device:

- at $0.75 I_c$, only the thermal relay reacts
- at $1.25 I_c$, the short-circuit protective device reacts.

Following the tests at $0.75 I_c$ and $1.25 I_c$, the trip characteristics of the thermal relay must be unchanged. Type-2 coordination thus enhances continuity of service. The contactor may be closed automatically following clearing of the fault.

"r" current

(Impedant short-circuit $10 < I < 50 I_n$)

The primary cause of this type of fault is the deterioration of insulation. IEC standard 60947-4-1 defines an intermediate short-circuit current "r". This test current is used to check that the protective device provides protection against impedant short-circuits.

There must be no modification in the original characteristics of the contactor and the thermal relay following the test.

The circuit breaker must trip in $\gamma 10$ ms for a fault current $\geq 15 I_n$.

Operational current I_e (AC3) of the motor (in A)	"r" current (kA)
$I_e \leq 16$	1
$16 < I_e \leq 63$	3
$63 < I_e \leq 125$	5
$125 < I_e \leq 315$	10
$315 < I_e < 630$	18

"Iq" current

(short-circuit $I > 50 I_n$)

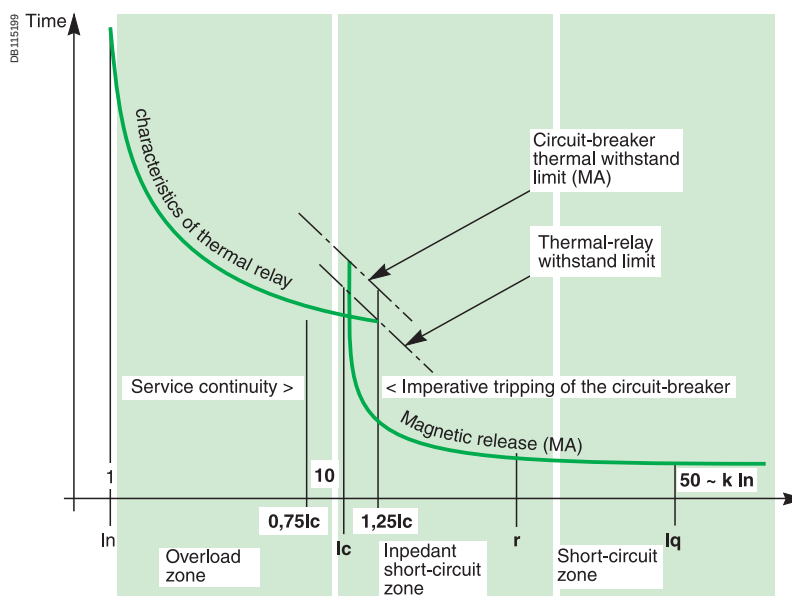
This type of fault is relatively rare. A possible cause may be a connection error during maintenance.

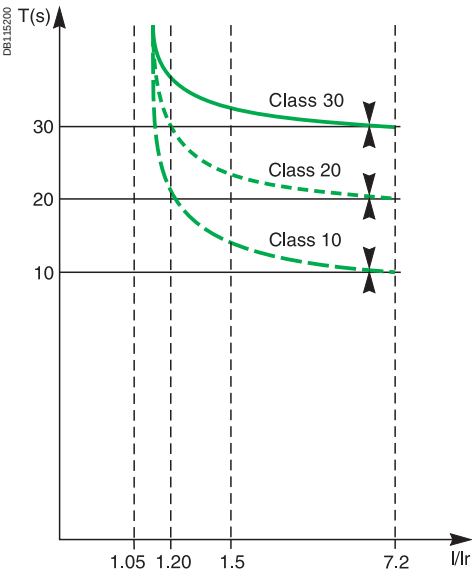
Short-circuit protection is provided by devices that open quickly.

IEC standard 60947-4-1 defines the "Iq" current as generally ≥ 50 kA.

The "Iq" current is used to check the coordination of the switchgear and controlgear installed on a motor supply circuit.

Following this test under extreme conditions, all the coordinated switchgear and controlgear must remain operational.





Trip class of a thermal relay.

Trip class of a thermal relay

The four trip class of a thermal relay are 10 A, 10, 20 and 30 (maximum tripping times at 7.2 Ir).
Classes 10 and 10 A are the most commonly used. Classes 20 and 30 are reserved for motors with difficult starting conditions.
The diagram and the table opposite can be used to select a thermal relay suited to the motor starting time.

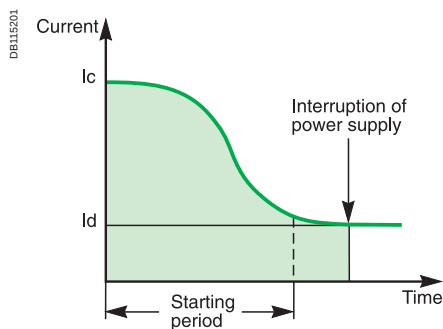
Class	1.05 Ir	1.2 Ir	1.5 Ir	7.2 Ir
10 A	$t > 2 \text{ h}$	$t < 2 \text{ h}$	$t < 2 \text{ min.}$	$2 \leq t \leq 10 \text{ s}$
10	$t > 2 \text{ h}$	$t < 2 \text{ h}$	$t < 4 \text{ min.}$	$4 \leq t \leq 10 \text{ s}$
20	$t > 2 \text{ h}$	$t < 2 \text{ h}$	$t < 8 \text{ min.}$	$6 \leq t \leq 20 \text{ s}$
30	$t > 2 \text{ h}$	$t < 2 \text{ h}$	$t < 12 \text{ min.}$	$9 \leq t \leq 30 \text{ s}$

The four utilisation categories of contactors (AC1 to AC4)

The four utilisation categories of contactors (AC1 to AC4) determine the operating frequency and endurance of a contactor. The category depends on the type of load. If the load is a motor, the category also depends on the service classification.

Main characteristics of the controlled electrical circuits and applications

Category	Type of load	Contactors usage	Typical applications
AC1	no-inductive ($\cos \varphi 0.8$)	energisation	heating, distribution
AC2	slip-ring motors ($\cos \varphi 0.65$)	starting switching off during running regenerative braking inching	wire drawing machines
AC3	squirrel-cage motors ($\cos \varphi 0.45$ for $I_e \leq 100A$) ($\cos \varphi 0.35$ for $I_e > 100A$)	starting switching off during running	compressors, lifts, mixing pumps, escalators, fans, conveyers, air-conditioning
AC4	squirrel-cage motors ($\cos \varphi 0.45$ for $I_e \leq 100A$) ($\cos \varphi 0.35$ for $I_e > 100A$)	starting switching off during running regenerative braking plugging inching	printing machines, wire



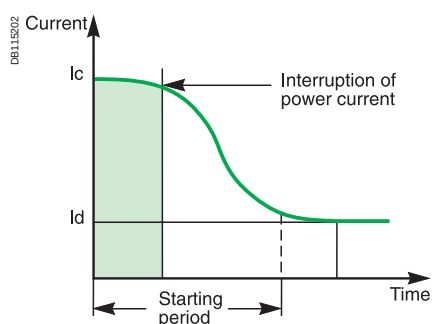
AC3 utilisation category. The contactor interrupts the rated current of the motor.

AC3 utilisation category

This category covers asynchronous squirrel-cage motors that are switched off during running. This is the most common situation (85 % of all cases).

The control device establishes the starting current and interrupts the rated current at a voltage equal to approximately one-sixth of the rated value.

Current interruption is carried out with no difficulty.



AC4 utilisation category. The contactor must be capable of interrupting the starting current I_d .

AC4 utilisation category

This category covers asynchronous squirrel-cage or slip-ring motors capable of operating under regenerative-braking or inching (jogging) conditions.

The control device establishes the starting current and is capable of interrupting the starting current at a voltage that may be equal to that of the mains.

Such difficult conditions require oversizing of the control and protective devices with respect to category AC3.

Subtransient phenomena related to direct on-line starting of asynchronous motors

Subtransient phenomena occurring when starting squirrel-cage motors:

A squirrel-cage motor draws a high inrush current during starting. This current is related to the combined influence of two parameters:

- the high inductance of the copper stator winding
- the magnetisation of the iron core of the stator.

In motor: current drawn by the motor at full rated load (in A rms)

I_d : current drawn by the motor during starting (in A rms)

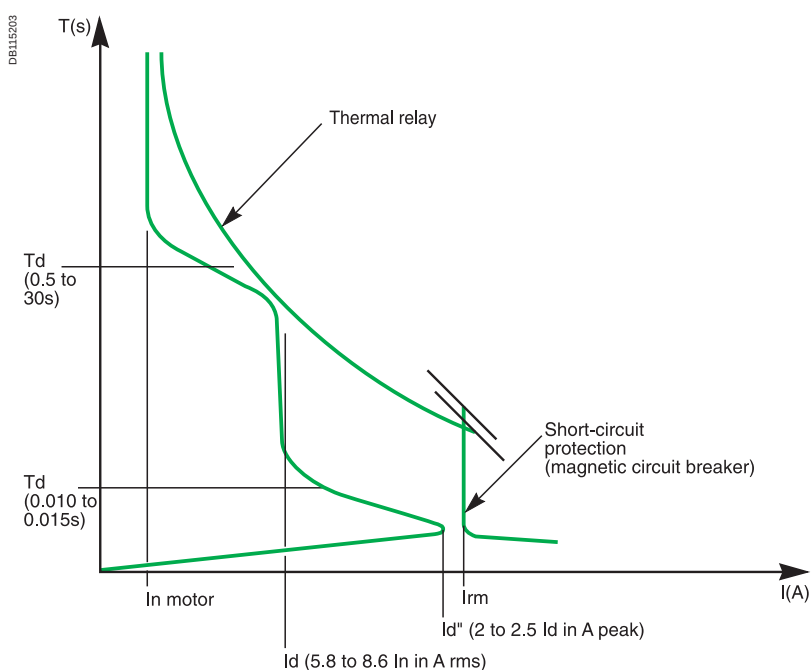
I_d'' : subtransient current generated by the motor when it is energised.

This very short subtransient phenomenon is expressed as $k \times I_d \times t^2$ (in A peak).

t_d : motor starting time, from 0.5 to 30 seconds depending on the application.

t_d'' : duration of the subtransient current, from 0.010 to 0.015 seconds when the motor is energised.

I_{rm} : magnetic setting of the circuit breakers.



Typical upper and lower limits for these subtransient currents:

These values, not covered by standards, also depend on the type of motor technology used:

- ordinary motors $I_d'' = 2 I_d$ to $2.1 I_d$ (in A peak)
- high-efficiency motors $I_d'' = 2.2 I_d$ to $2.5 I_d$ (in A peak).
- variation of I_d'' as a function of I_d :

Type of motor	d (in A rms)	I_d'' (in A peak)
Ordinary motor	5.8 to 8.6 I_n motor	$I_d'' = 2 I_d = 11.5 I_n$ (A peak) to $I_d'' = 2.1 I_d = 18 I_n$ (A peak)
High-efficiency motor	5.8 to 8.6 I_n motor	$I_d'' = 2.2 I_d = 12.5 I_n$ (A peak) to $I_d'' = 2.5 I_d = 21.5 I_n$ (A peak)

Example: Upon energisation, a high-efficiency motor with an I_d of 7.5 I_n produces a subtransient current with a value between (depending on its characteristics):

- minimum = 16.5 I_n (in A peak)
- maximum = 18.8 I_n (in A peak).

Protection of motor circuits

Using the circuit breaker/contactors coordination tables

Subtransient currents and protection settings:

- as illustrated in the above table, subtransient currents can be very high.
- If they approach their upper limits, they can trip short-circuit protection devices (nuisance tripping)
- circuit breakers are rated to provide optimum short-circuit protection for motor starters (type 2 coordination with thermal relay and contactor)
- combinations made up of circuit breakers and contactors and thermal relays are designed to allow starting of motors generating high subtransient currents (up to $19 I_n$ motor peak)
- the tripping of short-circuit protective devices when starting with a combination listed in the coordination tables means:
 - the limits of certain devices may be reached
 - the use of the starter under type 2 coordination conditions on the given motor may lead to premature wear of one of the components of the combination.

In event of such a problem, the ratings of the starter and the associated protective devices must be redesigned.

Using the coordination tables for circuit breaker and contactors:

■ ordinary motor:

The starter components can be selected directly from the coordination tables, whatever the values of the starting current (I_d from 5.8 to 8.6 I_n) and the subtransient current

■ high-efficiency motors with $I_d \leq 7.5 I_n$:

The starter components can be selected directly from the coordination tables, whatever the values of the starting current and the subtransient current

■ high-efficiency motors with $I_d > 7.5 I_n$:

When circuit breakers are used for motor currents in the neighbourhood of their rated current, they are set to provide minimum short-circuit protection at **19 I_n motor (A peak)**.

There are two possibilities:

- the subtransient starting current is known (indicated by the motor manufacturer) and is less than **19 I_n motor (A peak)**.

In this case, the starter components can be selected directly from the coordination tables, whatever the value of the starting current (for $I_d > 7.5 I_n$).

Example: for a 110 kW 380/415 V 3-phase motor, the selected components are: NSX250-MA220/LC1-F225/LR9-F5371.

- the subtransient starting current is unknown or greater than 19 I_n motor (A peak).

In this case, the value used for the motor power in the coordination tables should be increased by 20 % to satisfy optimum starting and coordination conditions.

Example: for a 110 kW 380/415 V 3-phase motor, the selected components are those for a motor power of $110 + 20 \% = 132$ kW:

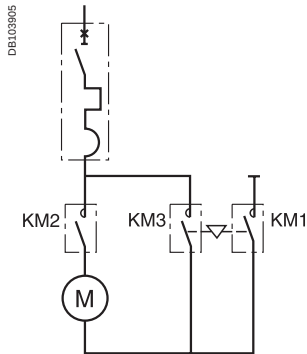
NSX400 Micrologic 4.3M/LC1-F265/LR9-F5371

Reversing starters and coordination

The starter components can be selected using the tables for direct-on-line starting. Replace contactors LC1 by LC2.

Star-delta starting and coordination

- the components should be sized according to the current flowing in the motor windings
- the mounting locations and connections of the various components of star-delta starters should be selected according to the type of coordination required and the protective devices implemented.



Solution with thermal-magnetic motor circuit breaker.

Star-delta starting and type 1 coordination

Contactors KM2 and KM3 are sized for the line current divided by 3, however, for the sake of homogeneity, it is often identical to contactors KM2 and KM3.

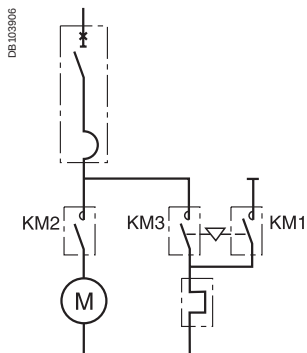
The starter components are selected from the special star-delta type 1 coordination tables.

Example: consider the following case:

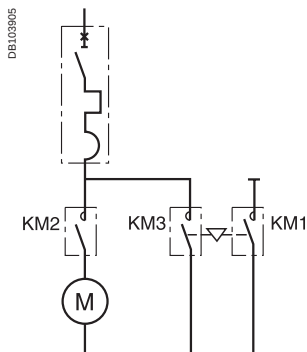
- 45 kW motor supplied at 380 V
- star-delta starting
- separate thermal relay
- short-circuit current of 20 kA at the starter
- type 1 coordination.

The starter components are selected using the table on [page 167](#):

- circuit breaker: NSX100N-MA 100
- contactor: LC3-D50
- thermal relay: LR2-D3357.



Solution with magnetic motor circuit breaker.



Solution with thermal-magnetic motor circuit breaker.

Star-delta starting and type 2 coordination

Contactors KM1, KM2 and KM3 are sized for the line current.

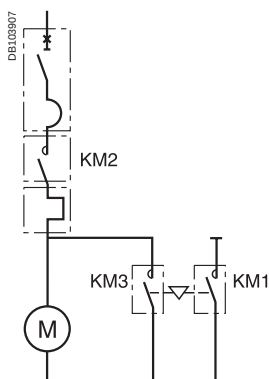
The starter components are selected from the direct-on-line type 2 coordination tables.

Example: consider the following case:

- 55 kW motor supplied at 415 V
- star-delta starting
- thermal protection built into the circuit breaker providing short-circuit protection
- short-circuit current of 45 kA at the starter
- type 2 coordination.

The starter components are selected using the table on [page 150](#):

- circuit breaker: NSX160H with Micrologic 6.2
- starter: LC1-F115 to be replaced by LC3-F115.



Solution with magnetic motor circuit breaker.

Starting class and thermal relays

The data in the tables chapter 555E3050 "Installation recommendations" corresponds to "normal" motor starting times. The associated thermal relays are either class 10 or 10 A (tripping time < 10 s).

■ for motors with long starting times, the class 10 or 10 A thermal relays must be replaced with class 20 thermal relays as indicated in the correspondence table opposite (for type 1 and type 2 coordination)

■ long starting times requiring a class 30 relay:

□ apply a derating coefficient ($K = 0.8$) to the circuit breaker and the contactor

Example: e.g. NS100H MA 100 for 80 A maximum. LC1F115 for 92 A maximum.

■ these tables may also be used for standard thermal protection using current transformers.

The required thermal relays are:

□ LR2-D1305 (0.63 to 1 A) for class 10

□ LR2-D1505 (0.63 to 1 A) for class 20 with terminal block LA7-D1064.

The current transformer ratings must be 5 VA per phase. The other characteristics are identical to those described below.

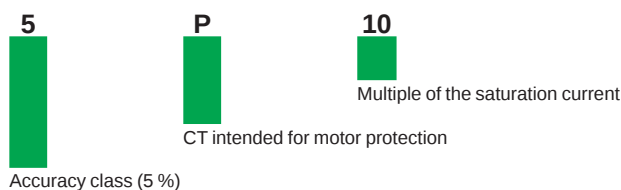
■ coordination tables with the multifunction protective relay LT6-P

□ three types of multifunction relays (see the corresponding catalogue for detailed characteristics) are available. They may be connected:

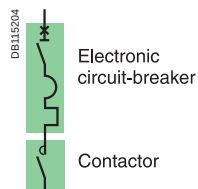
- directly to the motor power supply line
- to the secondary winding of the current transformer.

Relay		Rating Direct	Connecting Using current trans.
LT6-POM005 FM	0.2 to 1 A	■	■
	1 to 5 A	■	■
LT6-POM025 FM	5 to 25 A	■	

□ the characteristics of the current transformers are the following (as defined by IEC 44-1/44-3):



Type 2 coordination (IEC 60947-4-1) 220/240 V



Circuit breakers, contactors

Performance: U = 220/240 V

Circuit breakers	B	F	N	H	S	L
NS100/160/250 Micrologic 2.2M/6.2M	40 kA	85 kA	90 kA	100 kA	120 kA	150 kA
NSX400/630 Micrologic 2.3M/6.3M	40 kA	85 kA	90 kA	100 kA	120 kA	150 kA
NS800L/NS1000L Micrologic 5.0	-	-	-	-	-	150 kA

Starting

Norme IEC 60947-4-1

Micrologic	2.2M/2.3M	6.2M/6.3M	5.0
Normal (class)	5, 10	5, 10	10
Long (class)	20	20, 30	20

Motors P (kW)	I (A) 220 V	I (A) 240 V	I _e max (A)	Circuit breakers Type	Trip unit	I _{rt} h (A)	I _{rm} (A)	Contactors Type
3	12	11	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
4	15	14	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
5.5	21	19	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
6.3	24	22	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
7.5	28	25	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
10	36	33	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
11	39	36	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
15	52	48	80	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D80
18.5	63	59	80	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D80
22	75	70	100	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D115 or LC1-F115
30	100	95	100	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D115 or LC1-F115
37	125	115	150	NSX160	Micrologic 2.2 or 6.2	70/150	13 I _{rt} h	LC1-D150 or LC1-F150
45	150	140	150	NSX160	Micrologic 2.2 or 6.2	70/150	13 I _{rt} h	LC1-D150 or LC1-F150
55	180	170	185	NSX250	Micrologic 2.2 or 6.2	100/220	13 I _{rt} h	LC1-F185
				NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F185
75	250	235	265	NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F265
90	300	280	320	NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F330
110	360	330	400	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F400
132	430	400	500	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F500
150	460	450	500	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F500
160	520	480	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
200	630	580	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
220	700	640	700	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
250	800	730	800	NS1000L	Micrologic 5.0	400/1000	10000	LC1-F780

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Type 2 coordination (IEC 60947-4-1) 220/240 V

DB115205



Magnetic circuit breaker
(MA)

Contactor

Thermal relay

Circuit breakers, contactors and thermal relays

Performance: U = 220/240 V

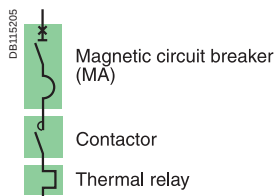
Circuit breakers	N	H	L
NS80H-MA	-	100 kA	-
Starting ⁽²⁾ : normal		LRD class 10 A	

Motors				Circuit breakers			Contactors ⁽¹⁾	Thermal relays	Irth (A) ⁽²⁾
P (kW)	I (A) 220 V	I (A) 240 V	Ie max (A)	Type	Rating (A)	Irm (A)	Type	Type	
0.09	0.7	0.6	1	NS80H-MA	1.5	13.5	LC1-D09	LRD-05	0.63/1
0.12	0.9	0.8	1	NS80H-MA	1.5	13.5	LC1-D09	LRD-05	0.63/1
0.18	1.2	1.1	1.6	NS80H-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.25	1.5	1.4	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.37	2	1.8	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.55	2.8	2.6	4	NS80H-MA	6.3	57	LC1-D32	LRD-08	2.5/4
0.75	3.5	3.2	4	NS80H-MA	6.3	57	LC1-D32	LRD-08	2.5/4
1.1	5	4.5	6	NS80H-MA	6.3	82	LC1-D32	LRD-10	4/6
1.5	6.5	6	8	NS80H-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
2.2	9	8	10	NS80H-MA	12.5	138	LC1-D40	LRD-33 14	7/10
3	12	11	12.5	NS80H-MA	12.5	163	LC1-D40	LRD-33 16	9/13
4	15	14	18	NS80H-MA	25	250	LC1-D40	LRD-33 21	12/18
5.5	21	19	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
6.3	24	22	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
7.5	28	25	32	NS80H-MA	50	450	LC1-D40	LRD-33 53	23/32
10	36	33	40	NS80H-MA	50	550	LC1-D50	LRD-33 55	30/40
11	39	36	50	NS80H-MA	50	650	LC1-D50	LRD-33 57	37/50
15	52	48	65	NS80H-MA	80	880	LC1-D65	LRD-33 59	48/65
18.5	63	59	65	NS80H-MA	80	880	LC1-D65	LRD-33 59	48/65
22	75	70	80	NS80H-MA	80	1040	LC1-D80	LRD-33 63	63/80

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(2) For long starting (class 20), see the correspondence table for thermal relay.

Type 2 coordination (IEC 60947-4-1) 220/240 V



Circuit breakers, contactors and thermal relays

Performance: U = 220/240 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250-MA	40 kA	85 kA	90 kA	100 kA	120 kA	150 kA
NSX400/630 Micrologic 1.3M	40 kA	85 kA	90 kA	100 kA	120 kA	150 kA
NS800L/NS1000L Micrologic 5.0	-	-	-	-	-	150 kA

Starting⁽²⁾: normal

LRD class 10 A, LR9 class 10

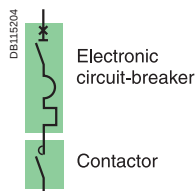
Motors				Circuit breakers			Contactors ⁽¹⁾	Thermal relays	
P (kW)	I (A) 220 V	I (A) 240 V	I _e max (A)	Type	Rating (A)	I _{rm} (A)	Type	Type	I _{rth} (A) ⁽²⁾
0.18	1.2	1.1	1.6	NSX100-MA	2.5	23.5	LC1-D09	LRD-06	1/1.6
0.25	1.5	1.4	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.37	2	1.8	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.55	2.8	2.6	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
0.75	3.5	3.2	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
1.1	5	4.5	6	NSX100-MA	6.3	82	LC1-D32	LRD-10	4/6
1.5	6.5	6	8	NSX100-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
2.2	9	8	10	NSX100-MA	12.5	138	LC1-D40	LRD-33 14	7/10
3	12	11	12.5	NSX100-MA	12.5	163	LC1-D40	LRD-33 16	9/13
4	15	14	18	NSX100MA	25	250	LC1-D40	LRD-33 21	12/18
5.5	21	19	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
6.3	24	22	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
7.5	28	25	32	NSX100-MA	50	450	LC1-D80	LRD-33 53	23/32
10	36	33	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
11	39	36	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
15	52	48	63	NSX100-MA	100	700	LC1-D80	LRD-33 59	48/65
18.5	63	59	63	NSX100-MA	100	900	LC1-D80	LRD-33 59	48/65
22	75	70	80	NSX100-MA	100	1100	LC1-D80	LRD-33 63	63/80
30	100	95	100	NSX100-MA	100	1300	LC1-D115 LC1-F115	LRD-53 67 LR9-F53 67	60/100
37	125	115	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
45	150	140	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
55	180	170	185 220	NSX250-MA NSX400-MA	220 320	2420 2880	LC1-F185 LC1-F265	LR9-F53 71	132/220
75	250	235	265	NSX400-MA	320	3500	LC1-F265	LR9-F73 75	200/330
90	300	270	320	NSX400-MA	320	4160	LC1-F330	LR9-F73 75	200/330
110	360	330	400	NSX630-MA	500	5700	LC1-F400	LR9-F73 79	300/500
132	430	400	500	NSX630-MA	500	6500	LC1-F500	LR9-F73 79	300/500
150	460	450	500	NSX630-MA	500	6500	LC1-F500	LR9-F73 79	300/500
160	520	480	630	NS800L Micrologic 5.0- LR off	800	8000	LC1-F630	LR9-F73 81	380/630
200	630	580	630	NS800L Micrologic 5.0-LR off	800	8000	LC1-F630	LR9-F73 81	380/630
220	700	640	700	NS800L Micrologic 5.0-LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
250	800	730	800	NS1000L Micrologic 5.0-LR off	1000	10000	LC1-F780	TC800/5 + LRD-10	630/1000

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(2) For long starting (class 20), see the correspondence table for thermal relay.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Type 2 coordination (IEC 60947-4-1) 380/415 V



Circuit breakers, contactors

Performance: U = 380/415 V

Circuit breakers	B	F	N	H	S	L
NS100/160/250 Micrologic 2.2M/6.2M	25 kA	36 kA	50 kA	70 kA	100 kA	130 kA
NSX400/630 Micrologic 2.3M/6.3M	25 kA	36 kA	50 kA	70 kA	100 kA	130 kA
NS800L/NS1000L Micrologic 5.0	-	-	-	-	-	130 kA

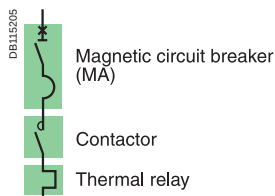
Starting	Norme IEC 60947-4-1		
Micrologic	2.2M/2.3M	6.2M/6.3M	5.0
Normal (class)	5, 10	5, 10	10
Long (class)	20	20, 30	20

Motors P (kW)				Circuit breakers				Contactors ⁽¹⁾ Type
	I (A) 380 V	I (A) 415 V	I _e max (A)	Type	Trip unit/t.u.	I _{rt} h(A)	I _{rm} (A) ⁽²⁾	
7.5	16	14	20	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
10	21	19	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
11	23	21	25	NSX100	Micrologic 2.2 or 6.2	12/25	13 I _{rt} h	LC1-D80
15	30	28	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
18.5	37	35	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
22	44	40	50	NSX100	Micrologic 2.2 or 6.2	25/50	13 I _{rt} h	LC1-D80
30	60	55	80	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D80
37	72	66	80	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D80
45	85	80	100	NSX100	Micrologic 2.2 or 6.2	50/100	13 I _{rt} h	LC1-D115 or LC1-F115
55	105	100	115	NSX160	Micrologic 2.2 or 6.2	70/150	13 I _{rt} h	LC1-D115 or LC1-F115
75	138	135	150	NSX160	Micrologic 2.2 or 6.2	70/150	13 I _{rt} h	LC1-D150 or LC1-F150
90	170	165	185	NSX250	Micrologic 2.2 or 6.2	100/220	13 I _{rt} h	LC1-F185
			225	NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F225
110	205	200	220	NSX250	Micrologic 2.2 or 6.2	100/220	13 I _{rt} h	LC1-F225
				NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F225
132	250	240	265	NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F265
160	300	280	320	NSX400	Micrologic 2.3 or 6.3	160/320	13 I _{rt} h	LC1-F330
200	370	340	400	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F400
220	408	385	500	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F500
250	460	425	500	NSX630	Micrologic 2.3 or 6.3	250/500	13 I _{rt} h	LC1-F500
			630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
300	565	500	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
335	620	560	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
375	670	620	710	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
400	710	660	710	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
450	800	750	800	NS1000L	Micrologic 5.0	400/1000	10000	LC1-F780

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(2) Ii for Micrologic 5.0 control unit.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.



Circuit breakers, contactors and thermal relays

Performance: U = 380/415 V

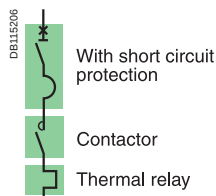
Circuit breakers	N	H	L
NS80H-MA	-	70 kA	-
Starting ⁽²⁾ : normal		LRD class 10 A	

Motors P (kW)	I (A) 380 V	I (A) 415 V	I _e max (A)	Circuit breakers			Contactors ⁽¹⁾ Type	Thermal relays	
				Type	Rating (A)	I _{rm} (A)		Type	I _{rth} ⁽²⁾
0.18	0.7	0.6	1	NS80H-MA	1.5	13.5	LC1-D09	LRD-05	0.63/1
0.25	0.9	0.8	1	NS80H-MA	1.5	13.5	LC1-D09	LRD-05	0.63/1
0.37	1.2	1.1	1.6	NS80H-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.55	1.6	1.5	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.75	2	1.8	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.1	2.8	2.6	4	NS80H-MA	6.3	57	LC1-D32	LRD-08	2.5/4
1.5	3.7	3.4	4	NS80H-MA	6.3	57	LC1-D32	LRD-08	2.5/4
2.2	5.3	4.8	6	NS80H-MA	6.3	82	LC1-D32	LRD-10	4/6
3	7	6.5	8	NS80H-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
4	9	8.2	10	NS80H-MA	12.5	138	LC1-D40	LRD-33 14	7/10
5.5	12	11	12.5	NS80H-MA	12.5	163	LC1-D40	LRD-33 16	9/13
7.5	16	14	16	NS80H-MA	25	250	LC1-D40	LRD-33 21	12/18
10	21	19	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
11	23	21	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
15	30	28	32	NS80H-MA	50	450	LC1-D40	LRD-33 53	23/32
18.5	37	34	40	NS80H-MA	50	550	LC1-D50	LRD-33 55	30/40
22	43	40	50	NS80H-MA	50	650	LC1-D50	LRD-33 57	37/50
30	59	55	63	NS80H-MA	80	880	LC1-D65	LRD-33 59	48/65
37	72	66	80	NS80H-MA	80	1040	LC1-D80	LRD-33 63	63/80

⁽¹⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

⁽²⁾ For long starting (class 20), see the correspondence table for thermal relay.

Type 2 coordination (IEC 60947-4-1) 380/415 V



Circuit breakers, contactors and thermal relays

Performance: U = 380/415 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250-MA	25 kA	36 kA	50 kA	70 kA	100 kA	130 kA
NSX400/630 Micrologic 1.3M	25 kA	36 kA	50 kA	70 kA	100 kA	130 kA
NS800L/NS1000L Micrologic 5.0	-	-	-	-	-	130 kA

Starting ⁽²⁾: normal LRD class 10 A, other classes 10

Motors P (kW)	I (A) 380 V	I (A) 415 V	I _e max (A)	Circuit breakers Type	Rating (A)	I _{rm} (A) ⁽³⁾	Contactors ⁽¹⁾ Type	Thermal relays Type	I _{rth} ⁽²⁾
0.37	1.2	1.1	1.6	NSX100-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.55	1.6	1.5	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.75	2	1.8	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.1	2.8	2.6	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
1.5	3.7	3.4	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
2.2	5.3	4.8	6	NSX100-MA	6.3	82	LC1-D32	LRD-10	4/6
3	7	6.5	8	NSX100-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
4	9	8.2	10	NSX100-MA	12.5	138	LC1-D40	LRD-33 14	7 /10
5.5	12	11	12.5	NSX100-MA	12.5	163	LC1-D40	LRD-33 16	9/13
7.5	16	14	18	NSX100-MA	25	250	LC1-D40	LRD-33 21	12/18
10	21	19	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
11	23	21	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
15	30	28	32	NSX100-MA	50	450	LC1-D80	LRD-33 53	23/32
18.5	37	34	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
22	43	40	50	NSX100-MA	50	650	LC1-D80	LRD-33 57	37/50
30	59	55	63	NSX100-MA	100	900	LC1-D80	LRD-33 59	48/65
37	72	66	80	NSX100-MA	100	1100	LC1-D80	LRD-33 63	63/80
45	85	80	100	NSX100-MA	100	1300	LC1-D115 LC1-F115	LR9-D53 67 LR9-F53 67	60/100
55	105	100	115	NSX160-MA	150	1500	LC1-D115 LC1-F115	LR9-D53 69 LR9-F53 69	90/150
75	140	135	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
90	170	160	185	NSX250-MA	220	2420	LC1-F185	LR9-F53 71	132/220
110	210	200	220	NSX250-MA NSX400 Micrologic 1.3M	220 320	2860 2880	LC1-F225 LC1-F265	LR9-F53 71	132/220
132	250	230	265	NSX400 Micrologic 1.3M	320	3500	LC1-F265	LR9-F73 75	200/330
160	300	270	320	NSX400 Micrologic 1.3M	320	4160	LC1-F330	LR9-F73 75	200/330
200	380	361	400	NSX630 Micrologic 1.3M	500	5700	LC1-F400	LR9-F73 79	300/500
220	420	380	500	NSX630 Micrologic 1.3M	500	6500	LC1-F500	LR9-F73 79	300/500
250	460	430	500	NSX630 Micrologic 1.3M	500	6500	LC1-F500	LR9-F73 79	300/500
			630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
300	565	500	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
335	620	560	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
375	670	620	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
400	710	660	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
450	800	750	800	NS1000L Micrologic 5.0 - LR off	1000	10000	LC1-F780	TC800/5 + LRD-10	630/1000

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(2) For long starting (class 20), see the correspondence table for thermal relay.

(3) Ii for Micrologic 5.0 control unit.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB119496



Magnetic circuit
breaker (MA)

Contactor

Thermal relay on CT

Circuit breakers, contactors and thermal relays

Performance: U = 380/415 V

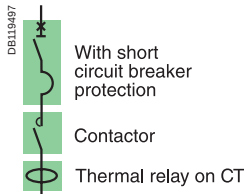
Circuit breakers	N	H	L
NS80H-MA	-	70 kA	-

Starting⁽¹⁾: adjustable class 10 A to 30.

Motors				Circuit breakers			Contactors ⁽²⁾	Thermal relays	
P (kW)	I (A) 380 V	I (A) 415 V	Ie max (A)	Type	Rating (A)	Irm (A)	Type	Type	I _{rt} h (A) ⁽¹⁾
0.18	0.7	0.6	1	NS80H-MA	1.5	13.5	LC1-D40	LT6-P0M	0.2/1
0.25	0.9	0.8	1	NS80H-MA	1.5	13.5	LC1-D40	LT6-P0M	0.2/1
0.37	1.2	1.1	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
0.55	1.6	1.5	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
0.75	2	1.8	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
1.1	2.8	2.6	5	NS80H-MA	6.3	70	LC1-D40	LT6-P0M	1/5
1.5	3.7	3.4	5	NS80H-MA	6.3	70	LC1-D40	LT6-P0M	1/5
2.2	5.3	4.8	6.3	NS80H-MA	6.3	82	LC1-D40	LT6-P0M	5/25
3	7	6.5	12.5	NS80H-MA	12.5	163	LC1-D40	LT6-P0M	5/25
4	9	8.2	12.5	NS80H-MA	12.5	163	LC1-D40	LT6-P0M	5/25
5.5	12	11	12.5	NS80H-MA	12.5	163	LC1-D40	LT6-P0M	5/25
7.5	16	14	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
10	21	19	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
11	23	21	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
15	30	28	50	NS80H-MA	50	650	LC1-D80	LT6-P0M	on CT
18.5	37	34	50	NS80H-MA	50	650	LC1-D80	LT6-P0M	on CT
22	43	40	50	NS80H-MA	50	650	LC1-D80	LT6-P0M	on CT
30	59	55	80	NS80H-MA	80	1040	LC1-D80	LT6-P0M	on CT
37	72	66	80	NS80H-MA	80	1040	LC1-D80	LT6-P0M	on CT

⁽¹⁾ For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.

⁽²⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.



Circuit breakers, contactors and thermal relays

Performance: U = 380/415 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250-MA	25	36	50	70	100	130
NSX400/630 Micrologic 1.3 M	25	36	50	70	100	130
NS800/1000L Micrologic 5.0	-	-	-	-	-	130

Starting ⁽¹⁾: normal LRD lass 10 A, LR class 10.

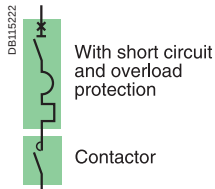
Motors P (kW)	I (A) 380 V	I (A) 415 V	I _e max (A)	Circuit breakers Type	Rating (A)	I _{rm} (A) ⁽³⁾	Contactors ⁽²⁾ Type	Thermal relays Type	I _{rt} h (A) ⁽¹⁾
0.37	1.2	1.1	1.6	NSX100-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.55	1.6	1.5	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
0.75	2	1.8	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.1	2.8	2.6	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
1.5	3.7	3.4	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
2.2	5.3	4.8	6	NSX100-MA	6.3	82	LC1-D32	LRD-10	4/6
3	7	6.5	8	NSX100-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
4	9	8.2	10	NSX100-MA	12.5	138	LC1-D40	LRD-33 14	7/10
5.5	12	11	12.5	NSX100-MA	12.5	163	LC1-D40	LRD-33 16	9/13
7.5	16	14	18	NSX100-MA	25	250	LC1-D40	LRD-33 21	12/18
10	21	19	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
11	23	21	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
15	30	28	32	NSX100-MA	50	450	LC1-D80	LRD-33 53	23/32
18.5	37	34	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
22	43	40	50	NSX100-MA	50	650	LC1-D80	LRD-33 57	37/50
30	59	55	63	NSX100-MA	100	900	LC1-D80	LRD-33 59	48/65
37	72	66	80	NSX100-MA	100	1100	LC1-D80	LRD-33 63	63/80
45	85	80	100	NSX100-MA	100	1300	LC1-D115 LC1-F115	LR9-D53 67 LR9-F53 67	60/100
55	105	100	115	NSX160-MA	150	1500	LC1-D115 LC1-F115	LR9-D53 69 LR9-F53 69	90/150
75	140	135	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
90	170	160	185	NSX250-MA	220	2420	LC1-F185	LR9-F53 71	132/220
110	210	200	220	NSX250-MA	220	2860	LC1-F225	LR9-F53 71	132/220
				NSX400-Micrologic 1.3 M	320	2880	LC1-F265		
132	250	230	265	NSX400-Micrologic 1.3 M	320	3500	LC1-F265	LR9-F73 75	200/330
160	300	270	320	NSX400-Micrologic 1.3 M	320	4160	LC1-F330	LR9-F73 75	200/330
200	380	361	400	NSX630-Micrologic 1.3 M	500	5700	LC1-F400	LR9-F73 79	300/500
220	420	380	500	NSX630-Micrologic 1.3 M	500	6500	LC1-F500	LR9-F73 79	300/500
250	460	430	500 630	NSX630-Micrologic 1.3 M NS800L Micrologic 5.0 - LR off	500 800	6500 8000	LC1-F500 LC1-F630	LR9-F73 79 LR9-F73 81	300/500 380/630
300	565	500	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
335	620	560	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
375	670	620	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
400	710	660	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
450	800	750	800	NS1000L Micrologic 5.0 - LR off	1000	10000	LC1-F780	TC800/5 + LRD-10	630/1000
375	670	620	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F800/780	LT6-P0M	on CT
400	710	660	710	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F800/780	LT6-P0M	on CT
450	800	750	800	NS1000L Micrologic 5.0 - LR off	1000	10000	LC1-F800/780	LT6-P0M	on CT

(1) For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.

(2) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(3) I_i for Micrologic 5.0 control unit.**Note:** where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Type 2 coordination (IEC 60947-4-1) 440 V



Circuit breakers, contactors

Performance: U = 440 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250 Micrologic 2.2 M/6.2 M	20 kA	35 kA	50 kA	65 kA	90 kA	130 kA
NSX400/630 Micrologic 2.3 M/6.3 M	-	30 kA	42 kA	65 kA	90 kA	130 kA
NS630b/800/1000L Micrologic 5.0	-	-	-	-	-	130 kA

Starting	Norme IEC 60947-4-1		
Micrologic	2.2 M/2.3 M	6.2 M/6.3 M	5.0
Normal (class)	5, 10	5, 10	10
Long (class)	20	20, 30	20

Motors			Circuit breakers				Contactors ⁽²⁾
P (kW)	I (A) 440 V	Ie max (A)	Type	Trip unit/t.u.	I _{rt} h (A)	I _{rm} (A) ⁽³⁾	Type
7.5	13.7	25	NSX100	Micrologic 2.2 or 6.2	12/25	13I _{rt} h	LC1-D80
10	19	25	NSX100	Micrologic 2.2 or 6.2	15/25	13I _{rt} h	LC1-D80
11	20	25	NSX100	Micrologic 2.2 or 6.2	15/25	13I _{rt} h	LC1-D80
15	26.5	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
18.5	33	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
22	39	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
30	51	80	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D80
37	64	80	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D80
45	76	80	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D80
55	90	100	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D115 or LC1-F115
75	125	150	NSX160	Micrologic 2.2 or 6.2	70/150	13I _{rt} h	LC1-D150 or LC1-F150
90	146	150	NSX160	Micrologic 2.2 or 6.2	70/150	13I _{rt} h	LC1-D150 or LC1-F150
110	178	185	NSX250	Micrologic 2.2 or 6.2	100/220	13I _{rt} h	LC1-F185
			NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F185
132	215	220	NSX250	Micrologic 2.3 or 6.3	131/220	13I _{rt} h	LC1-F225
			NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F225
160	256	265	NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F265
200	320	320	NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F330
220	353	400	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F400
250	400	400	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F400
300	460	500	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F500
		630	NS630bL	Micrologic 5.0	320/800	8000	LC1-F630
335	540	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
375	575	630	NS800L	Micrologic 5.0	320/800	8000	LC1-F630
400	611	720	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
450	720	720	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
500	800	800	NS1000L	Micrologic 5.0	400/1000	10000	LC1-F780

(1) Valid for 480 V NEMA.

(2) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(3) I_i for Micrologic 5.0 control unit.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Type 2 coordination (IEC 60947-4-1) 440 V

DB115219



Magnetic circuit breaker
(MA)

Contactor

Thermal relay

Circuit breakers, contactors and thermal relays

Performance ⁽¹⁾: U = 440 V

Circuit breakers	N	H	L
NS80H-MA	-	65 kA	-
Starting ⁽³⁾ : normal		LRD class 10 A	

Motors P (kW)	I (A) 440 V	I _e max (A)	Circuit breakers			Contactors ⁽²⁾ Type	Thermal relays	
			Type	Rating (A)	I _{rm} (A)		Type	I _{rth} (A) ⁽³⁾
0.25	0.7	1	NS80H-MA	1.5	13.5	LC1-D09	LRD-05	0.63/1
0.37	1	1.6	NS80H-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.55	1.4	1.6	NS80H-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.75	1.7	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.1	2.4	2.5	NS80H-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.5	3.1	4	NS80H-MA	6.3	57	LC1-D32	LRD-08	2.5/4
2.2	4.5	6	NS80H-MA	6.3	82	LC1-D32	LRD-10	4/6
3	5.8	6	NS80H-MA	6.3	82	LC1-D32	LRD-10	4/6
4	8	8	NS80H-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
5.5	10.5	12.5	NS80H-MA	12.5	163	LC1-D40	LRD-33 16	9/13
7.5	13.7	16	NS80H-MA	25	250	LC1-D40	LRD-33 21	12/18
10	19	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
11	20	25	NS80H-MA	25	325	LC1-D40	LRD-33 22	17/25
15	26.5	32	NS80H-MA	50	450	LC1-D40	LRD-33 53	23/32
18.5	33	40	NS80H-MA	50	550	LC1-D50	LRD-33 55	30/40
22	39	40	NS80H-MA	50	550	LC1-D50	LRD-33 55	30/40
30	52	63	NS80H-MA	80	880	LC1-D65	LRD-33 59	48/65
37	63	63	NS80H-MA	80	880	LC1-D65	LRD-33 59	48/65
45	76	80	NS80H-MA	80	1040	LC1-D80	LRD-33 63	63/80

⁽¹⁾ Valid for 480 V NEMA.

⁽²⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

⁽³⁾ For long starting (class 20), see the correspondence table for thermal relay.

DB11520

With short circuit
protection

Contactor

Thermal relay

Circuit breakers, contactors and thermal relays

Performance ⁽¹⁾: U = 440 V

Circuit breakers	F	N	H	S	L
NSX100/160/250-MA	35 kA	50 kA	65 kA	90 kA	130 kA
NSX400/630 Micrologic 1.3 M	30 kA	42 kA	65 kA	90 kA	130 kA
NS630b/800/1000L Micrologic 5.0	-	-	-	-	130 kA

Starting ⁽⁴⁾: normal LRD class 10 A, LR9 class 10.

Motors P (kW)	I (A) 440 V	I _e max (A)	Circuit breakers Type	Rating (A)	I _{rm} (A) ⁽³⁾	Contactors ⁽²⁾ Type	Thermal relays Type	I _{rt} h (A) ⁽⁴⁾
0.37	1	1.6	NSX100-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.55	1.4	1.6	NSX100-MA	2.5	22.5	LC1-D09	LRD-06	1/1.6
0.75	1.7	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.1	2.4	2.5	NSX100-MA	2.5	32.5	LC1-D09	LRD-07	1.6/2.5
1.5	3.1	4	NSX100-MA	6.3	57	LC1-D32	LRD-08	2.5/4
2.2	4.5	6	NSX100-MA	6.3	82	LC1-D32	LRD-10	4/6
3	5.8	6	NSX100-MA	6.3	82	LC1-D32	LRD-10	4/6
4	8	8	NSX100-MA	12.5	113	LC1-D40	LRD-33 12	5.5/8
5.5	10.5	12.5	NSX100-MA	12.5	163	LC1-D40	LRD-33 16	9/13
7.5	13.7	18	NSX100-MA	25	250	LC1-D40	LRD-33 21	12/18
10	19	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
11	20	25	NSX100-MA	25	325	LC1-D40	LRD-33 22	17/25
15	26.5	32	NSX100-MA	50	450	LC1-D80	LRD-33 53	23/32
18.5	33	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
22	39	40	NSX100-MA	50	550	LC1-D80	LRD-33 55	30/40
30	52	63	NSX100-MA	100	900	LC1-D80	LRD-33 59	48/65
37	63	63	NSX100-MA	100	900	LC1-D80	LRD-33 59	48/65
45	76	80	NSX100-MA	100	1100	LC1-D80	LRD-33 63	63/80
55	90	100	NSX100-MA	100	1300	LC1-D115 LC1-F115	LR9-D53 67 LR9-F53 67	60/100
75	125	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
90	140	150	NSX160-MA	150	1950	LC1-D150 LC1-F150	LR9-D53 69 LR9-F53 69	90/150
110	178	185	NSX250-MA	220	2420	LC1-F185	LR9-F53 71	132/220
132	210	220	NSX250-MA	220	2860	LC1-F225	LR9-F53 71	132/220
		265	NSX400 Micrologic 1.3M	320	3500	LC1-F265		
160	256	265	NSX400 Micrologic 1.3M	320	3500	LC1-F265	LR9-F73 75	200/330
200	310	320	NSX400 Micrologic 1.3M	320	4160	LC1-F330	LR9-F73 75	200/330
220	353	400	NSX630 Micrologic 1.3M	500	5500	LC1-F400	LR9-F73 79	300/500
250	400	500	NSX630 Micrologic 1.3M	500	6500	LC1-F500	LR9-F73 79	300/500
300	460	500	NSX630 Micrologic 1.3M	500	6500	LC1-F500	LR9-F73 79	300/500
		630	NS630bL Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
335	540	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
375	575	630	NS800L Micrologic 5.0 - LR off	800	8000	LC1-F630	LR9-F73 81	380/630
400	611	720	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
450	720	720	NS800L Micrologic 5.0 - LR off	800	9600	LC1-F780	TC800/5 + LRD-10	630/1000
500	800	800	NS1000L Micrologic 5.0 - LR off	1000	10000	LC1-F780	TC800/5 + LRD-10	630/1000

⁽¹⁾ Valid for 480 V NEMA.⁽²⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.⁽³⁾ I_i for Micrologic 5.0 control unit.⁽⁴⁾ For long starting (class 20), see the correspondence table for thermal relay.**Note:** where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB119496



Magnetic circuit
breaker (MA)



Contactor



Thermal relay on CT

Circuit breakers, contactors and thermal relays

Performance ⁽¹⁾: U = 440 V

Circuit breakers	N	H	L
NS80H-MA	-	65 kA	-

Starting ⁽³⁾: adjustable class 10 A to 30.

Motors P (kW)	I (A) 440 V	I _e max (A)	Circuit breakers			Contactors ⁽²⁾ Type	Thermal relays	
			Type	Rating (A)	I _{rm} (A)		Type	I _{rth} (A) ⁽³⁾
0.25	0.7	1	NS80H-MA	1.5	13.5	LC1-D40	LT6-P0M	0.2/1
0.37	1	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
0.55	1.4	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
0.75	1.7	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
1.1	2.4	2.5	NS80H-MA	2.5	32.5	LC1-D40	LT6-P0M	1/5
1.5	3.1	4	NS80H-MA	6.3	82	LC1-D40	LT6-P0M	1/5
2.2	4.5	5	NS80H-MA	6.3	82	LC1-D40	LT6-P0M	1/5
3	5.8	6.3	NS80H-MA	6.3	82	LC1-D40	LT6-P0M	5/25
4	8	12.5	NS80H-MA	12.5	163	LC1-D40	LT6-P0M	5/25
5.5	10.5	12.5	NS80H-MA	12.5	163	LC1-D40	LT6-P0M	5/25
7.5	13.7	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
10	19	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
11	20	25	NS80H-MA	25	325	LC1-D40	LT6-P0M	5/25
15	26.5	50	NS80H-MA	50	550	LC1-D80	LT6-P0M	on CT
18.5	33	50	NS80H-MA	50	550	LC1-D80	LT6-P0M	on CT
22	39	50	NS80H-MA	50	550	LC1-D80	LT6-P0M	on CT
30	52	80	NS80H-MA	80	1040	LC1-D80	LT6-P0M	on CT
37	63	80	NS80H-MA	80	1040	LC1-D80	LT6-P0M	on CT
45	76	80	NS80H-MA	80	1040	LC1-D80	LT6-P0M	on CT

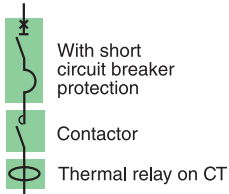
⁽¹⁾ Valid for 480 V NEMA.

⁽²⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

⁽³⁾ For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.

Type 2 coordination (IEC 60947-4-1) 440 V

DB11521



Circuit breakers, contactors and thermal relays

Performance ⁽²⁾: U = 440 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250-MA	20 kA	35 kA	50 kA	65 kA	90 kA	130 kA
NSX400/630-MA	-	30 kA	42 kA	65 kA	90 kA	130 kA
NS630b/800/1000L Micrologic 5.0	-	-	-	-	-	130 kA

Starting ⁽¹⁾: normal

LRD class 10 A, LR9 class 10.

Motors P (kW)	I (A) 440 V	I _e max (A)	Circuit breakers Type	Rating (A)	I _{rm} (A) ⁽⁴⁾	Contactors ⁽³⁾ Type	Thermal relays Type	I _{rt} h (A) ⁽¹⁾
0.37	1	2.5	NSX100-MA	2.5	32.5	LC1-D40	LTM R08	0.4/8
0.55	1.4	2.5	NSX100-MA	2.5	32.5	LC1-D40	LTM R08	0.4/8
0.75	1.7	2.5	NSX100-MA	2.5	32.5	LC1-D40	LTM R08	0.4/8
1.1	2.4	2.5	NSX100-MA	2.5	32.5	LC1-D40	LTM R08	0.4/8
1.5	3.1	6.3	NSX100-MA	6.3	82	LC1-D40	LTM R08	0.4/8
2.2	4.5	6.3	NSX100-MA	6.3	82	LC1-D40	LTM R08	0.4/8
3	5.8	6.3	NSX100-MA	6.3	82	LC1-D40	LTM R08	0.4/8
4	8	12.5	NSX100-MA	12.5	163	LC1-D80	LTM R27	1.35/27
5.5	10.5	12.5	NSX100-MA	12.5	163	LC1-D80	LTM R27	1.35/27
7.5	13.7	25	NSX100-MA	25	325	LC1-D80	LTM R27	1.35/27
10	19	25	NSX100-MA	25	325	LC1-D80	LTM R27	1.35/27
11	20	25	NSX100-MA	25	325	LC1-D80	LTM R27	1.35/27
15	26.5	50	NSX100-MA	50	550	LC1-D80	LTM R100	5/100
18.5	33	50	NSX100-MA	50	550	LC1-D80	LTM R100	5/100
22	39	50	NSX100-MA	50	550	LC1-D80	LTM R100	5/100
30	52	80	NSX100-MA	100	1100	LC1-D80	LTM R100	5/100
37	63	80	NSX100-MA	100	1100	LC1-D80	LTM R100	5/100
45	76	80	NSX100-MA	100	1100	LC1-D80	LTM R100	5/100
55	90	100	NSX100-MA	100	1300	LC1-D115	LTM R100	5/100
						LC1-F115		
75	125	150	NSX160-MA	150	1950	LC1-D150	LTM R08	on CT
						LC1-F150		on CT
90	140	150	NSX160-MA	150	1950	LC1-D150	LTM R08	on CT
						LC1-F150		on CT
110	178	185	NSX250-MA	220	2420	LC1-F185	LTM R08	on CT
132	210	220	NSX250-MA	220	2860	LC1-F225	LTM R08	on CT
		265	NSX400-MA	320	3500	LC1-F265		on CT
160	256	265	NSX400-MA	320	3500	LC1-F265	LTM R08	on CT
200	310	320	NSX400-MA	320	4000	LC1-F330	LTM R08	on CT
220	353	400	NSX630-MA	500	5500	LC1-F400	LTM R08	on CT
250	400	500	NSX630-MA	500	6500	LC1-F500	LTM R08	on CT
300	460	500	NSX630-MA	500	6500	LC1-F500	LTM R08	on CT
		630	NS630bL	800	8000	LC1-F630	LTM R08	on CT
			Micrologic 5.0 - LR off					
335	540	630	NS800L	800	8000	LC1-F630	LTM R08	on CT
			Micrologic 5.0 - LR off					
375	575	630	NS800L	800	8000	LC1-F630	LTM R08	on CT
			Micrologic 5.0 - LR off					
400	611	720	NS800L	800	9600	LC1-F780	LTM R08	on CT
			Micrologic 5.0 - LR off					
450	720	720	NS800L	800	9600	LC1-F780	LTM R08	on CT
			Micrologic 5.0 - LR off					
500	800	800	NS1000L	1000	10000	LC1-F780	LTM R08	on CT
			Micrologic 5.0 - LR off					

⁽¹⁾ For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.

⁽²⁾ Valid for 480 V NEMA.

⁽³⁾ Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB11522



With short circuit
and overload
protection



Contactor

Circuit breakers, contactors

Performance: U = 500/525 V

Circuit breakers	B	F	N	H	S	L
NSX100/160/250 Micrologic 2.2M/6.2M	15/12 kA	25/22 kA	36/35 kA	50/35 kA	65/40 kA	70/50 kA
NSX160/250 Micrologic 2.2M/6.2M	15/12 kA	30/22 kA	36/35 kA	50/35 kA	65/40 kA	70/50 kA
NSX400/630 Micrologic 2.3M/6.3M	-	25/22 kA	30/22 kA	50/35 kA	65/40 kA	70/50 kA
NS800L Micrologic 5.0	-	-	-	-	-	100 kA

Starting

Norme IEC 60947-4-1

Micrologic	2.2M/2.3M	6.2M/6.3M	5.0
Normal (class)	5, 10	5, 10	10
Long (class)	20	20, 30	20

Motors P (kW)	I (A) 500 V	I (A) 525 V	I _e max (A)	Circuit breakers				Contactors ⁽¹⁾ Type
				Type	Décl./t.u.	I _{rt} h (A)	I _{rm} (A)	
10	15	15	25	NSX100	Micrologic 2.2 or 6.2	12/25	13I _{rt} h	LC1-D80
11	18.4	18.4	25	NSX100	Micrologic 2.2 or 6.2	12/25	13I _{rt} h	LC1-D80
15	23	23	25	NSX100	Micrologic 2.2 or 6.2	12/25	13I _{rt} h	LC1-D80
18.5	28.5	28.5	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
22	33	33	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
30	45	45	50	NSX100	Micrologic 2.2 or 6.2	25/50	13I _{rt} h	LC1-D80
37	55	55	80	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D80
45	65	65	80	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D80
55	75	75	100	NSX100	Micrologic 2.2 or 6.2	50/100	13I _{rt} h	LC1-D115 or LC1-F115
75	105	105	115	NSX160	Micrologic 2.2 or 6.2	70/150	13I _{rt} h	LC1-D115 or LC1-F115
90	130	130	150	NSX160	Micrologic 2.2 or 6.2	70/150	13I _{rt} h	LC1-D150 or LC1-F150
110	155	155	185	NSX250	Micrologic 2.2 or 6.2	100/220	13I _{rt} h	LC1-F185
				NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F185
132	185	185	220	NSX250	Micrologic 2.2 or 6.2	100/220	13I _{rt} h	LC1-F265
				NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F265
160	220	220	265	NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F265
200	280	280	320	NSX400	Micrologic 2.3 or 6.3	160/320	13I _{rt} h	LC1-F400
220	310	310	500	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F500
250	360	360	500	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F500
315	445	445	500	NSX630	Micrologic 2.3 or 6.3	250/500	13I _{rt} h	LC1-F500
			630	NS800L	Micrologic 5.0	320/800	7200	LC1-F630
335	460	460	630	NS800L	Micrologic 5.0	320/800	8800	LC1-F630
355	500	500	630	NS800L	Micrologic 5.0	320/800	8800	LC1-F630
375	530	530	630	NS800L	Micrologic 5.0	320/800	8800	LC1-F630
400	570	570	710	NS800L	Micrologic 5.0	320/800	9600	LC1-F780
450	630	630	710	NS800L	Micrologic 5.0	320/800	9600	LC1-F780

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB115218



Electronic
circuit-breaker

Contactor

Circuit breakers, contactors

Performance: U = 690 V

Circuit breakers	L
NS100L-STR22ME	75 kA
NS400L-STR43ME	75 kA
NS630LB/NS800LB - Micrologic 5.0	75 kA

	Norme IEC 947-4-1	
	STR22ME	STR43ME
Normal (class)	10	10
Long (class)	-	20

Motors P (kW)	I (A) 690 V	Ie max (A)	Circuit breakers				Contactors ⁽¹⁾ Type
			Type	Trip unit/t.u.	I _{rth} (A)	I _{rm} (A) ⁽²⁾	
10	11.5	20	NS100L	STR22ME	12/20	13I _{rth}	LC1-D80
15	17	20	NS100L	STR22ME	12/20	13I _{rth}	LC1-D80
18.5	20.2	25	NS100L	STR22ME	12/20	13I _{rth}	LC1-D80
22	24.2	40	NS100L	STR22ME	24/40	13I _{rth}	LC1-D80
30	33	50	NS100L	STR22ME	30/50	13I _{rth}	LC1-D80
37	40	50	NS100L	STR22ME	30/50	13I _{rth}	LC1-D80
45	47	50	NS100L	STR22ME	30/50	13I _{rth}	LC1-D80
55	58	63	NS100L	STR22ME	48/80	13I _{rth}	LC1F-115
75	76	80	NS100L	STR22ME	60/100	13I _{rth}	LC1F-115
		165	NS400L	STR43ME	60/120	13I _{rth}	LC1F-265
90	94	165	NS400L	STR43ME	60/120	13I _{rth}	LC1F-265
110	113	165	NS400L	STR43ME	100/200	13I _{rth}	LC1F-265
132	135	165	NS400L	STR43ME	100/200	13I _{rth}	LC1F-265
160	165	165	NS400L	STR43ME	100/200	13I _{rth}	LC1F-265
200	203	230	NS400L	STR43ME	160/320	13I _{rth}	LC1F-330
220	224	230	NS400L	STR43ME	160/320	13I _{rth}	LC1F-330
250	253	255	NS400L	STR43ME	160/320	13I _{rth}	LC1F-400
315	315	500	NS630LB	Micrologic 5.0	630	6900	LC1-F630
355	355	500	NS630LB	Micrologic 5.0	630	6900	LC1-F630
400	400	500	NS630LB	Micrologic 5.0	630	6900	LC1-F630
500	500	500	NS630LB	Micrologic 5.0	630	6900	LC1-F630
560	560	630	NS800LB	Micrologic 5.0	800	8800	LC1-F630
630	630	630	NS800LB	Micrologic 5.0	800	8800	LC1-F630

(1) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(2) Ii for Micrologic 5.0 control unit.

Type 2 coordination (IEC 60947-4-1) 690 V

DB115219



Magnetic circuit breaker
(MA)

Contactor

Thermal relay

Circuit breakers, contactors

Performance: U = 690 V

Circuit breakers

L

NS100L-MA	75 kA
NS400L-MA	75 kA
NS630LB/NS800LB - Micrologic 5.0	75 kA
Starting ⁽¹⁾ : normal	LRD class 10 A
other	class 10

Motors			Circuit breakers			Contactors ⁽²⁾		Thermal relays	
P (kW)	I (A) 690 V	I _e max (A)	Type	Rating (A)	I _{rm} (A) ⁽³⁾	Type	Type	I _{rt} h (A)	
0.75	1.2	1.6	NS100L MA	2,5	22,5	LC1-D09	LRD-06	1/1,6	
1	1.5	2	NS100L MA	2,5	27,5	LC1-D09	LRD-06	1,25/2	
1.5	2	2.5	NS100L MA	2,5	32,5	LC1-D09	LRD-07	1,6/2,5	
2.2	2.8	4	NS100L MA	6,3	57	LC1-D40	LRD-33 08	2,5/4	
3	3.8	4	NS100L MA	6,3	57	LC1-D40	LRD-33 08	2,5/4	
4	4.9	6	NS100L MA	6,3	82	LC1-D40	LRD-33 10	4/6	
5.5	6.6	8	NS100L MA	12,5	113	LC1-D80	LRD-33 12	5,5/8	
7.5	8.9	10	NS100L MA	12,5	138	LC1-D80	LRD-33 14	7/10	
10	11.5	13	NS100L MA	25	175	LC1-D80	LRD-33 16	9/13	
15	17	18	NS100L MA	25	250	LC1-D80	LRD-33 21	12/18	
18.5	20.2	25	NS100L MA	25	325	LC1-D80	LRD-33 22	17/25	
22	24.2	25	NS100L MA	25	325	LC1-D80	LRD-33 22	17/25	
25	27.5	32	NS100L MA	50	350	LC1-D80	LRD-33 53	23/32	
30	33	40	NS100L MA	50	650	LC1-D80	LRD-33 55	30/40	
37	40	50	NS100L MA	50	650	LC1-D80	LRD-33 57	37/50	
45	47	50	NS100L MA	50	650	LC1-D80	LRD-33 57	37/50	
55	58	80	NS100L MA	100	1100	LC1F-115	LR9-F53 63	48/80	
75	76	80	NS100L MA	100	1100	LC1F-115	LR9-F53 63	48/80	
90	94	100	NS400L MA	320	2880	LC1F-265	LR9-F53 67	60/100	
110	113	150	NS400L MA	320	2880	LC1F-265	LR9-F53 69	90/150	
132	135	150	NS400L MA	320	2880	LC1F-265	LR9-F53 69	90/150	
160	165	165	NS400L MA	320	2880	LC1F-265	LR9-F53 71	132/220	
200	203	230	NS400L MA	320	2880	LC1F-330	LR9-F73 75	200/330	
220	224	230	NS400L MA	320	2880	LC1F-330	LR9-F73 75	200/330	
250	253	255	NS400L MA	320	3520	LC1F-400	LR9-F73 75	200/330	
315	315	500	NS630LB	Micrologic 5.0 - LR off	6900	LC1-F630	LR9-F73 79	300/500	
355	355	500	NS630LB	Micrologic 5.0 - LR off	6900	LC1-F630	LR9-F73 79	300/500	
400	400	500	NS630LB	Micrologic 5.0 - LR off	6900	LC1-F630	LR9-F73 79	300/500	
500	500	500	NS630LB	Micrologic 5.0 - LR off	6900	LC1-F630	LR9-F73 81	380/630	
560	560	630	NS800LB	Micrologic 5.0 - LR off	8800	LC1-F630	LR9-F73 81	380/630	
630	630	630	NS800LB	Micrologic 5.0 - LR off	8800	LC1-F630	LR9-F73 81	380/630	

(1) For long starting (class 20), see the correspondence table for thermal relay.

(2) Reversers: replace LC1 by LC2; star-delta starter: replace LC1 by LC3.

(3) li for Micrologic 5.0 control unit.

DB115219



Magnetic circuit breaker
(MA)

Contactor

Thermal relay

NS80H-MA circuit breakers, contactors and thermal relays

Direct-on-line starting

Reverser

"I_q" breaking performance: equal to the breaking capacity of the circuit breaker alone.

Starting ⁽¹⁾: normal

LR2 class 10 A, LR9 class 10.

Motors												Circuit breakers		Contactors ⁽³⁾	Thermal relays	
220/230 V		380 V		415 V		440 V ⁽²⁾		500/525 V		660/690 V		Type	Rating (A)	Type	Type	I _{rt} ⁽¹⁾ (A)
0.37	1.8	0.37	1.2	0.37	1.1	0.37	1	0.55	1.2	0.75	1.2	NS80H-MA	2.5	LC1-D09	LRD-06	1/1.6
		0.55	1.6	0.55	1.5	0.55	1.4	0.75	1.5	1	1.5	NS80H-MA	2.5	LC1-D09	LRD-06	1/1.6
0.55	2.8	0.75	3	0.75	1.8	0.75	1.7	1.1	2.4	1.5	2	NS80H-MA	2.5	LC1-D09	LRD-07	1.6/2.5
		1.1	2.8	1.1	2.5	1.1	2.4	1.1	2	1.5	2	NS80H-MA	2.5	LC1-D09	LRD-07	1.6/2.5
1.1	4.4	1.5	3.7	1.5	3.5	1.5	3.1	1.5	2.6	2.2	2.8	NS80H-MA	6.3	LC1-D09	LRD-08	2.5/4
		2.2	5	2.2	4.8	2.2	4.5	3	5	3	3.8	NS80H-MA	6.3	LC1-D09	LRD-08	2.5/4
1.5	6.1	3	6.6	3	6.5	3	5.8	4	6.5	4	4.9	NS80H-MA	6.3	LC1-D09	LRD-10	4/6
		4	8.5	4	8.2	4	7.9	5.5	9	5.5	6.6	NS80H-MA	12.5	LC1-D09	LRD-12	5.5/8
2.2	8.7	5.5	11.5	5.5	11	5.5	10.4	7.5	12	7.5	8.9	NS80H-MA	12.5	LC1-D12	LRD-14	7/10
		7.5	15.5	7.5	14	7.5	13.7	9	14	9	14	NS80H-MA	12.5	LC1-D12	LRD-16	9/13
3	11.5	9	17	9	17	9	16.9	10	15	10	11.5	NS80H-MA	25	LC1-D18	LRD-21	12/18
		11	22	11	21	11	20.1	11	18.4	10	11.5	NS80H-MA	25	LC1-D18	LRD-21	12/18
4	14.5	15	22	15	21	15	20.1	11	18.4	15	17	NS80H-MA	25	LC1-D25	LRD-22	16/24
		18.5	28	18.5	26.5	18.5	26.5	18.5	28.5	18.5	21.3	NS80H-MA	25	LC1-D25	LRD-21	12/18
5.5	20	22	30	22	28	22	26.5	18.5	28.5	18.5	21.3	NS80H-MA	50	LC1-D32	LRD-22	16/24
		30	37	30	35	30	31.5	22	33	30	34.6	NS80H-MA	50	LC1-D32	LRD-32	23/32
7.5	28	44	59	44	55	44	55	30	45	30	45	NS80H-MA	50	LC1-D40	LRD-33 55	30/40
		55	72	55	66	55	66	37	55	37	55	NS80H-MA	50	LC1-D40	LRD-33 57	37/50
11	39	66	85	66	85	66	85	45	60	45	60	NS80H-MA	50	LC1-D50	LRD-33 57	37/50
		85	115	85	115	85	115	55	76	55	76	NS80H-MA	50	LC1-D50	LRD-33 59	48/65
15	52	110	150	110	150	110	150	60	80	60	80	NS80H-MA	50	LC1-D65	LRD-33 57	37/50
		150	200	150	200	150	200	75	100	75	100	NS80H-MA	80	LC1-D65	LRD-33 59	48/65
18.5	64	160	220	160	220	160	220	80	100	80	100	NS80H-MA	80	LC1-D65	LRD-33 61	55/70
		200	275	200	275	200	275	100	130	100	130	NS80H-MA	80	LC1-D80	LRD-33 57	37/50
22	75	220	300	220	300	220	300	110	150	110	150	NS80H-MA	80	LC1-D80	LRD-33 63	63/80
		275	375	275	375	275	375	130	175	130	175	NS80H-MA	80	LC1-D115	LR9-D53 67	60/100
30	100	300	400	300	400	300	400	150	200	150	200	NS80H-MA	80	LC1-F115	LR9-F53 63	48/80
		400	550	400	550	400	550	200	275	200	275	NS80H-MA	80	LC1-F115	LR9-F53 63	48/80

(1) For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.

(2) Valid for 480 V NEMA.

(3) Reversers: replace LC1 by LC2.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB1152/9

Magnetic circuit breaker
(MA)

Contactor

Thermal relay

NSX100 circuit breakers, contactors and thermal relays

Direct-on-line starting

Reverser

"Iq" breaking performance: equal to the breaking capacity of the circuit breaker alone.

Starting⁽¹⁾: normal

LRD class 10, others class 10.

Motors												Circuit breakers		Contact. ⁽³⁾	Thermal relays	
220/230 V		380 V		415 V		440 V ⁽²⁾		500/525 V		660/690 V		Type	Rating (A)	Type	Type	I _{rt} ⁽¹⁾ (A)
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)					
		0.37	1.2	0.37	1.1	0.37	1	0.55	1.2	0.75	1.2	NSX100B/F/N/H/S/L-MA	2.5	LC1-D09	LRD-06	1/1.6
		0.55	1.6	0.55	1.5	0.55	1.4	0.75	1.5	1	1.5	NSX100B/F/N/H/S/L-MA	2.5	LC1-D09	LRD-06	1/1.6
0.37	1.8	0.75	2	0.75	1.8	0.75	1.7					NSX100B/F/N/H/S/L-MA	2.5	LC1-D09	LRD-07	1.6/2.5
						1.1	2.4	1.1	2	1.5	2	NSX100B/F/N/H/S/L-MA	2.5	LC1-D09	LRD-07	1.6/2.5
0.55	2.8	1.1	2.8	1.1	2.5			1.5	2.6	2.2	2.8	NSX100B/F/N/H/S/L-MA	6.3	LC1-D09	LRD-08	2.5/4
		1.5	3.7	1.5	3.5	1.5	3.1			3	3.8	NSX100B/F/N/H/S/L-MA	6.3	LC1-D09	LRD-08	2.5/4
1.1	4.4	2.2	5	2.2	4.8	2.2	4.5	3	5	4	4.9	NSX100B/F/N/H/S/L-MA	6.3	LC1-D09	LRD-10	4/6
1.5	6.1	3	6.6	3	6.5	3	5.8	4	6.5	5.5	6.6	NSX100B/F/N/H/S/L-MA	12.5	LC1-D09	LRD-33 12	5.5/8
2.2	8.7	4	8.5	4	8.2	4	7.9	5.5	9			NSX100B/F/N/H/S/L-MA	12.5	LC1-D09	LRD-33 14	7/10
										7.5	8.9	NSX100B/F/N/H/S/L-MA	12.5	LC1-D12	LRD-33 14	7/10
3	11.5	5.5	11.5	5.5	11	5.5	10.4	7.5	12			NSX100B/F/N/H/S/L-MA	12.5	LC1-D12	LRD-33 16	9/13
4	14.5	7.5	15.5	7.5	14	7.5	13.7	9	14			NSX100B/F/N/H/S/L-MA	25	LC1-D18	LRD-33 21	12/18
				9	17	9	16.9	10	15			NSX100B/F/N/H/S/L-MA	25	LC1-D18	LRD-33 21	12/18
										10	11.5	NSX100B/F/N/H/S/L-MA	25	LC1-D18	LRD-33 16	9/13
5.5	20	11	22	11	21	11	20.1	11	18.4			NSX100B/F/N/H/S/L-MA	25	LC1-D25	LRD-33 22	16/24
										15	17	NSX100B/F/N/H/S/L-MA	25	LC1-D25	LRD-33 21	12/18
										18.5	21.3	NSX100B/F/N/H/S/L-MA	50	LC1-D32	LRD-33 22	16/24
7.5	28	15	30	15	28	15	26.5	18.5	28.5			NSX100B/F/N/H/S/L-MA	50	LC1-D32	LRD-33 32	23/32
								22	33	30	34.6	NSX100B/F/N/H/S/L-MA	50	LC1-D40	LRD-33 55	30/40
11	39	18.5	37	22	40	22	39					NSX100B/F/N/H/S/L-MA	50	LC1-D40	LRD-33 57	37/50
		22	44	25	47			30	45	33	39	NSX100B/F/N/H/S/L-MA	50	LC1-D50	LRD-33 57	37/50
										37	42	NSX100B/F/N/H/S/L-MA	50	LC1-D65	LRD-33 57	37/50
15	52	30	59	30	55	30	51.5					NSX100B/F/N/H/S/L-MA	100	LC1-D65	LRD-33 59	48/65
18.5	64					37	64	37	55			NSX100B/F/N/H/S/L-MA				
										45	49	NSX100B/F/N/H/S/L-MA	100	LC1-D80	LRD-33 57	37/50
22	75	37	72	37	72	45	76	55	80			NSX100B/F/N/H/S/L-MA	100	LC1-D80	LRD-33 63	63/80
				45	80							NSX100B/F/N/H/S/L-MA				
25	85	45	85									NSX100B/F/N/H/S/L-MA	100	LC1-D95	LRD-33 65	80/104
										55	60	NSX100B/F/N/H/S/L-MA	100	LC1-D115	LR9-D53 63	48/80
30	100			55	100	55	96			75	80	NSX100B/F/N/H/S/L-MA	100	LC1-D115	LR9-D53 67	60/100

⁽¹⁾ For installation with a class 30 relay, a derating of 20 % must be apply on circuit breakers.⁽²⁾ Valid for 480 V NEMA.⁽³⁾ Reversers: replace LC1 by LC2.**Note:** where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

DB115220



With short circuit
protection

Contactor

Thermal relay

NSX160 to NS1250 circuit breakers, contactors and thermal relays

Direct-on-line starting

Reverser

"Iq" breaking performance: equal to the breaking capacity of the circuit breaker alone.

Starting⁽¹⁾: normal class 10.

Motors												Circuit breaker		Contactors (2)	Thermal relays (1)	
220/230 V		380 V		415 V		440 V (2)		500/525 V		660/690 V						
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	Type	Rating (A)	Type	Type	I _{rth} (A)
37	125	55	105	75	135	75	124	75	110	90	100	NSX160B/F/N/H/S/L MA	150	LC1-D150	LR9-D53 69	90/150
45	150	75	140					90	130	110	120			LC1-F150	LR9-F53 69	100/160
55	180	90	170	90	160	90	156	110	156			NSX250B/F/N/H/S/L MA	220	LC1-F185	LR9-F53 71	132/220
		110	210	110	200	132	215					NSX250B/F/N/H/S/L MA	220	LC1-F225	LR9-F53 71	132/220
								132	190	132	140	NSX250B/F/N/H/S/L MA	220	LC1-F265	LR9-F53 71	132/220
75	250	132	250	132	230	160	256	160	228			NSX400F/N/H/S/L Micrologic 1.3M	320	LC1-F265	LR9-F73 75	200/330
90	312	160	300	160	270			200	281	200	220	NSX400F/N/H/S/L Micrologic 1.3M	320	LC1-F330	LR9-F73 75	200/330
110	360	200	380	220	380	220	360	220	310			NSX630F/N/H/S/L Micrologic 1.3M	500	LC1-F400	LR9-F73 79	300/500
										250	270	NSX630F/N/H/S/L Micrologic 1.3M	500	LC1-F400	LR9-F73 75	200/330
		220	420			250	401			335	335	NSX630F/N/H/S/L Micrologic 1.3M	500	LC1-F500	LR9-F73 79	300/500
150	480	250	480	250	430			315	445			NSX630F/N/H/S/L Micrologic 1.3M	500	LC1-F500	LR9-F73 79	300/500
						300	480			375	400	NSX630F/N/H/S/L Micrologic 1.3M	500	LC1-F630	LR9-F73 81	380/630
										450	480					
160	520	300	570	300	510	335	540	355	500			NS800N/H-NS1000L Micrologic 5.0 - LR off	800 1000	LC1-F630	LR9-F73 81	380/630
								375	530							
200	630	335	630	335	580	375	590	450	630			NS800N/H-NS1000L Micrologic 5.0 - LR off	800 1000	LC1-F630	LR9-F73 81	380/630
220	700	375	700	375	650	400	650					NS800N/H-NS1000L Micrologic 5.0 - LR off	800 1000	LC1-F800	LR2-F83 83	500/800
		400	750	400	690	450	720					NS800N/H-NS1000L Micrologic 5.0 - LR off	800 1000	LC1-F800 LC1-BL33	LR2-F83 83	500/800
										500	530	NS800N/H-NS1000L Micrologic 5.0 - LR off	800 1000	LC1-BL33	LR2-F83 83	500/800
										560	580					
250	800	450	800	450	750			500	700			NS1000N/H Micrologic 5.0 - LR off	1000	LC1-BM33	LR2-F83 83	500/800
		500	900	500	830	500	800	560	830			NS1000N/H Micrologic 5.0 - LR off	1000	LC1-BM33	LR2-F83 85	630/1000
						560	900									
300	970	560	1000	560	920	600	960	670	920			NS1250N/H Micrologic 5.0 - LR off	1250	LC1-BP33	LR2-F83 85	630/1000
		600	1100	600	1000	670	1080	750	1020							

(1) For long starting (class 20), see the correspondence table for thermal relay.

(2) Reversers: replace LC1 by LC2.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Type 1 coordination
(IEC 60947-4-1)

DB11522

With short circuit
and overload
protection

Contactor

NS160 to NS1250 circuit breakers, contactors

Direct-on-line starting

Reverser

"Iq" breaking performance: equal to the breaking capacity of the circuit breaker alone.

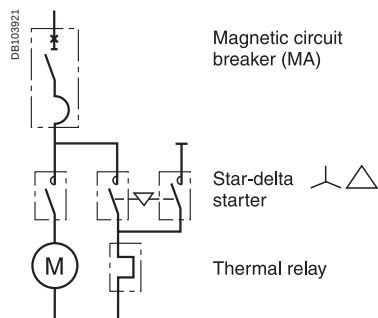
Starting	Norme IEC 60947-4-1		
Micrologic	2.2M/2.3M	6.2M/6.3M	5.0
Normal (class)	5, 10	5, 10	10
Long (class)	20	20, 30	20

Motors												Circuit breakers			Contactors ⁽²⁾
220/230 V		380 V		415 V		440 V ⁽¹⁾		500/525 V		660/690 V		Type	Trip unit	I _{rbh} (A)	Type
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)				
7,5	28	15	30	15	28	15	26,5	19	28,5			NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	25/50	LC1-D32
11	39	19	37	22	40	22	39	22	33	30	34,6	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	25/50	LC1-D40
		22	44	25	47			30	45	33	39	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	25/50	LC1-D50
15	52	30	59	30	55	30	51,5			37	42	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	48/80	LC1-D65
19	64					37	64	37	55			NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	50/100	LC1-D65
22	75	37	72	37	72	45	76	55	80	45	49	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	48/80	LC1-D80
25	85	45	85									NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	50/100	LC1-D95
										55	60	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	50/100	LC1-D115 or LC1-F115
30	100			55	100	55	96			75	80	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2	50/100	LC1-D115 or LC1-F115
37	125	55	105	75	135	75	124	75	110	90	100	NSX160B/F/N/H/S/L	Micrologic 2.2 or 6.2	70/150	LC1-D150 or LC1-F150
45	150	75	140					90	130	110	120				
55	180	90	170	90	160	90	156	110	156			NSX250B/F/N/H/S/L	Micrologic 2.2 or 6.2	100/220	LC1-F185
		110	210	110	200	132	215					NSX250B/F/N/H/S/L	Micrologic 2.2 or 6.2	100/220	LC1-F225
								132	190	132	140	NSX250B/F/N/H/S/L	Micrologic 2.2 or 6.2	100/220	LC1-F265
								160	175						
75	250	132	250	132	230	160	256	160	228			NSX400F/N/H/S/L	Micrologic 2.3 or 6.3	160/320	LC1-F265
90	312	160	300	160	270			200	281	200	220	NSX400F/N/H/S/L	Micrologic 2.3 or 6.3	160/320	LC1-F330
		220	420			250	401	315	445	335	335				
110	360	200	380	220	380	220	360	220	310	250	270	NSX630F/N/H/S/L	Micrologic 2.3 or 6.3	250/500	LC1-F400
		220	420			250	401	315	445	335	335	NSX630F/N/H/S/L	Micrologic 2.3 or 6.3	250/500	LC1-F500
150	480	250	480	250	430			335	460			NSX630F/N/H/S/L	Micrologic 2.3 or 6.3	250/500	LC1-F500
						300	480	355	500	375	400	NSX630F/N/H/S/L	Micrologic 2.3 or 6.3	250/500	LC1-F630
								375	530	450	480				
160	520	300	570	300	510	335	540	400	570			NS800N/H	Micrologic 5.0	320/800	LC1-F630
												NS1000L		400/1000	
200	630	335	630	335	580	375	590	450	630			NS800N/H	Micrologic 5.0	320/800	LC1-F630
												NS1000L		400/1000	
220	700	375	700	375	650	400	650					NS800N/H	Micrologic 5.0	320/800	LC1-F800
												NS1000L		400/1000	
		400	750	400	690	450	720					NS800N/H	Micrologic 5.0	320/800	LC1-F800
												NS1000L		400/1000	LC1-BL33
										500	530	NS800N/H	Micrologic 5.0	320/800	LC1-BL33
										560	580	NS1000L		400/1000	
250	800	450	800	450	750			500	700			NS1000N/H	Micrologic 5.0	400/1000	LC1-BM33
								560	760						
		500	900	500	830	500	800	600	830			NS1000N/H	Micrologic 5.0	400/1000	LC1-BM33
						560	900								
300	970	560	1000	560	920	600	960	670	920			NS1250N/H	Micrologic 5.0	630/1250	LC1-BP33
		600	1100	600	1000	670	1080	750	1020			NS1250N/H	Micrologic 5.0	630/1250	LC1-BP33

(1) Valid for 480 V NEMA.

(2) Reversers: replace LC1 by LC2.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.



NS80H-MA and NSX100 circuit breakers, contactors and thermal relays

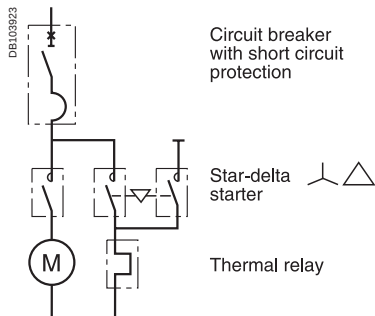
Star-delta starting

"I_q" breaking performance: equal to the breaking capacity of the circuit breaker.

Starting: normal.

Motors								Circuit breakers		Contactors	Thermal relays	
220/230 V		380 V		415 V		440 V ⁽¹⁾		Type	Rating (A)	Type	Type	I _{rt} h (A)
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)					
0.55	2.8	1.5	3.7	1.5	3.5	1.5	3.1	NS80H-MA	6.3	LC3-D09	LRD-07	1.6/2.5
1.1	4.4	2.2	5	2.2	4.8	2.2	4.5	NS80H-MA	6.3	LC3-D09	LRD-08	2.5/4
1.5	6.1	3	6.6	3	6.5	3	5.8	NS80H-MA	12.5	LC3-D09	LRD-08	2.5/4
2.2	8.7	4	8.5	4	8.2	4	7.9	NS80H-MA	12.5	LC3-D09	LRD-10	4/6
3	11.5	5.5	11.5	5.5	11	5.5	10.4	NS80H-MA	12.5	LC3-D09	LRD-12	5.5/8
4	14.5	7.5	15.5	7.5	14	7.5	13.7	NS80H-MA	25	LC3-D09	LRD-14	7/10
5.5	20			9	17	9	16.9	NS80H-MA	25	LC3-D12	LRD-16	9/13
		11	22	11	21	11	20.1	NS80H-MA	25	LC3-D12	LRD-16	9/13
7.5	28	15	30	15	28	15	26.5	NS80H-MA	50	LC3-D18	LRD-21	12/18
11	39	18.5	37	22	40	22	39	NS80H-MA	50	LC3-D18	LRD-22	17/25
		22	44	25	47			NS80H-MA	50	LC3-D32	LRD-32	23/32
15	52					30	51.5	NS80H-MA	80	LC3-D32	LRD-32	23/32
				30	55			NS80H-MA	80	LC3-D32	LRD-32	23/32
18.5	64	30	59	37	66	37	64	NS80H-MA	80	LC3-D40	LR2-D33 55	30/40
		37	72					NS80H-MA	80	LC3-D40	LR2-D33 57	37/50
22	75			45	80	45	76	NS80H-MA	80	LC3-D50	LR2-D33 57	37/50
0.55	2.8	1.5	3.7	1.5	3.5	1.5	3.1	NSX100B/F/N/H/S/L-MA	6.3	LC3-D09	LRD-07	1.6/2.5
1.1	4.4	2.2	5	2.2	4.8	2.2	4.5	NSX100B/F/N/H/S/L-MA	6.3	LC3-D09	LRD-08	2.5/4
1.5	6.1	3	6.6	3	6.5	3	5.8	NSX100B/F/N/H/S/L-MA	12.5	LC3-D09	LRD-08	2.5/4
2.2	8.7	4	8.5	4	8.2	4	7.9	NSX100B/F/N/H/S/L-MA	12.5	LC3-D09	LRD-10	4/6
3	11.5	5.5	11.5	5.5	11	5.5	10.4	NSX100B/F/N/H/S/L-MA	12.5	LC3-D09	LRD-12	5.5/8
4	14.5	7.5	15.5	7.5	14	7.5	13.7	NSX100B/F/N/H/S/L-MA	25	LC3-D09	LRD-14	7/10
5.5	20			9	17	9	16.9	NSX100B/F/N/H/S/L-MA	25	LC3-D12	LRD-16	9/13
		11	22	11	21	11	20.1	NSX100B/F/N/H/S/L-MA	25	LC3-D12	LRD-16	9/13
7.5	28	15	30	15	28	15	26.5	NSX100B/F/N/H/S/L-MA	50	LC3-D18	LRD-21	12/18
11	39	18.5	37	22	40	22	39	NSX100B/F/N/H/S/L-MA	50	LC3-D18	LRD-22	17/25
		22	44	25	47			NSX100B/F/N/H/S/L-MA	100	LC3-D32	LRD-32	23/32
15	52					30	51.5	NSX100B/F/N/H/S/L-MA	100	LC3-D32	LRD-32	23/32
				30	55			NSX100B/F/N/H/S/L-MA	100	LC3-D32	LRD-32	23/32
18.5	64	30	59	37	66	37	64	NSX100B/F/N/H/S/L-MA	100	LC3-D40	LR2-D33 55	30/40
		37	72					NSX100B/F/N/H/S/L-MA	100	LC3-D40	LR2-D33 57	37/50
22	75			45	80	45	76	NSX100B/F/N/H/S/L-MA	100	LC3-D50	LR2-D33 57	37/50
25	85	45	85					NSX100B/F/N/H/S/L-MA	100	LC3-D50	LR2-D33 57	37/50
30	100			55	100	55	96	NSX100B/F/N/H/S/L-MA	100	LC3-D50	LR2-D33 59	48/65

(1) Valid for 480 V NEMA.



NSX160 to NS1000 circuit breakers, contactors and thermal relays

Star-delta starting

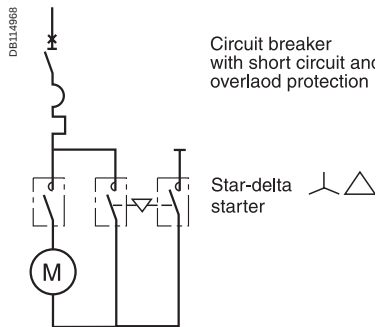
"Iq" breaking performance: equal to the breaking capacity of the circuit breaker alone.

Starting: normal.

Motors								Circuit breakers		Contactors	Thermal relays	
220/230 V												
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	Type	Rating (A)	Type	Type	Irth (A)
		55	105					NSX160B/F/N/H/S/L-MA	150	LC3-D80	LR2-D33 59	48/65
37	125	75	140	75	135	75	124	NSX160B/F/N/H/S/L-MA	150	LC3-D80	LR2-D33 63	63/80
45	150	75	140					NSX160B/F/N/H/S/L-MA	150	LC3-D115	LR9-D53 67	60/100
								LC3-F115		LR9-F53 67		
		90	170	90	160	90	156	NSX250B/F/N/H/S/L-MA	220	LC3-D115	LR9-D53 67	60/100
								LC3-F115		LR9-F53 67		
55	180					110	180	NSX250B/F/N/H/S/L-MA	220	LC3-D115	LR9-D53 69	90/150
								LC3-F115		LR9-F53 67		
		110	210	110	200			NSX250B/F/N/H/S/L-MA	220	LC3-D115	LR9-D53 69	90/150
								LC3-F115		LR9-F53 69		
						132	215	NSX250B/F/N/H/S/L-MA	220	LC3-D150	LR9-D53 69	90/150
								LC3-F150		LR9-F53 69		
75	250	132	250	132	230			NSX400F/N/H/S/L Micrologic 1.3M	320	LC3-D150	LR9-D53 69	90/150
								LC3-F150		LR9-F53 69		
90	312	160	300	160	270	160	256	NSX400F/N/H/S/L Micrologic 1.3M	320	LC3-F185	LR9-F53 71	132/220
110	360	200	380	220	380	220	360	NSX630F/N/H/S/L Micrologic 1.3M	500	LC3-F265	LR9-F73 75	200/330
		220	420			250	401	NSX630F/N/H/S/L Micrologic 1.3M	500	LC3-F265	LR9-F73 75	200/330
150	480	250	480	250	430			NSX630F/N/H/S/L Micrologic 1.3M	500	LC3-F330	LR9-F73 75	200/330
						300	480	NSX630F/N/H/S/L Micrologic 1.3M	500	LC3-F330	LR9-F73 75	200/330
160	520	300	570	300	510	335	540	NS800N/H-NS1000L	800	LC3-F400	LR9-F73 75	200/330
								Micrologic 5.0 - LR off	1000			
				335	580	375	590	NS800N/H-NS1000L	800	LC3-F400	LR9-F73 79	300/500
								Micrologic 5.0 - LR off	1000			

(1) Valid for 480 V NEMA.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.



NSX100 to NS1000 circuit breakers contactors

Star-delta starting

"Iq" breaking performance: equal to the breaking capacity of the circuit breaker alone.

Starting: normal.

Motors								Circuit breakers			Contactors
220/230 V		380 V		415 V		440 V ⁽¹⁾		Type	Trip unit	I _{rbh} (A)	Type
P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)	P (kW)	I (A)				
7.5	28	15	30	15	28	15	26.5	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	25/50	LC3-D18
11	39	18.5	37	22	40	22	39	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	25/50	LC3-D18
		22	44	25	47			NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	25/50	LC3-D32
15	52					30	51.5	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D32
				30	55			NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D32
18.5	64	30	59	37	66	37	64	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D40
		37	72					NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D40
22	75			45	80	45	76	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D50
25	85	45	85					NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D50
30	100			55	100	55	96	NSX100B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	50/100	LC3-D50
		55	105					NSX160B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	70/150	LC3-D80
37	125	75	140	75	135	75	124	NSX160B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	70/150	LC3-D80
45	150	75	140					NSX160B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	70/150	LC3-D115 or LC3-F115
		90	170	90	160	90	156	NSX250B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	100/220	LC3-D115 or LC3-F115
55	180	110	210	110	200	110	180	NSX250B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	100/220	LC3-D115 or LC3-F115
						132	215	NSX250B/F/N/H/S/L	Micrologic 2.2M or 6.2E-M	100/220	LC3-D150 or LC3-F150
75	250	132	250	132	230			NSX400F/N/H/S/L	Micrologic 2.3M or 6.3E-M	160/320	LC3-D150 or LC3-F150
90	312	160	300	160	270	160	256	NSX400F/N/H/S/L	Micrologic 2.3M or 6.3E-M	160/320	LC3F-185
110	360	200	380	220	380	220	360	NSX630F/N/H/S/L	Micrologic 2.3M or 6.3E-M	250/500	LC3-F265
		220	420			250	401	NSX630F/N/H/S/L	Micrologic 2.3M or 6.3E-M	250/500	LC3-F265
150	480	250	480	250	430			NSX630F/N/H/S/L	Micrologic 2.3M or 6.3E-M	250/500	LC3-F330
						300	480	NSX630F/N/H/S/L	Micrologic 2.3M or 6.3E-M	250/500	LC3-F330
160	520	300	570	300	510	335	540	NS800N/H	Micrologic 5.0	320/800	LC3-F400
				335	580	375	590	NS1000L		400/1000	
								NS800N/H	Micrologic 5.0	320/800	LC3-F400
								NS1000L		400/1000	

(1) Valid for 480 V NEMA.

Note: where more than one association is possible for a rated power, if the motor starting current is high or unknown, the highest association should be applied.

Example:

An INF●160 can receive BS fuse-links in sizes A2, A3 or A4, which correspond to the following ratings:

■ A2 size:

- 2 to 32 A for gG fuse-links
- 32M35 to 32M63 for gM fuse-links

■ A3 size:

- 35 to 63 A for gG fuse-links
- 63M80 to 63M100 for gM fuse-links

■ A4 size:

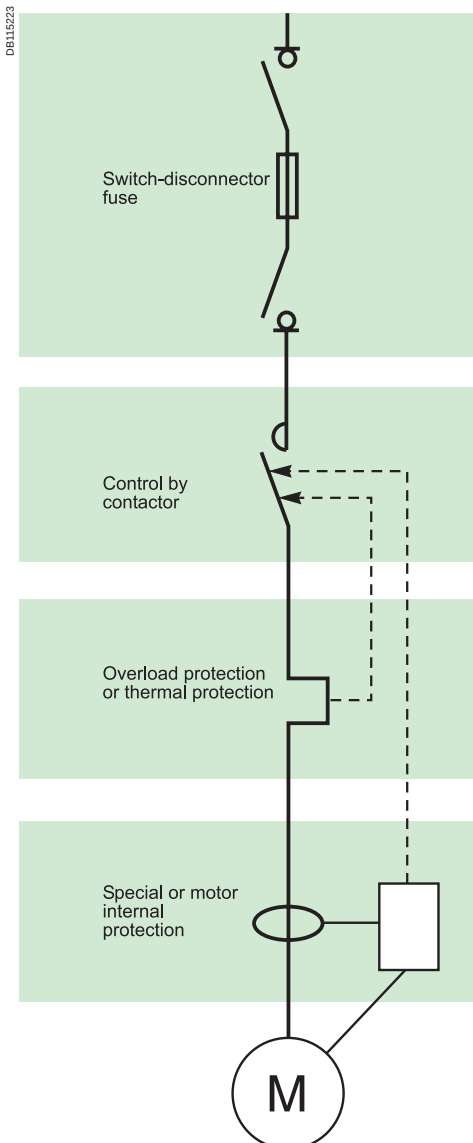
- 80 to 100 A for gG fuse-links
- 100M125 to 100M200 for gM fuse-links.

The tables on [pages 172 to 176](#) directly indicate the correct selection of fuse-links and Fupact switches depending on the distribution circuit rating and the motor rating (for direct-on-line starting).

Fuse size table

The table below indicates the minimum and maximum fuse sizes depending on the rating of the switch and the applicable reference standard.

	BS min.	max.	DIN min.	max.	NFC min.	max.
INF●32	A1	A2			10 x 38	14 x 51
INFD40			000	000		
INF●63	A2	A3	000	00	14 x 51	22 X 58
INF●100	A2	A4				
INFC125					22 x 58	22 x 58
INF●160	A2	A4	000	00		
INF●200	B1	B2	0	0		
INF●250	B1	B3	0	1		
INF●400	B1	B4	0	2		
INF●630	C1	C3	3	3		
INF●800	C1	C3	3	3		
INFT100N			000	000		
ISFT100			000	000		
ISF●160			000	00		
ISF●250			1	1		
ISF●400			2	2		
ISF●630			3	3		



Protection of motor feeders

A motor feeder is generally made up of:

- a control contactor
- a thermal relay for overcurrent protection
- a short-circuit protection device
- a disconnection device capable of interrupting load currents.

Fupact switch-disconnector fuses are ideally suited to perform the last two functions in the list. What is more, Fupact devices are totally compatible with the IEC 60204 machine directive.

Additional specific protection:

- fault limiting protection (while the motor is running)
- fault prevention (monitoring of motor insulation with motor off).

Fupact characteristics

The local emergency-off switch must have the AC23 characteristic for the rated motor current.

Motor starting characteristics are the following:

- peak current: 8 to 10 I_n
- duration of peak current: 20 to 30 ms
- starting current I_d : 4 to 8 I_n
- starting time t_d : 2 to 4 seconds.

Short-circuit protection of motors is ensured by aM or gM ⁽¹⁾ fuse-links that are sized to take into account the above characteristics.

Fupact offers a wide range of fuse utilisations, whatever the applicable reference standard.

⁽¹⁾ A gM fuse-link is in fact simply a derated gG fuse-link.

Coordination of devices on the motor feeder

■ Thermal protection of:

- motor
- conductors
- switch
- fuse

is ensured by the thermal relay on the contactor.

■ Overload (or short-circuit) protection of:

- motor
- conductors
- switch
- thermal relay

is ensured by the fuse.

To ensure a high level of operational quality, it is important to ensure **coordination of the devices** on the motor feeder in compliance with standard IEC 60947-4.

The equipment manufacturers provide type-1 and type-2 coordination tables between fuse-links, contactors and thermal relays.

Protection of motor circuits with BS fuses

Selection tables for Fupact devices and associated BS fuse-links

Example:

A 37 kW motor supplied at 415 V is protected by 160 A gM fuse-links.

This type of fuse-link may be mounted on a Fupact INFB100 or higher.

See the grey section in the table opposite.

230/240 V				
P(kW)	(HP)	In (A)	Fupact	gG/gM
0.37	0.5	1.9	INFB32	gG 6
1	0.7	2.7	INFB32	gG 10
0.8	1	3.6	INFB32	gG 16
1.1	1.5	4.5	INFB32	gG 16
1.5	2	6.3	INFB32	gG 20
2.2	2.9	9	INFB32	20M25
3	4	11.7	INFB32	20M32
4	5.3	15.2	INFB32	32M40
5.5	7.3	19.8	INFB32	32M50
7.5	10	26	INFB32	32M50
10	13	34	INFB32	63M80
11	15	38	INFB63	63M80
15	20	51	INFB63	63M100
18.5	25	63	INFB100	100M160
22	29	74	INFB100	100M160
30	40	99	INFB200	gG 200
37	49	125	INFB200	200M250
45	60	144	INFB200	200M250
55	73	177	INFB250	315M400
75	100	245	INFB250	315M400
90	120	296	INFB400	400M450
110	147	354	INFB630	gG 630
132	176	408	INFB800	gG 800
150	200	484	INFB800	gG 800
160	213	496	INFB800	gG 800

415V				
P(kW)	(HP)	In (A)	Fupact	gG/gM
0.37	0.5	1.1	INFB32	gG 4
1	0.7	1.5	INFB32	gG 6
0.8	1	2	INFB32	gG 10
1.1	1.5	2.5	INFB32	gG 10
1.5	2	3.5	INFB32	gG 16
2.2	2.9	5	INFB32	gG 16
3	4	6.5	INFB32	gG 20
4	5.3	8.4	INFB32	20M25
5.5	7.3	11	INFB32	20M32
7.5	10	14.4	INFB32	32M40
10	13.3	19.1	INFB32	32M50
11	15	21	INFB32	32M50
15	20	28	INFB32	32M63
18.5	25	35	INFB63	63M80
22	29	41	INFB63	63M80
30	40	55	INFB63	63M100
37	49	69	INFB100	100M160
45	60	80	INFB100	100M160
55	73	98	INFB200	gG 200
75	100	136	INFB200	200M250
90	120	164	INFB200	200M315
110	147	196	INFB250	315M400
132	176	226	INFB250	315M400
150	200	268	INFB400	400M500
160	213	275	INFB400	400M500
200	267	358	INFB630	gG 630
240	320	428	INFB800	gG 800
280	373	488	INFB800	gG 800

Selection tables for Fupact devices and associated NFC fuse-links

Example:

A 30 kW motor supplied at 690 V is protected by:

■ 80 A gG fuse-links

■ 32 A aM fuse-links.

Both types of fuse-links may be mounted on a Fupact INFC63 ⁽¹⁾ or higher.

See the grey section in the table on following page.

⁽¹⁾ Fupact is designed to allow overrated protection.

230/240 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.9	INFC32	6	INFC32	2
0.55	0.73	2.7	INFC32	10	INFC32	4
0.75	1	3.6	INFC32	16	INFC32	4
1.1	1.5	4.5	INFC32	16	INFC32	6
1.5	2	6.3	INFC32	20	INFC32	8
2.2	2.9	9	INFC32	25	INFC32	10
3	4	11.7	INFC32	32	INFC32	12
4	5.3	15.2	INFC32	40	INFC32	16
5.5	7.3	19.8	INFC32	50	INFC32	20
7.5	10	26	INFC63	50	INFC32	32
10	13	34	INFC63	80	INFC63	40
11	15	38	INFC63	80	INFC63	40
15	20	51	INFC63	100	INFC63	63
18.5	25	63	-	160	INFC125	80
22	29	74	-	160	INFC125	80
30	40	99	-	200	INFC125	100
37	49	125	-	250	INFC125	125

380/400V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.1	INFC32	4	INFC32	2
0.55	0.73	1.6	INFC32	6	INFC32	2
0.75	1	2.2	INFC32	10	INFC32	4
1.1	1.5	2.7	INFC32	10	INFC32	4
1.5	2	3.8	INFC32	16	INFC32	4
2.2	2.9	5.5	INFC32	16	INFC32	6
3	4	7.1	INFC32	20	INFC32	8
4	5.3	9.2	INFC32	25	INFC32	10
5.5	7.3	12	INFC32	32	INFC32	12
7.5	10	16	INFC32	40	INFC32	16
10	13	21	INFC32	50	INFC32	25
11	15	23	INFC32	50	INFC32	25
15	20	31	INFC63	80	INFC32	32
18.5	25	38	INFC63	80	INFC63	40
22	29	45	INFC63	100	INFC63	50
30	40	60	INFC63	125	INFC63	63
37	49	75	-	160	INFC125	80
45	60	87	-	200	INFC125	100
55	73	107	-	200	INFC125	125

415 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.1	INFC32	4	INFC32	2
0.55	0.73	1.5	INFC32	6	INFC32	2
0.75	1	2	INFC32	10	INFC32	2
1.1	1.5	2.5	INFC32	10	INFC32	4
1.5	2	3.5	INFC32	16	INFC32	4
2.2	2.9	5	INFC32	16	INFC32	6
3	4	6.5	INFC32	20	INFC32	8
4	5.3	8.4	INFC32	25	INFC32	10
5.5	7.3	11	INFC32	32	INFC32	12
7.5	10	14	INFC32	40	INFC32	16
10	13	19	INFC32	50	INFC32	25
11	15	21	INFC32	50	INFC32	25
15	20	28	INFC63	63	INFC32	32
18.5	25	35	INFC63	80	INFC63	40
22	29	41	INFC63	80	INFC63	50
30	40	55	INFC63	100	INFC63	63
37	49	69	-	160	INFC125	80
45	60	80	-	160	INFC125	80
55	73	98	-	200	INFC125	100

440 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1	INFC32	4	INFC32	2
0.55	0.73	1.4	INFC32	6	INFC32	2
0.75	1	1.9	INFC32	6	INFC32	2
1.1	1.5	2.4	INFC32	10	INFC32	4
1.5	2	3.3	INFC32	10	INFC32	4
2.2	2.9	4.7	INFC32	16	INFC32	6
3	4	6.1	INFC32	16	INFC32	6
4	5.3	7.9	INFC32	20	INFC32	8
5.5	7.3	10.4	INFC32	25	INFC32	10
7.5	10	14	INFC32	40	INFC32	16
10	13	18	INFC63	50	INFC32	20
11	15	20	INFC63	50	INFC32	20
15	20	26	INFC63	63	INFC32	32
18.5	25	33	INFC63	80	INFC63	40
22	29	39	INFC63	80	INFC63	40
30	40	52	INFC63	100	INFC63	50
37	49	65	-	160	INFC125	80
45	60	75	-	160	INFC125	80
55	73	92	-	200	INFC125	100

Protection of motor circuits with NFC fuses

500 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.9	INFC32	4	INFC32	2
0.55	0.73	1.2	INFC32	4	INFC32	2
0.75	1	1.5	INFC32	6	INFC32	2
1.1	1.5	2.2	INFC32	6	INFC32	2
1.5	2	2.9	INFC32	10	INFC32	4
2.2	2.9	3.9	INFC32	10	INFC32	4
3	4	5.2	INFC32	16	INFC32	6
4	5.3	6.8	INFC32	20	INFC32	8
5.5	7.3	9.2	INFC32	25	INFC32	10
7.5	10	12	INFC32	32	INFC32	12
10	13	16	INFC32	32	INFC32	16
11	15	18	INFC32	40	INFC32	20
15	20	23	INFC63	50	INFC32	25
18.5	25	28	INFC63	63	INFC63	32
22	29	33	INFC63	80	INFC63	40
30	40	45	INFC63	100	INFC63	50
37	49	53	INFC63	100	INFC63	63
45	60	64	-	160	INFC125	80
55	73	78	-	160	INFC125	80

525/550 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.8	INFC32	4	INFC32	2
0.55	0.73	1.1	INFC32	4	INFC32	2
0.75	1	1.4	INFC32	6	INFC32	2
1.1	1.5	2.1	INFC32	6	INFC32	2
1.5	2.0	2.8	INFC32	10	INFC32	4
2.2	2.9	3.7	INFC32	10	INFC32	4
3	4	4.9	INFC32	16	INFC32	6
4	5.3	6.5	INFC32	20	INFC32	8
5.5	7.3	8.7	INFC32	25	INFC32	10
7.5	10	12	INFC63	32	INFC32	12
10	13	15	INFC63	32	INFC32	16
11	15	17	INFC63	40	INFC32	20
15	20	22	INFC63	50	INFC32	25
18.5	25	27	INFC63	63	INFC63	32
22	29	31	INFC63	80	INFC63	40
30	40	43	-	100	INFC63	50
37	49	50	-	100	INFC63	63
45	60	61	-	125	INFC63	63
55	73	74	-	160	INFC125	80

660/690V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.7	INFC32	2	INFC32	2
0.55	0.73	0.9	INFC32	4	INFC32	2
0.75	1	1.1	INFC32	4	INFC32	2
1.1	1.5	1.6	INFC32	6	INFC32	2
1.5	2	2.2	INFC32	6	INFC32	4
2.2	2.9	2.8	INFC32	10	INFC32	4
3	4	3.8	INFC32	10	INFC32	6
4	5.3	4.9	INFC32	16	INFC32	6
5.5	7.3	6.7	INFC32	20	INFC32	8
7.5	10	9	INFC32	25	INFC32	10
10	13	12	INFC63	32	INFC32	12
11	15	13	INFC63	32	INFC32	16
15	20	17	INFC63	40	INFC32	20
18.5	25	22	INFC63	50	INFC63	25
22	29	24	INFC63	50	INFC63	25
30	40	32	INFC63	80	INFC63	32
37	49	39	INFC63	80	INFC63	40
45	60	47	-	100	INFC63	50
55	73	57	-	125	INFC63	63
75	100	77	-	160	INFC125	80

Selection tables for Fupact devices and associated DIN fuse-links

Example:

A 75 kW motor supplied at 500 V is protected by:

■ 200 A gG fuse-links

■ 125 A aM fuse-links.

Both types of fuse-links may be mounted on a Fupact INFD200 or higher.

See the grey section in the table below.

230/240 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.9	INFD40	6	INFD40	2
0.55	0.73	2.7	INFD40	10	INFD40	4
0.75	1	3.6	INFD40	16	INFD40	4
1.1	1.5	4.5	INFD40	16	INFD40	6
1.5	2	6.3	INFD40	20	INFD40	8
2.2	2.9	9.0	INFD40	25	INFD40	10
3	4	11.7	INFD40	32	INFD40	12
4	5.3	15.2	INFD40	40	INFD40	16
5.5	7.3	19.8	INFD40	50	INFD40	20
7.5	10	26	INFD40	50	INFD40	32
10	13	34	INFD40	80	INFD40	40
11	15	38	INFD40	80	INFD40	40
15	20	51	INFD63	100	INFD63	63
18.5	25	63	INFD160	160	INFD160	80
22	29	74	INFD160	160	INFD160	80
30	40	99	INFD200	200	INFD160	100
37	49	125	INFD200	250	INFD160	125
45	60	144	INFD200	250	INFD160	160
55	73	177	INFD250	355	INFD200	200
75	100	245	INFD400	400	INFD400	250
90	120	296	INFD400	450	INFD400	315
110	147	354	INFD630	630	INFD400	355
132	176	408	INFD630	800	INFD630	450
150	200	484	INFD630	800	INFD630	500
160	213	496	INFD630	800	INFD630	500
200	267	646	-	-	INFD800	800

380/400V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.1	INFD40	4	INFD40	2
0.55	0.73	1.6	INFD40	6	INFD40	2
0.75	1	2.2	INFD40	10	INFD40	4
1.1	1.5	2.7	INFD40	10	INFD40	4
1.5	2	3.8	INFD40	16	INFD40	4
2.2	2.9	5.5	INFD40	16	INFD40	6
3	4	7.1	INFD40	20	INFD40	8
4	5.3	9.2	INFD40	25	INFD40	10
5.5	7.3	12	INFD40	32	INFD40	12
7.5	10	16	INFD40	40	INFD40	16
10	13	21	INFD40	50	INFD40	25
11	15	23	INFD40	50	INFD40	25
15	20	31	INFD40	80	INFD40	32
18.5	25	38	INFD40	80	INFD40	40
22	29	45	INFD63	100	INFD63	50
30	40	60	INFD63	125	INFD63	63
37	49	75	INFD160	160	INFD160	80
45	60	87	INFD200	200	INFD160	100
55	73	107	INFD200	200	INFD160	125
75	100	149	INFD200	250	INFD160	160
90	120	179	INFD250	355	INFD200	200
110	147	214	INFD400	400	INFD250	250
132	176	247	INFD400	450	INFD250	250
150	200	293	INFD400	500	INFD400	315
160	213	300	INFD630	630	INFD400	315
200	267	391	INFD630	800	INFD400	400
240	320	467	INFD630	800	INFD630	500
280	373	533	-	-	INFD630	630
300	400	573	-	-	INFD630	630
320	427	588	-	-	INFD630	630

415 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1.1	INFD40	4	INFD40	2
0.55	0.73	1.5	INFD40	6	INFD40	2
0.75	1	2	INFD40	10	INFD40	2
1.1	1.5	2.5	INFD40	10	INFD40	4
1.5	2	3.5	INFD40	16	INFD40	4
2.2	2.9	5	INFD40	16	INFD40	6
3	4	6.5	INFD40	20	INFD40	8
4	5.3	8.4	INFD40	25	INFD40	10
5.5	7.3	11	INFD40	32	INFD40	12
7.5	10	14	INFD40	40	INFD40	16
10	13	19	INFD40	50	INFD40	25
11	15	21	INFD40	50	INFD40	25
15	20	28	INFD40	63	INFD40	32
18.5	25	35	INFD40	80	INFD40	40
22	29	41	INFD63	80	INFD63	50
30	40	55	INFD63	100	INFD63	63
37	49	69	INFD160	160	INFD160	80
45	60	80	INFD160	160	INFD160	80
55	73	98	INFD200	200	INFD160	100
75	100	136	INFD200	250	INFD160	160
90	120	164	INFD250	315	INFD200	200
110	147	196	INFD250	355	INFD200	200
132	176	226	INFD400	400	INFD250	250
150	200	268	INFD400	450	INFD400	315
160	213	275	INFD400	500	INFD400	315
200	267	358	INFD630	630	INFD400	400
240	320	428	INFD630	800	INFD630	450
280	373	488	INFD630	800	INFD630	500
300	400	525	-	-	INFD630	630
320	427	538	-	-	INFD630	630
355	473	605	-	-	INFD630	630
375	500	610	-	-	INFD630	630

440 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	1	INFD40	4	INFD40	2
0.55	0.73	1.4	INFD40	6	INFD40	2
0.75	1	1.9	INFD40	6	INFD40	2
1.1	1.5	2.4	INFD40	10	INFD40	4
1.5	2	3.3	INFD40	10	INFD40	4
2.2	2.9	4.7	INFD40	16	INFD40	6
3	4	6.1	INFD40	16	INFD40	6
4	5.3	7.9	INFD40	20	INFD40	8
5.5	7.3	10.4	INFD40	25	INFD40	10
7.5	10	14	INFD40	40	INFD40	16
10	13	18	INFD40	50	INFD40	20
11	15	20	INFD40	50	INFD40	20
15	20	26	INFD40	63	INFD40	32
18.5	25	33	INFD40	80	INFD40	40
22	29	39	INFD40	80	INFD40	40
30	40	52	INFD63	100	INFD63	50
37	49	65	INFD160	160	INFD160	80
45	60	75	INFD160	160	INFD160	80
55	73	92	INFD160	200	INFD160	100
75	100	128	INFD200	250	INFD160	125
90	120	155	INFD250	315	INFD160	160
110	147	185	INFD250	355	INFD200	200
132	176	213	INFD400	400	INFD250	250
150	200	253	INFD400	450	INFD400	250
160	213	259	INFD400	500	INFD400	315
200	267	338	INFD630	630	INFD400	355
240	320	404	INFD630	800	INFD630	400
280	373	460	INFD630	800	INFD630	450
300	400	495	INFD630	800	INFD630	500
320	427	507	-	-	INFD630	500
355	473	560	-	-	INFD630	630
375	500	575	-	-	INFD630	630
400	533	611	-	-	INFD630	630

500 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.9	INFD40	4	INFD40	2
0.55	0.73	1.2	INFD40	4	INFD40	2
0.75	1	1.5	INFD40	6	INFD40	2
1.1	1.5	2.2	INFD40	6	INFD40	2
1.5	2	2.9	INFD40	10	INFD40	4
2.2	2.9	3.9	INFD40	10	INFD40	4
3	4	5.2	INFD40	16	INFD40	6
4	5.3	6.8	INFD40	20	INFD40	8
5.5	7.3	9.2	INFD40	25	INFD40	10
7.5	10	12	INFD40	32	INFD40	12
10	13	16	INFD40	32	INFD40	16
11	15	18	INFD40	40	INFD40	20
15	20	23	INFD40	50	INFD40	25
18.5	25	28	INFD40	63	INFD40	32
22	29	33	INFD40	80	INFD40	40
30	40	45	INFD63	100	INFD63	50
37	49	53	INFD63	100	INFD160	63
45	60	64	INFD160	160	INFD160	80
55	73	78	INFD160	160	INFD160	80
75	100	106	INFD200	200	INFD160	125
90	120	130	INFD200	250	INFD160	160
110	147	155	INFD250	315	INFD200	160
132	176	187	INFD250	355	INFD250	200
150	200	211	INFD400	400	INFD400	250
160	213	225	INFD400	400	INFD400	250
200	267	280	INFD400	450	INFD400	315
240	320	338	INFD630	630	INFD630	355
280	373	386	INFD630	800	INFD630	400
300	400	415	INFD630	800	INFD630	450
320	427	435	INFD630	800	INFD630	450
355	473	488	INFD630	800	INFD630	500
375	500	515	-	-	INFD630	500
400	533	552	-	-	INFD630	630
450	600	630	-	-	INFD630	630

Protection of motor circuits with DIN fuses

525/550 V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.8	INFD40	4	INFD40	2
0.55	0.73	1.1	INFD40	4	INFD40	2
0.75	1	1.4	INFD40	6	INFD40	2
1.1	1.5	2.1	INFD40	6	INFD40	2
1.5	2	2.8	INFD40	10	INFD40	4
2.2	2.9	3.7	INFD40	10	INFD40	4
3	4	4.9	INFD40	16	INFD40	6
4	5.3	6.5	INFD40	20	INFD40	8
5.5	7.3	8.7	INFD40	25	INFD40	10
7.5	10	12	INFD40	32	INFD40	12
10	13	15	INFD40	32	INFD40	16
11	15	17	INFD40	40	INFD40	20
15	20	22	INFD40	50	INFD40	25
18.5	25	27	INFD40	63	INFD40	32
22	29	31	INFD63	80	INFD40	40
30	40	43	INFD63	100	INFD63	50
37	49	50	INFD63	100	INFD63	63
45	60	61	INFD63	125	INFD63	63
55	73	74	INFD200	160	INFD160	80
75	100	101	INFD250	200	INFD160	100
90	120	123	INFD400	250	INFD160	125
110	147	147	INFD400	250	INFD250	160
132	176	178	INFD630	355	INFD250	200
150	200	200	INFD630	400	INFD250	200
160	213	214	INFD630	400	INFD250	250
200	267	266	INFD630	450	INFD400	315
240	320	321	-	-	INFD400	355
280	373	366	-	-	INFD400	400
300	400	394	-	-	INFD400	400
320	427	413	-	-	INFD630	450
355	473	464	-	-	INFD630	500
375	500	490	-	-	INFD630	500

660/690V						
P(kW)	(HP)	In (A)	Fupact	gG	Fupact	aM
0.37	0.49	0.7	INFD40	2	INFD40	2
0.55	0.73	0.9	INFD40	4	INFD40	2
0.75	1	1.1	INFD40	4	INFD40	2
1.1	1.5	1.6	INFD40	6	INFD40	2
1.5	2	2.2	INFD40	6	INFD40	4
2.2	2.9	2.8	INFD40	10	INFD40	4
3	4	3.8	INFD40	10	INFD40	6
4	5.3	4.9	INFD40	16	INFD40	6
5.5	7.3	6.7	INFD40	20	INFD40	8
7.5	10	9	INFD40	25	INFD40	10
10	13	12	INFD40	32	INFD40	12
11	15	13	INFD40	32	INFD40	16
15	20	17	INFD40	40	INFD40	20
18.5	25	22	INFD40	50	INFD40	25
22	29	24	INFD40	50	INFD40	25
30	40	32	INFD63	80	INFD40	32
37	49	39	INFD63	80	INFD63	40
45	60	47	INFD63	100	INFD63	50
55	73	57	INFD63	125	INFD63	63
75	100	77	INFD200	160	INFD160	80
90	120	93	INFD250	200	INFD160	100
110	147	113	INFD250	250	INFD160	125
132	176	134	INFD250	250	INFD250	160
150	200	152	INFD400	315	INFD250	160
160	213	162	INFD400	315	INFD250	160
200	267	203	INFD630	400	INFD250	200
240	320	244	INFD630	450	INFD250	250
280	373	284	INFD630	500	INFD400	315
300	400	305	INFD630	500	INFD400	315
320	427	325	-	-	INFD630	355
355	473	354	-	-	INFD630	355
375	500	374	-	-	INFD630	400
400	533	400	-	-	INFD630	400
450	600	455	-	-	INFD630	450

Type 2 coordination (IEC 60947-4-1) 380/415 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 380/415 V - "Iq" 100 kA

Starting

Class 10 A/10

Motors P (kW)	I (A) 380 V	I (A) 415 V	Ie Max (A)	Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
				Type	gG rating (A)	aM rating (A)	Type	Type	Irth (A)
0.37	1.2	1.1	1.6	INFC32 or INFD40	4	2	LC1-D09	LRD 06	1/1.6
0.55	1.6	1.5	1.6	INFC32 or INFD40	6	2	LC1-D09	LRD 06	1/1.6
0.75	2	1.8	2.5	INFC32 or INFD40	10	4	LC1-D09	LRD 07	1.6/2.5
1.1	2.8	2.6	2.5	INFC32 or INFD40	10	4	LC1-D09	LRD 07	1.6/2.5
1.5	3.7	3.4	4	INFC32 or INFD40	16	4	LC1-D09	LRD 08	2.5/4
2.2	5.3	4.8	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
3	7	6.5	6	INFC32 or INFD40	20	8	LC1-D09	LRD 10	4/6
4	9	8.2	8	INFC32 or INFD40	25	10	LC1-D25	LRD 12	5.5/8
5.5	12	11	12	INFC32 or INFD40	32	12	LC1-D25	LRD 16	9/13
7.5	16	14	16	INFC32 or INFD40	40	16	LC1-D25	LRD 21	12/18
10	21	19	24	INFC32 or INFD40	50	25	LC1-D32	LRD 22	16/24
11	23	21	24	INFC32 or INFD40	50	25	LC1-D32	LRD 22	16/24
15	30	28	32	INFC32 or INFD40	-	32	LC1-D40	LRD 3352	23/32
				INFC63 or INFD40	80	-			
18.5	37	34	40	INFC63 or INFD40	80	40	LC1-D40	LRD 3355	30/40
22	43	40	50	INFC63 or INFD63	100	50	LC1-D50	LRD 3357	37/50
30	59	55	63	INFC63 or INFD63	125	63	LC1-D65	LRD 3359	48/65
37	72	66	80	INFC125 or INFD160	160	80	LC1-D80	LRD 3363	63/80
45	85	80	100	INFC125 or INFD160	-	100	LC1-D115	LR9-D53 67	60/100
				INFD200	200	-			
55	105	100	115	INFC125 or INFD160	-	125	LC1-D115	LR9-D53 69	90/150
				INFD200	200	-			
75	140	135	150	INFD160	-	160	LC1-D150	LR9-D53 69	90/150
				INFD200	250	-			
90	170	160	185	INFD200	-	200	LC1-F265	LR9-F53 71	132/220
				INFD250	355	-			
110	210	200	220	INFD250	-	250	LC1-F330	LR9-F53 71	132/220
				INFD400	400	-			
132	250	230	250	INFD250	-	250	LC1-F330	LR9-F73 75	200/330
				INFD400	450	-			
160	300	270	265	INFD400	-	315	LC1-F400	LR9-F73 75	200/330
				INFD630	630	-			
200	380	361	400	INFD400	-	400	LC1-F500	LR9-F73 79	300/500
				INFD630	800	-			
250	460	430	500	INFD630	800	500	LC1-F500	LR9-F73 79	300/500
280	520	475	630	INFD630	800	630	LC1-F630	LR9-F73 81	380/630
300	565	500	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630
335	610	560	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630
355	630	590	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630

(1) INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

(2) Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

Type 2 coordination (IEC 60947-4-1) 380/415 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 380/415 V - "Iq" 100 kA

Starting

Adjustable class 10 A to 30 ⁽⁴⁾

Motors P (kW)	I (A) 380 V	I (A) 415 V	Ie Max (A)	Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
				Type	gG rating (A)	aM rating (A)	Type	Type	I _{rt} h (A)
0.37	1.2	1.1	2	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.55	1.6	1.5	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.75	2	1.8	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.1	2.8	2.6	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.5	3.7	3.4	4	INFC32 or INFD40	16	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
2.2	5.3	4.8	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽³⁾
3	7	6.5	8	INFC32 or INFD40	20	8	LC1-D09	LTM R08	0.4/8 ⁽³⁾
4	9	8.2	10	INFC32 or INFD40	25	10	LC1-D25	LTM R27	1.35/27 ⁽³⁾
5.5	12	11	12	INFC32 or INFD40	32	12	LC1-D25	LTM R27	1.35/27 ⁽³⁾
7.5	16	14	16	INFC32 or INFD40	40	16	LC1-D25	LTM R27	1.35/27 ⁽³⁾
10	21	19	25	INFC32 or INFD40	50	25	LC1-D32	LTM R27	1.35/27 ⁽³⁾
11	23	21	25	INFC32 or INFD40	50	25	LC1-D32	LTM R27	1.35/27 ⁽³⁾
15	30	28	32	INFC32 or INFD40	-	32	LC1-D40	LTM R100	5/100 ⁽³⁾
				INFC63 or INFD40	80	-			
18.5	37	34	40	INFC63 or INFD40	80	40	LC1-D40	LTM R100	5/100 ⁽³⁾
22	43	40	50	INFC63 or INFD63	100	50	LC1-D50	LTM R100	5/100 ⁽³⁾
30	59	55	63	INFC63 or INFD63	125	63	LC1-D65	LTM R100	5/100 ⁽³⁾
37	72	66	65	INFC125 or INFD160	160	80	LC1-D80	LTM R100	5/100 ⁽³⁾
45	85	80	80	INFC125 or INFD160	-	100	LC1-D115	LTM R100	5/100 ⁽³⁾
				INFD200	200	-			
55	105	100	115	INFC125 or INFD160	-	125	LC1-D115	LTM R08	On CT
				INFD200	200	-			
75	140	135	150	INFD160	-	160	LC1-D150	LTM R08	On CT
				INFD200	250	-			
90	170	160	185	INFD200	-	200	LC1-D265	LTM R08	On CT
				INFD250	355	-			
110	210	200	225	INFD250	-	250	LC1-F330	LTM R08	On CT
				INFD400	400	-			
132	250	230	250	INFD250	-	250	LC1-F330	LTM R08	On CT
				INFD400	450	-			
160	300	270	315	INFD400	-	315	LC1-F400	LTM R08	On CT
				INFD630	630	-			
200	380	361	400	INFD400	-	400	LC1-F500	LTM R08	On CT
				INFD630	800	-			
250	460	430	500	INFD630	800	500	LC1-F500	LTM R08	On CT
280	520	475	630	INFD630	800	630	LC1-F630	LTM R08	On CT
300	565	500	630	INFD630	-	630	LC1-F630	LTM R08	On CT
335	610	560	630	INFD630	-	630	LC1-F630	LTM R08	On CT
355	630	590	630	INFD630	-	630	LC1-F630	LTM R08	On CT

⁽¹⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

⁽²⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

⁽³⁾ Current transformer built into the relay.

⁽⁴⁾ For use with a class 20 or class 30 relay, apply respectively a derating of 20 % and 37 %.

Type 2 coordination (IEC 60947-4-1) 440 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 440 V ⁽³⁾ - "Iq" 100 kA

Starting

Class 10 A/10

Motors P (kW)	I (A) 440 V	Ie Max (A)	Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
			Type	gG rating (A)	aM rating (A)	Type	Type	Irth (A)
0.37	1	1.6	INFC32 or INFD40	4	2	LC1-D09	LRD 06	1/1.6
0.55	1.4	1.6	INFC32 or INFD40	6	2	LC1-D09	LRD 06	1/1.6
0.75	1.9	2.5	INFC32 or INFD40	6	2	LC1-D09	LRD 07	1.6/2.5
1.1	2.4	2.5	INFC32 or INFD40	10	4	LC1-D09	LRD 07	1.6/2.5
1.5	3.3	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
2.2	4.7	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
3	6.1	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
4	7.9	8	INFC32 or INFD40	20	8	LC1-D09	LRD 12	5.5/8
5.5	10.4	10	INFC32 or INFD40	25	10	LC1-D09	LRD 16	9/13
7.5	14	16	INFC32 or INFD40	40	16	LC1-D25	LRD 21	12/18
10	18	20	INFC32 or INFD40	-	20	LC1-D32	LRD 22	16/24
11	20	20	INFC63 or INFD40	50	-	LC1-D32	LRD 22	16/24
			INFC63 or INFD40	50	-			
15	26	32	INFC32 or INFD40	-	32	LC1-D32	LRD 32	23/32
			INFC63 or INFD40	63	-			
18.5	33	40	INFC63 or INFD40	80	40	LC1-D40	LRD 3355	30/40
22	39	40	INFC63 or INFD40	80	40	LC1-D40	LRD 3355	30/40
30	52	50	INFC63 or INFD63	100	50	LC1-D50	LRD 3359	48/65
37	65	65	INFC125 or INFD160	-	80	LC1-D80	LRD 3359	48/65
45	75	80	INFC125 or INFD160	-	80	LC1-D80	LRD 3363	63/80
			INFD160	160	-			
55	92	100	INFC125 or INFD160	-	100	LC1-D115	LR9-D53 67	60/100
75	128	125	INFD160	-	125	LC1-D150	LR9-D53 69	90/150
			INFD200	250	-			
90	155	150	INFD160	-	160	LC1-D185	LR9-D53 69	90/150
			INFD250	315	-			
110	185	200	INFD200	-	200	LC1-F265	LR9-F53 71	132/220
132	213	220	INFD250	-	250	LC1-F265	LR9-F53 71	132/220
			INFD400	400	-			
160	259	315	INFD400	500	315	LC1-F330	LR9-F73 75	200/330
200	338	330	INFD400	-	355	LC1-F400	LR9-F73 75	200/330
			INFD630	630	-			
250	423	400	INFD630	800	400	LC1-F500	LR9-F73 79	300/500
280	460	450	INFD630	800	450	LC1-F500	LR9-F73 79	300/500
300	495	500	INFD630	800	500	LC1-F500	LR9-F73 79	300/500
355	560	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630
375	575	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630
400	611	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630

(1) INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

(2) Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

(3) Valid for 480V NEMA network.

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 440 V ⁽⁵⁾ - "Iq" 100 kA

Starting

Adjustable class 10 A to 30 ⁽⁴⁾

Motors			Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
P (kW)	I (A) 440 V	Ie Max (A)	Type	gG rating (A)	aM rating (A)	Type	Type	I _{rt} h (A)
0.37	1	2	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.55	1.4	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.75	1.8	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.1	2.4	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.5	3.3	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
2.2	4.7	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽³⁾
3	6.1	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽³⁾
4	7.9	8	INFC32 or INFD40	20	8	LC1-D09	LTM R08	0.4/8 ⁽³⁾
5.5	10.4	10	INFC32 or INFD40	25	10	LC1-D25	LTM R27	1.35/27 ⁽³⁾
7.5	14	16	INFC32 or INFD40	40	16	LC1-D25	LTM R27	1.35/27 ⁽³⁾
10	18	20	INFC32 or INFD40	-	20	LC1-D32	LTM R27	1.35/27 ⁽³⁾
11	20	20	INFC63 or INFD40	50	-	LC1-D32	LTM R27	1.35/27 ⁽³⁾
			INFC63 or INFD40	50	-			
15	26	27	INFC32 or INFD40	-	32	LC1-D32	LTM R27	1.35/27 ⁽³⁾
			INFC63 or INFD40	63	-			
18.5	33	40	INFC63 or INFD40	80	40	LC1-D40	LTM R100	5/100 ⁽³⁾
22	39	40	INFC63 or INFD63	80	40	LC1-D40	LTM R100	5/100 ⁽³⁾
30	52	50	INFC63 or INFD63	100	50	LC1-D50	LTM R100	5/100 ⁽³⁾
37	65	80	INFC125 or INFD160	-	80	LC1-D80	LTM R100	5/100 ⁽³⁾
			INFD160	160	-			
45	75	80	INFC125 or INFD160	-	80	LC1-D80	LTM R100	5/100 ⁽³⁾
			INFD160	160	-			
55	92	100	INFC125 or INFD160	-	100	LC1-D115	LTM R100	5/100 ⁽³⁾
			INFD160	200	-			
75	128	125	INFD160	-	125	LC1-D150	LTM R08	On CT
			INFD200	250	-			
90	155	160	INFD160	-	160	LC1-F185	LTM R08	On CT
			INFD250	315	-			
110	185	200	INFD200	-	200	LC1-F265	LTM R08	On CT
			INFD250	355	-			
132	213	250	INFD250	-	250	LC1-F265	LTM R08	On CT
			INFD400	400	-			
160	259	315	INFD400	500	315	LC1-F330	LTM R08	On CT
200	338	355	INFD400	-	355	LC1-F400	LTM R08	On CT
			INFD630	630	-			
250	423	400	INFD630	800	400	LC1-F500	LTM R08	On CT
280	460	450	INFD630	800	450	LC1-F500	LTM R08	On CT
300	495	500	INFD630	800	500	LC1-F500	LTM R08	On CT
355	560	630	INFD630	-	630	LC1-F630	LTM R08	On CT
375	575	630	INFD630	-	630	LC1-F630	LTM R08	On CT
400	611	630	INFD630	-	630	LC1-F630	LTM R08	On CT

⁽¹⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.⁽²⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.⁽³⁾ Current transformer built into the relay.⁽⁴⁾ For use with a class 20 or class 30 relay, apply respectively a derating of 20 % and 37 %.⁽⁵⁾ Valid for 480 V NEMA network.

Type 2 coordination (IEC 60947-4-1) 500 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 500 V - "Iq" 100 kA

Starting

Class 10 A/10

Motors P (kW)	I (A) 500 V	Ie Max (A)	Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
			Type	gG rating (A)	aM rating (A)		Type	I _{rt} h (A)
0.37	0.8	1	INFC32 or INFD40	4	2	LC1-D09	LRD 05	0.63/1
0.55	1.2	1.6	INFC32 or INFD40	4	2	LC1-D09	LRD 06	1/1.6
0.75	1.5	1.6	INFC32 or INFD40	6	2	LC1-D09	LRD 06	1/1.6
1.1	2	2	INFC32 or INFD40	6	2	LC1-D09	LRD 07	1.6/2.5
1.5	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
2.2	3.8	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
3	5	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
4	6.5	8	INFC32 or INFD40	20	8	LC1-D09	LRD 12	5.5/8
5.5	9	10	INFC32 or INFD40	25	10	LC1-D25	LRD 16	9/13
7.5	12	12	INFC32 or INFD40	32	12	LC1-D25	LRD 16	9/13
10	15	16	INFC32 or INFD40	32	16	LC1-D25	LRD 21	12/18
11	18.4	20	INFC32 or INFD40	40	20	LC1-D25	LRD 22	16/24
15	23	24	INFC32 or INFD40	-	25	LC1-D32	LRD 22	16/24
			INFC63 or INFD40	50	-			
18.5	28.5	32	INFC63 or INFD40	63	32	LC1-D32	LRD 32	23/32
22	33	40	INFC63 or INFD40	80	40	LC1-D40	LRD 3355	30/40
30	45	50	INFC63 or INFD63	100	50	LC1-D50	LRD 3357	37/50
37	55	63	INFC63 or INFD63	100	63	LC1-D65	LRD 3359	48/65
45	65	70	INFC125 or INFD160	-	80	LC1-D80	LRD 3361	55/70
			INFD160	160	-			
55	75	80	INFC125 or INFD160	-	80	LC1-D115	LRD 3363	63/80
			INFD160	160	-			
75	105	115	INFD160	-	125	LC1-D115	LR9-D53 69	90/150
			INFD200	200	-			
90	130	150	INFD160	-	160	LC1-D150	LR9-D53 69	90/150
			INFD200	250	-			
110	156	160	INFD200	-	160	LC1-F185	LR9-F53 71	132/220
			INFD250	315	-			
132	187	200	INFD250	355	200	LC1-F265	LR9-F53 71	132/220
160	230	250	INFD400	400	250	LC1-F265	LR9-F73 75	200/330
200	280	315	INFD400	450	315	LC1-F400	LR9-F73 75	200/330
240	338	355	INFD630	630	355	LC1-F400	LR9-F73 79	300/500
280	386	400	INFD630	800	400	LC1-F500	LR9-F73 79	300/500
300	415	450	INFD630	800	450	LC1-F500	LR9-F73 79	300/500
320	425	450	INFD630	800	450	LC1-F500	LR9-F73 79	300/500
355	478	500	INFD630	800	500	LC1-F500	LR9-F73 79	300/500
375	482	500	INFD630	-	500	LC1-F630	LR9-F73 81	380/630
400	534	500	INFD630	-	630	LC1-F630	LR9-F73 81	380/630
450	630	630	INFD630	-	630	LC1-F630	LR9-F73 81	380/630

(1) INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

(2) Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

Type 2 coordination (IEC 60947-4-1) 500 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 500 V - "Iq" 100 kA

Starting

Adjustable class 10 A to 30 ⁽⁴⁾

Motors P (kW)	I (A) 500 V	Ie Max (A)	Switch-fuse ⁽¹⁾	Fuse-link type		Contactors ⁽²⁾	Thermal relays	
			Type	gG rating (A)	aM rating (A)		Type	Irth (A)
0.37	0.8	1	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.55	1.2	1.6	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
0.75	1.5	1.6	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.1	2	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽³⁾
1.5	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
2.2	3.8	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽³⁾
3	5	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽³⁾
4	6.5	8	INFC32 or INFD40	20	8	LC1-D09	LTM R08	0.4/8 ⁽³⁾
5.5	9	10	INFC32 or INFD40	25	10	LC1-D25	LTM R27	1.35/27 ⁽³⁾
7.5	12	12	INFC32 or INFD40	32	12	LC1-D25	LTM R27	1.35/27 ⁽³⁾
10	15	16	INFC32 or INFD40	32	16	LC1-D25	LTM R27	1.35/27 ⁽³⁾
11	18.4	20	INFC32 or INFD40	40	20	LC1-D25	LTM R27	1.35/27 ⁽³⁾
15	23	24	INFC32 or INFD40	-	25	LC1-D32	LTM R27	1.35/27 ⁽³⁾
			INFC63 or INFD40	50	-			
18.5	28.5	32	INFC63 or INFD40	63	32	LC1-D32	LTM R100	5/100 ⁽³⁾
22	33	40	INFC63 or INFD40	80	40	LC1-D40	LTM R100	5/100 ⁽³⁾
30	45	50	INFC63 or INFD63	100	50	LC1-D50	LTM R100	5/100 ⁽³⁾
37	55	63	INFC63 or INFD63	100	63	LC1-D65	LTM R100	5/100 ⁽³⁾
45	65	70	INFC125 or INFD160	-	80	LC1-D80	LTM R100	5/100 ⁽³⁾
			INFD160	160	-			
55	75	80	INFC125 or INFD160	-	80	LC1-D115	LTM R100	5/100 ⁽³⁾
			INFD160	160	-			
75	105	115	INFD160	-	125	LC1-D115	LTM R08	On CT
			INFD200	200	-			
90	130	150	INFD160	-	160	LC1-D150	LTM R08	On CT
			INFD200	250	-			
110	156	160	INFD200	-	160	LC1-F185	LTM R08	On CT
			INFD250	315	-			
132	187	200	INFD250	355	200	LC1-F265	LTM R08	On CT
160	230	250	INFD400	400	250	LC1-F265	LTM R08	On CT
200	280	315	INFD400	450	315	LC1-F400	LTM R08	On CT
240	338	355	INFD630	630	355	LC1-F400	LTM R08	On CT
280	386	400	INFD630	800	400	LC1-F500	LTM R08	On CT
300	415	450	INFD630	800	450	LC1-F500	LTM R08	On CT
320	425	450	INFD630	800	450	LC1-F500	LTM R08	On CT
355	478	500	INFD630	800	500	LC1-F500	LTM R08	On CT
375	482	500	INFD630	-	500	LC1-F630	LTM R08	On CT
400	534	500	INFD630	-	630	LC1-F630	LTM R08	On CT
450	630	630	INFD630	-	630	LC1-F630	LTM R08	On CT

⁽¹⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

⁽²⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

⁽³⁾ Current transformer built into the relay.

⁽⁴⁾ For use with a class 20 or class 30 relay, apply respectively a derating of 20 % and 37 %.

Type 2 coordination (IEC 60947-4-1) 525/550 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 525/550 V - "Iq" 80/100 kA ⁽¹⁾

Starting

Class 10 A/10

Motors P (kW)	I (A) 525 V	I (A) 550 V	Ie Max (A)	Switch-fuse ⁽²⁾	Fuse-link type		Contactors ⁽³⁾	Thermal relays	
				Type	gG rating (A)	aM rating (A)	Type	Type	I _{rt} (A)
0.37	0.8	0.8	1	INFC32 or INFD40	4	2	LC1-D09	LRD 05	0.63/1
0.55	1.2	1.1	1.6	INFC32 or INFD40	4	2	LC1-D09	LRD 06	1/1.6
0.75	1.5	1.4	1.6	INFC32 or INFD40	6	2	LC1-D09	LRD 06	1/1.6
1.1	2	2.1	2.5	INFC32 or INFD40	6	2	LC1-D09	LRD 07	1.6/2.5
1.5	2.8	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
2.2	3.8	3.7	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
3	5	4.9	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
4	6.5	6.5	8	INFC32 or INFD40	20	8	LC1-D09	LRD 12	5.5/8
5.5	9	8.7	10	INFC32 or INFD40	25	10	LC1-D25	LRD 16	9/13
7.5	12	11.8	12	INFC32 or INFD40	-	12	LC1-D25	LRD 16	9/13
				INFC63 or INFD40	32	-			
10	15	15.2	16	INFC32 or INFD40	-	16	LC1-D25	LRD 21	12/18
				INFC63 or INFD40	32	-			
11	18.4	16.7	24	INFC32 or INFD40	-	20	LC1-D25	LRD 22	16/24
				INFC63 or INFD40	40	-			
15	23	21.9	24	INFC32 or INFD40	-	25	LC1-D32	LRD 22	16/24
				INFC63 or INFD40	50	-			
18.5	28.5	26.6	32	INFC63 or INFD40	63	32	LC1-D32	LRD 32	23/32
22	33	31	40	INFC63 or INFD40	-	40	LC1-D40	LRD 3355	30/40
				INFC63 or INFD63	80	-			
30	45	43	50	INFC63 or INFD63	-	50	LC1-D50	LRD 3357	37/50
				INFD63	100	-			
37	55	50	63	INFC63 or INFD63	-	63	LC1-D65	LRD 3359	48/65
				INFD63	100	-			
45	65	61	70	INFC63 or INFD63	-	63	LC1-D80	LRD 3361	55/70
				INFD63	125	-			
55	75	74	80	INFC63 or INFD160	-	80	LC1-D115	LRD 3363	63/80
				INFD200	160	-			
75	105	101	115	INFD160	-	100	LC1-D115	LR9-D53 69	90/150
				INFD250	200	-			
90	130	123	125	INFD160	-	125	LC1-D150	LR9-D53 69	90/150
				INFD400	250	-			
110	156	147	160	INFD250	-	160	LC1-F185	LR9-F53 71	132/220
				INFD400	250	-			
132	187	178	200	INFD250	-	200	LC1-F265	LR9-F53 71	132/220
				INFD630	355	-			
160	214	204	250	INFD250	-	250	LC1-F265	LR9-F73 75	200/330
				INFD630	400	-			
200	266	254	315	INFD400	-	315	LC1-F400	LR9-F73 75	200/330
				INFD630	450	-			
240	321	307	355	INFD400	-	355	LC1-F400	LR9-F73 79	300/500
280	366	350	400	INFD400	-	400	LC1-F500	LR9-F73 79	300/500
300	394	376	400	INFD400	-	400	LC1-F500	LR9-F73 79	300/500
320	413	394	450	INFD630	-	450	LC1-F500	LR9-F73 79	300/500
355	464	443	500	INFD630	-	500	LC1-F500	LR9-F73 79	300/500
375	490	467	500	INFD630	-	500	LC1-F630	LR9-F73 81	380/630

⁽¹⁾ Coordination table built with 690 V fuse-links (80 kA for NFC fuse-links, 100 kA for DIN fuse-links).

⁽²⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

⁽³⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

Type 2 coordination (IEC 60947-4-1) 525/550 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 525/550 V - "Iq" 80/100 kA ⁽¹⁾

Starting

Adjustable class 10 A to 30 ⁽⁴⁾

Motors P (kW)	I (A) 525 V	I (A) 550 V	Ie Max (A)	Switch-fuse ⁽²⁾	Fuse-link type		Contactors ⁽³⁾	Thermal relays	
				Type	gG rating (A)	aM rating (A)	Type	Type	I _{rt} h (A)
0.37	0.8	0.8	2	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
0.55	1.2	1.1	2	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
0.75	1.5	1.4	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
1.1	2	2.1	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
1.5	2.8	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
2.2	3.8	3.7	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
3	5	4.9	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
4	6.5	6.5	8	INFC32 or INFD40	20	8	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
5.5	9	8.7	10	INFC32 or INFD40	25	10	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
7.5	12	11.8	12	INFC32 or INFD40	-	12	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
				INFC63 or INFD40	32	-			
10	15	15.2	16	INFC32 or INFD40	-	16	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
				INFC63 or INFD40	32	-			
11	18.4	16.7	20	INFC32 or INFD40	-	20	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
				INFC63 or INFD40	40	-			
15	23	21.9	25	INFC32 or INFD40	-	25	LC1-D32	LTM R27	1.35/27 ⁽⁵⁾
				INFC63 or INFD40	50	-			
18.5	28.5	26.6	32	INFC63 or INFD40	63	32	LC1-D32	LTM R100	5/100 ⁽⁵⁾
22	33	31	40	INFC63 or INFD40	-	40	LC1-D40	LTM R100	5/100 ⁽⁵⁾
				INFC63 or INFD63	80	-			
30	45	43	50	INFC63 or INFD63	-	50	LC1-D50	LTM R100	5/100 ⁽⁵⁾
				INFD63	100	-			
37	55	50	63	INFC63 or INFD63	-	63	LC1-D65	LTM R100	5/100 ⁽⁵⁾
				INFD63	100	-			
45	65	61	63	INFC63 or INFD63	-	63	LC1-D80	LTM R100	5/100 ⁽⁵⁾
				INFD63	125	-			
55	75	74	80	INFC63 or INFD160	-	80	LC1-D115	LTM R100	5/100 ⁽⁵⁾
				INFD200	160	-			
75	105	101	100	INFD160	-	100	LC1-D115	LTM R08	On CT
				INFD250	200	-			
90	130	123	125	INFD160	-	125	LC1-D150	LTM R08	On CT
				INFD400	250	-			
110	156	147	160	INFD250	-	160	LC1-F185	LTM R08	On CT
				INFD400	250	-			
132	187	178	200	INFD250	-	200	LC1-F265	LTM R08	On CT
				INFD630	355	-			
160	214	204	250	INFD250	-	250	LC1-F265	LTM R08	On CT
				INFD630	400	-			
200	266	254	315	INFD400	-	315	LC1-F400	LTM R08	On CT
				INFD630	450	-			
240	321	307	355	INFD400	-	355	LC1-F400	LTM R08	On CT
280	366	350	400	INFD400	-	400	LC1-F500	LTM R08	On CT
300	394	376	400	INFD400	-	400	LC1-F500	LTM R08	On CT
320	413	394	450	INFD630	-	450	LC1-F500	LTM R08	On CT
355	464	443	500	INFD630	-	500	LC1-F500	LTM R08	On CT
375	490	467	500	INFD630	-	500	LC1-F630	LTM R08	On CT

⁽¹⁾ Coordination table built with 690 V fuse-links (80 kA for NFC fuse-links, 100 kA for DIN fuse-links).

⁽²⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

⁽³⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

⁽⁴⁾ For use with a class 20 or class 30 relay, apply respectively a derating of 20 % and 37 %.

⁽⁵⁾ Current transformer built into the relay.

Type 2 coordination (IEC 60947-4-1) 660/690 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 660/690 V - "Iq" 80/100 kA ⁽¹⁾

Starting

Class 10 A/10

Motors P (kW)	I (A) 690 V	Ie Max (A)	Switch-fuse ⁽²⁾	Fuse-link type		Contactors ⁽³⁾	Thermal relays	
			Type	gG rating (A)	aM rating (A)		Type	I _{rt} h (A)
0.75	1.1	1.6	INFC32 or INFD40	4	2	LC1-D09	LRD 06	1/1,6
1	1.6	1.6	INFC32 or INFD40	6	2	LC1-D09	LRD 06	1/1,6
1.5	2.2	2.5	INFC32 or INFD40	6	4	LC1-D09	LRD 07	1.6/2.5
2.2	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LRD 08	2.5/4
3	3.8	4	INFC32 or INFD40	10	6	LC1-D09	LRD 08	2.5/4
4	4.9	6	INFC32 or INFD40	16	6	LC1-D09	LRD 10	4/6
5.5	6.7	8	INFC32 or INFD40	20	8	LC1-D09	LRD 12	5.5/8
7.5	8.9	10	INFC32 or INFD40	25	10	LC1-D25	LRD 16	9/13
11	12.8	13	INFC32 or INFD40	-	16	LC1-D25	LRD 16	9/13
15	17	20	INFC32 or INFD40	-	20	LC1-D25	LRD 22	16/24
			INFC63 or INFD40	40	-			
18.5	22	24	INFC63 or INFD40	50	25	LC1-D32	LRD 22	16/24
22	24	32	INFC63 or INFD40	50	25	LC1-D40	LRD 3322	23/32
30	32	32	INFC63 or INFD40	-	32	LC1-D40	LRD 3355	30/40
37	39	40	INFC63 or INFD63	80	-			
			INFC63 or INFD63	100	40	LC1-D65	LRD 3357	37/50
45	47	50	INFC63 or INFD63	-	50	LC1-D80	LRD 3357	37/50
55	57	63	INFC63 or INFD63	125	-			
			INFC63 or INFD63	125	63	LC1-D115	LRD 3359	48/65
75	77	80	INFC125 or INFD160	-	80	LC1-D115	LRD 3363	63/80
90	93	100	INFD200	160	-			
			INFD160	200	100	LC1-D150	LR9-D53 69	90/150
110	113	125	INFD250	-	-	LC1-F185	LR9-D53 69	90/150
132	134	160	INFD250	250	125			
			INFD250	250	160	LC1-F265	LR9-F53 71	132/220
160	162	160	INFD400	315	-	LC1-F265	LR9-F53 71	132/220
200	203	200	INFD250	-	200			
			INFD630	400	-	LC1-F400	LR9-F73 75	200/330
220	223	250	INFD250	-	250	LC1-F400	LR9-F73 75	200/330
250	253	315	INFD630	450	-			
			INFD400	-	315	LC1-F400	LR9-F73 75	200/330
315	320	355	INFD630	500	-	LC1-F400	LR9-F73 75	200/330
			INFD630	500	355			
355	354	400	INFD630	-	400	LC1-F500	LR9-F73 79	300/500
400	400	450	INFD630	-	450	LC1-F630	LR9-F73 79	300/500
450	455	500	INFD630	-	500	LC1-F630	LR9-F73 79	300/500

⁽¹⁾ Coordination table built with 690 V fuse-links (80 kA for NFC fuse-links, 100 kA for DIN fuse-links).

⁽²⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

⁽³⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

Type 2 coordination (IEC 60947-4-1) 660/690 V

Schneider Electric switch-disconnector fuses and contactors

Performance: Ue = 660/690 V - "Iq" 80/100 kA ⁽¹⁾

Starting

Adjustable class 10 A to 30 ⁽⁴⁾

Motors P (kW)	I (A) 690 V	Ie Max (A)	Switch-fuse ⁽²⁾	Switch-fuse type		Contactors ⁽³⁾	Thermal relays	
			Type	gG rating (A)	aM rating (A)		Type	I _{rt} h (A)
0.75	1.1	2	INFC32 or INFD40	4	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
1	1.6	2	INFC32 or INFD40	6	2	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
1.5	2.2	4	INFC32 or INFD40	6	4	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
2.2	2.8	4	INFC32 or INFD40	10	4	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
3	3.8	6	INFC32 or INFD40	10	6	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
4	4.9	6	INFC32 or INFD40	16	6	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
5.5	6.7	8	INFC32 or INFD40	20	8	LC1-D09	LTM R08	0.4/8 ⁽⁵⁾
7.5	8.9	10	INFC32 or INFD40	25	10	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
11	12.8	16	INFC32 or INFD40	-	16	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
15	17	20	INFC63 or INFD40	32	-	LC1-D25	LTM R27	1.35/27 ⁽⁵⁾
			INFC32 or INFD40	40	20			
18.5	22	25	INFC63 or INFD40	50	25	LC1-D32	LTM R27	1.35/27 ⁽⁵⁾
22	24	25	INFC63 or INFD40	50	25	LC1-D40	LTM R27	1.35/27 ⁽⁵⁾
30	32	32	INFC63 or INFD40	-	32	LC1-D40	LTM R100	5/100 ⁽⁵⁾
37	39	40	INFC63 or INFD63	80	-	LC1-D65	LTM R100	5/100 ⁽⁵⁾
			INFC63 or INFD63	100	40			
45	47	50	INFC63 or INFD63	-	50	LC1-D80	LTM R100	5/100 ⁽⁵⁾
55	57	63	INFC63 or INFD63	125	-	LC1-D115	LTM R100	5/100 ⁽⁵⁾
			INFC63 or INFD63	160	63			
75	77	80	INFC125 or INFD160	-	80	LC1-D115	LTM R100	5/100 ⁽⁵⁾
90	93	100	INFD160	-	-	LC1-D150	LTM R100	5/100 ⁽⁵⁾
			INFD250	200	100			
110	113	125	INFD160	-	125	LC1-F185	LTM R08	On CT
132	134	160	INFD250	250	-	LC1-F265	LTM R08	On CT
			INFD200	-	160			
160	162	160	INFD200	-	160	LC1-F265	LTM R08	On CT
200	203	200	INFD400	315	-	LC1-F400	LTM R08	On CT
			INFD630	400	200			
220	223	250	INFD250	-	250	LC1-F400	LTM R08	On CT
250	253	315	INFD630	450	-	LC1-F400	LTM R08	On CT
			INFD400	-	315			
315	320	355	INFD630	500	-	LC1-F500	LTM R08	On CT
355	354	400	INFD400	-	355	LC1-F630	LTM R08	On CT
400	400	450	INFD630	-	400	LC1-F630	LTM R08	On CT
450	455	500	INFD630	-	450	LC1-F630	LTM R08	On CT
					500	LC1-F630	LTM R08	On CT

⁽¹⁾ Coordination table built with 690 V fuse-links (80 kA for NFC fuse-links, 100 kA for DIN fuse-links).

⁽²⁾ INFC for NFC cylindrical ferrule / INFD for NH-type DIN fuse-link.

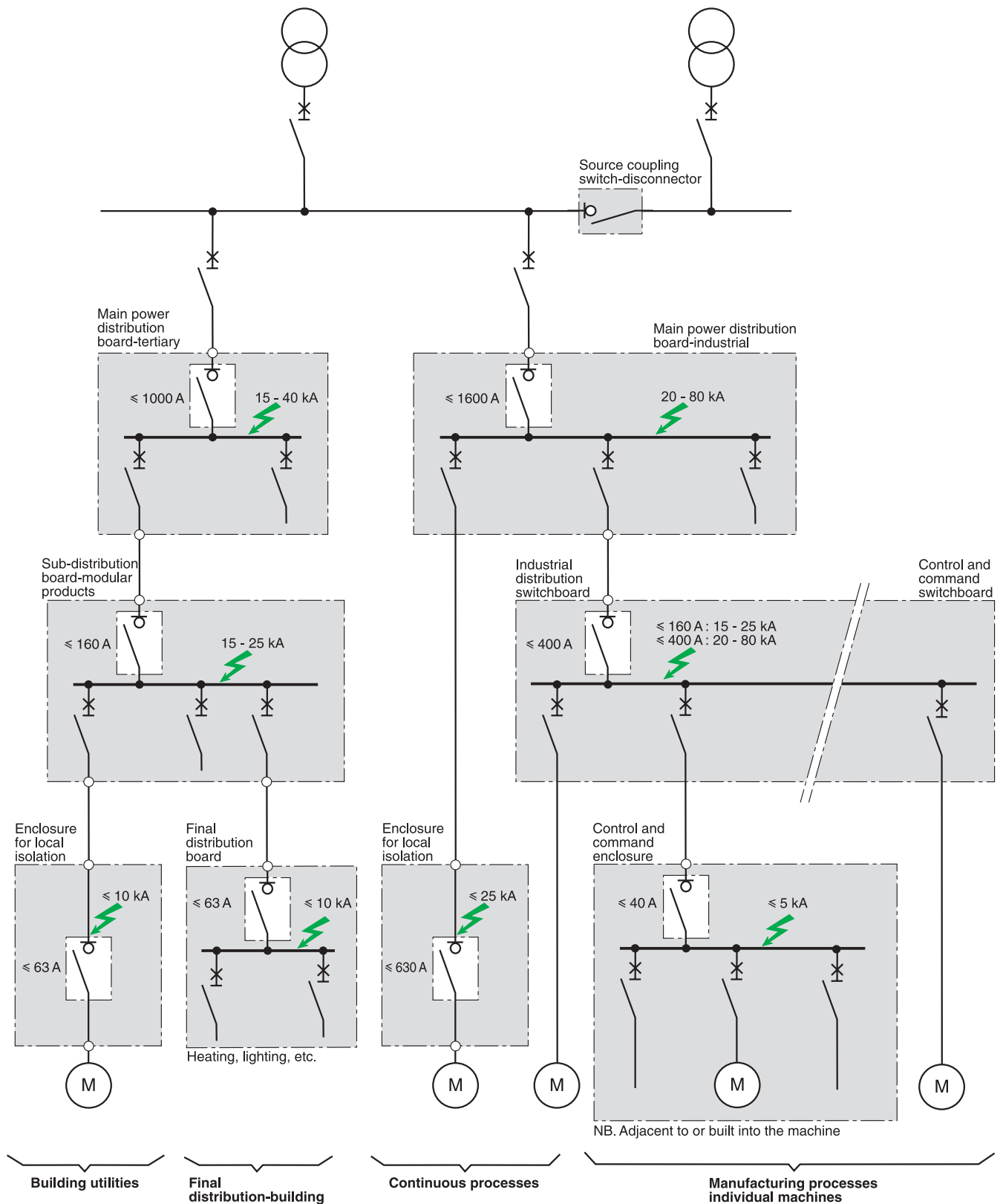
⁽³⁾ Reversers: replace LC1 with LC2; star-delta starter: replace LC1 with LC3.

⁽⁴⁾ For use with a class 20 or class 30 relay, apply respectively a derating of 20 % and 37 %.

⁽⁵⁾ Current transformer built into the relay.

Functions performed by switch

DB115214



Functions and positions of LV switches

The switch is therefore essentially a control device, (generally manual, possibly electrical on opening - termed a free tripping switch) capable of breaking and closing a normal service circuit. It does not use any electricity to remain open or closed (2 stable positions).

For safety reasons, in the majority of cases is suitable for isolation.

It must always be used in association with a device which protects against overloads and short-circuits.

6 applications have thus been identified:

- coupling and insulating switch in a power switchboard
- insulating switch in an industrial switchboard and automation cabinets
- insulating switch in a modular switchboard
- insulating switch in proximity units
- insulating switch in small commercial distribution units
- automation unit switch.

Suitable for isolation

Switch-disconnector

Isolation permits a circuit or a device to be disconnected from the rest of the electrical installation, in order to guarantee the safety of those who have to achieve repairs or maintenance.

Normally, all circuits in an electrical installation must be capable of being isolated. In practice, to ensure optimal continuity of service, an isolating device is installed at the start of every circuit distribution.

Certain switches allow this function to be achieved in addition to their circuit control function.

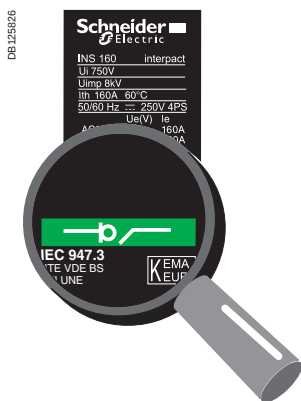
Therefore a switch-disconnector must display the symbol (illustrated opposite), visibly on the front face of the installed device.

Isolating function

Installation standards stipulate the requirements which must be respected in order for a device to carry out its isolating function.

It must:

- be with equipped with omnipolar isolation, that is to say that the live conductors, including the neutral (with the exception of the PEN conductor which must never be isolated) must be isolated simultaneously
- be lockable in the "open" position so as to prevent any risk of involuntary reclosing this is imperative for industrial devices
- conform to a standard which guarantees its suitability for isolation
- It must also meet overvoltage withstand requirements. However, if the isolation is explicitly recognized by a manufacturing standard, for example IEC 60947-1/3 for industrial switch-disconnectors, a device which complies with this isolation standard is judged to comply fully with the conditions required by installation standards. The manufacturing standard guarantees its use for isolation suitability for the user.



Switch standards and characteristics

Switch standards

Standard define:

- the frequency of operation cycles (with a maximum of 120 per hour)
- mechanical and electrical endurance
- operating breaking and making capacity
- normal
- occasional (closing on short-circuit for example)
- utilization categories.

The IEC standards 60947-3 ⁽¹⁾ and 60669-1 ⁽²⁾ thus define the principal values which are given below.

Utilization category

Depending on the rated operating current and the A or B mechanical endurance, standards define the utilization categories shown in the table below.

Example:

A switch with a rating of 125 A, from the AC23 category must be able to:

- make a 10 In (1250 A) current with a $\cos \varphi$ of 0.35
- break a 8 In (1000 A) current with a $\cos \varphi$ of 0.35.

Its other characteristics are:

- to withstand a 12 In - 1 s short-circuit current, which defines the $I_{cw} = 1500$ A r.m.s. thermal withstand during 1 s
- I_{cm} (peak A) short-circuit making capacity which corresponds to the electrodynamic loads.

Utilization category		Characteristic applications
Frequent operations	Non frequent operations	
AC-21A	AC-21B	Resistive loads including moderate overloads ($\cos \varphi = 0.95$)
AC-22A	AC-22B	Mixed resistive and inductive loads including moderate overloads ($\cos \varphi = 0.65$)
AC-23A	AC-23B	Motors with cage winding or other loads which are very inductive ($\cos \varphi = 0.45$ or 0.35)

⁽¹⁾ The industrial type of switch is defined by the IEC standard 60947-3.

⁽²⁾ The domestic type of switch is defined by the IEC standard 60669-1.

The switch must be chosen according to:

- the characteristics of the network on which it is installed,
- the location and the application,
- coordination with the upstream protection devices (in particular overload and short-circuit).

Choice criteria

Network characteristics

Nominal voltage, nominal frequency and nominal current are determined in the same way as for a circuit-breaker:

- nominal voltage = nominal voltage of the network
- frequency = network frequency
- nominal current = rated current of a value immediately higher than the downstream load current. Note that the rated current is defined for a given ambient temperature and that a derating may have to be taken into account.

Location and application

This determines the type and characteristics or main functions that the switch must possess. There are 3 function levels (see table opposite):

- basic functions, virtually common to all switch types:
 - isolation, control, padlocking, safety.
- additional characteristic functions
 - direct formulation of the needs of the user and of the switch environment, i.e.:
 - industrial type performance
 - need for emergency stopping
 - Isc level
 - type of interlocking
 - type of control
 - utilization category
 - mounting system.
- specific functions
 - linked to operation and to installation requirements, i.e.:
 - earth leakage protection
 - motor mechanisms
 - remote opening ("emergency stop" function)
 - withdrawability.

The following table enables choice of switch according to requirements.

choice table

Comparison of the application table K (see [page 191](#)) and the switch technical data table M (see [page 193](#)) lets you specify which switch range should be used.

Coordination

All switches must be protected by an overcurrent protection device placed upstream.

The "additional technical information" tables below give the SCPD (circuit-breaker or fuse) guaranteeing proper coordination with switches in event of a downstream short-circuit, according to the electrodynamic withstand or the short-circuit making capacity of the device.

Location and application table

Switch technical data according to location and application.

		Power distribution switchboards	Industrial switchboards and automation cubicles	Subdistribution switchboards (modular products)	Small tertiary distribution enclosures	Automation enclosures	Local isolation enclosures
Current range		400 to 6300 A	40 to 630 A	20 to 160 A	≤ 125 A	≤ 40/125 A	10 to 630 A
LV switch basic functions							
Circuit on-load control		Yes	Yes	Yes	Yes	Yes	Yes
Isolation		■	■	■	■	■	■
Padlocking the isolated status		By isolation with positive break indication or visible isolation					
Padlocking		■	■	■	■	■	■
Additional functions / technical data							
Maximum short-circuit level		20 to 80 kA	■ I ≤ 160 A: 15 to 25 kA ■ I ≤ 400 A: 20 to 80 kA	■ I ≤ 63 A: 15 kA ■ I ≤ 160 A: 25 kA	10 kA	3 to 5 kA	■ I ≤ 63 A: 10 kA ■ I ≤ 630 A: 25 kA
Motor mechanism technical data	AC21A			■	■		
	AC22A	■	■	□	□		
	AC23		□			■	■
	AC3						■ I ≤ 63 A
Handle	Rotary	■	■	■		■	■
	Direct front	■	□	■	■	■	□
	Front extended	□	□	□			■
	Side extended		□				■
Mounting	On plate	■	□	□		■	□
	Symmetrical rail (45 mm tip)	□	■	■		□	
Specific functions							
Earth leakage protection		□	□	□	□		
Other	Draw-out, auxiliary switches, auxiliary releases, remote control	■	■	□			□
	Emergency stop		□	□	□		□

Table K

■ compulsory.
□ possible.

Choosing a Schneider Electric switch

The switches available in the Schneider Electric offer

Renewal and standardisation of the Interpact range is part of the Schneider Electric global offer.

Schneider Electric offers its customers several ranges of switches.

Choice depends on:

- the application
- the additional functions to be implemented (safety level, convenience, etc.).

The following table summarises the possibilities offered by all the Schneider Electric ranges according to the applications described above.

Applications Products	Incoming switches for						Local isolation switches Local isolation enclosures
	Main distribution switchboards 400-6300 A	Industrial power switchboards 400-630 A	Automation cubicles 400-630 A	Subdistribution switchboards 20-160 A	Small tertiary distribution enclosures ≤ 125 A	Automation enclosures ≤ 40/125 A	10-630 A
Vario (Telemecanique)						■	■
Multi 9 I/ID (modular profile)					■		□
Multi 9 I-NA (modular profile)							
Interpact INS (modular profile)		■	□ ⁽¹⁾	■	■		■
NG125 NA (modular profile)				■	■		■
Interpact INS (industrial)	■	■	□ ⁽¹⁾				■
Compact NA (industrial)	□	■	□ ⁽¹⁾	□			■
Masterpact HI/HF (industrial)	■						

Table L

■ very common
□ fairly common.

⁽¹⁾ Fairly common, but totally suitable for these application types.

Switch range technical data

Table M below lists the main technical data of the switches in the Schneider Electric ranges.

Range		Vario	Multi 9 I	I-NA	ID	NG125NA	Interpact			Compact		Masterpact		
							INS	INV	IN	NA/NI	CMI	NI	HI	HF
Performance type	Industrial	■		■		■	■	■	■	■	■	■	■	■
	Tertiary		■	■	■	■	■	■	■	■	■	■	■	■
Clip-on on rail			■	■	■	■	■ (3)	■ (3)						
Main functions	Isolation	■	■ (5)	■	■ (5)	■	■	■	■	■	■	■	■	■
	Positive break indication	■		■		■	■	■	■	■	■	■	■	■
	Visible isolation							■						
Emergency stop	Manual (7)	■					■ (4)	■ (4)						
	Remote			■ (6)	■ (6)	■ (6)				■	■	■	■	■
Other functions	Residual current				■	■ (8)				■	■	■ (8)	■ (8)	■ (8)
	Remote control									■	■	■	■	■
	fuse/switches		■											
Fixed/drawout	Fixed	■	■			■	■	■	■	■	■			
	Drawout									■		■	■	■
Auxiliary range available		■ (1)		■ (1)	■ (1)	■ (1)	■ (1)	■ (1)	■ (2)	■	■	■	■	
	12	■												
	16				■									
	20	■	■											
	25	■			■									
	32	■	■											
	40	■	■	■	■		■							
	63	■	■	■	■	■	■							
	80	■			■	■	■							
	100		■		■		■	■		■				
	125	■	■			■	■			■				
	160	■					■	■		■				
	175	■												
	250						■	■	■	■				
	320						■	■						
	400						■	■						
	500						■	■						
	630						■	■	■	■				
	800									■		■	■	■
	1000								■			■	■	■
	1250									■		■	■	■
	1600								■		■	■	■	■
	2000									■	■	■	■	■
	2500								■		■	■	■	■
	3200									■	■	■	■	■
	4000										■	■		
	5000											■	■	
	6300											■		

Table M

(1) OF contact on switches - OF contact and MX, MN coil on residual current circuit-breakers.

(2) OF or CAM contact.

(3) Only 40 to 160 A (modular profile).

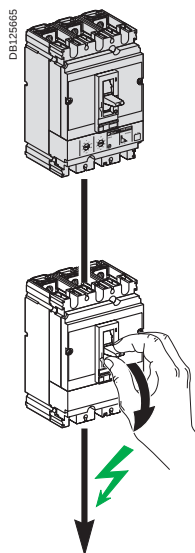
(4) Specific INS/INV emergency stop switches.

(5) Only on ratings 40/63/100/125.

(6) With MN auxiliaries.

(7) Yellow front plate/red handle.

(8) Associated Vigi bloc.



Compact NSA type NA switch-disconnectors			NG160NA
Upstream protection			
By Compact NSX			
Type/maximum rating (A)			NSX160F/160
Isc max. (380/415 V)	kA rms		36
Making capacity (380/415 V)	kA peak		75
Type/maximum rating (A)			NSX160N/160
Isc max. (380/415 V)	kA rms		50
Making capacity (380/415 V)	kA peak		105
Type/maximum rating (A)			NG160N/160
Isc max. (380/415 V)	kA rms		25
Making capacity (380/415 V)	kA peak		52
By fuse			
Type aM ⁽¹⁾ maximum rating (A)			160
Isc max. (500 V)	kA rms		33
Making capacity (500 V)	kA peak		69
Type gI ⁽²⁾ maximum rating (A)			125
Isc max. (500 V)	kA rms		100
Making capacity (500 V)	kA peak		220
Type gI ⁽¹⁾ maximum rating (A)			160
Isc max. (500 V)	kA rms		100
Making capacity (500 V)	kA peak		220
Type BS ⁽²⁾ maximum rating (A)			125 and 100M125
Isc max. (500 V)	kA rms		80
Making capacity (500 V)	kA peak		176
Type BS ⁽¹⁾ maximum rating (A)			160 and 100M160
Isc max. (500 V)	kA rms		80
Making capacity (500 V)	kA peak		176

⁽¹⁾ Protection by external thermal relay obligatory.

⁽²⁾ Without external thermal relay.

Use of LV switches

Switch-disconnectors protection

Compact NSX type NA switch-disconnectors Upstream protection by circuit breaker

Compact NSX

By 380/415 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
By 440/480 V ⁽¹⁾ circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
By 500 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

⁽¹⁾ Suitable for NEMA 480 V voltage.

	NSX100NA	NSX160NA	NSX250NA	NSX400NA	NSX630NA
	NSX100B/100 25 53	NSX160B/160 25 53	NSX250B/250 25 53	-	-
	NSX100F/100 36 76	NSX160F/160 36 76	NSX250F/250 36 76	NSX400F/400 36 76	NSX630F/630 36 76
	NSX100N/100 50 105	NSX160N/160 50 105	NSX250N/250 50 105	NSX400N/400 50 105	NSX630N/630 50 105
	NSX100H/100 70 154	NSX160H/160 70 154	NSX250H/250 70 154	NSX400H/400 70 154	NSX630H/630 70 154
	NSX100S/100 100 220	NSX160S/160 100 220	NSX250S/250 100 220	NSX400S/400 100 220	NSX630S/630 100 220
	NSX100L/100 150 330	NSX160L/160 150 330	NSX250L/250 150 330	NSX400L/400 150 330	NSX630L/630 150 330
	NSX100B/100 20 40	NSX160B/160 20 40	NSX250B/250 20 40	-	-
	NSX100F/100 35 74	NSX160F/160 35 74	NSX250F/250 35 74	NSX400F/400 35 74	NSX630F/630 35 74
	NSX100N/100 50 105	NSX160N/160 50 105	NSX250N/250 50 105	NSX400N/400 50 105	NSX630N/630 50 105
	NSX100H/100 65 143	NSX160H/160 65 143	NSX250H/250 65 143	NSX400H/400 65 143	NSX630H/630 65 143
	NSX100S/100 90 198	NSX160S/160 90 198	NSX250S/250 90 198	NSX400S/400 90 198	NSX630S/630 90 198
	NSX100L/100 130 286	NSX160L/160 130 286	NSX250L/250 130 286	NSX400L/400 130 286	NSX630L/630 130 286
	NSX100B/100 15 30	NSX160B/160 15 30	NSX250B/250 15 30	-	-
	NSX100F/100 25 52	NSX160F/160 30 63	NSX250F/250 30 63	NSX400F/400 25 52	NSX630F/630 25 52
	NSX100N/100 36 76	NSX160N/160 36 76	NSX250N/250 36 76	NSX400N/400 30 63	NSX630N/630 30 63
	NSX100H/100 50 105	NSX160H/160 50 105	NSX250H/250 50 105	NSX400H/400 50 105	NSX630H/630 50 105
	NSX100S/100 65 143	NSX160S/160 65 143	NSX250S/250 65 143	NSX400S/400 65 143	NSX630S/630 65 143
	NSX100L/100 70 154	NSX160L/160 70 154	NSX250L/250 70 154	NSX400L/400 70 154	NSX630L/630 70 154

Use of LV switches

Switch-disconnectors protection

Compact NSX type NA switch-disconnectors Upstream protection by circuit breaker

Compact NSX

By 525 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA efg.
	Making capacity	kA peak
By 690 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA efg.
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
By 690 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA efg.
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

Upstream protection by fuse

By 500 V fuse	Type aM ⁽²⁾ /maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type gG ⁽³⁾ /maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type gG ⁽²⁾ /maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type BS ⁽³⁾ /maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type BS ⁽²⁾ /maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

⁽²⁾ Protection by external thermal relay obligatory.

⁽³⁾ Without external thermal relay.

	NSX100NA	NSX160NA	NSX250NA	NSX400NA	NSX630NA
	NSX100F/100 22 46	NSX160F/160 22 46	NSX250F/250 22 46	NSX400F/400 20 42	NSX630F/630 20 42
	NSX100N/100 35 74	NSX160N/160 22 46	NSX250N/250 22 46	NSX400N/400 22 46	NSX630N/630 22 46
	NSX100H/100 35 74	NSX160H/160 22 46	NSX250H/250 22 46	NSX400H/400 22 46	NSX630H/630 22 46
	NSX100S/100 40 85	NSX160S/160 22 46	NSX250S/250 22 46	NSX400S/400 22 46	NSX630S/630 22 46
	NSX100L/100 50 105	NSX160L/160 22 46	NSX250L/250 22 46	NSX400L/400 22 46	NSX630L/630 22 46
	NSX100F/100 8 14	NSX160F/160 8 14	NSX250F/250 8 14	NSX400F/400 10 17	NSX630F/630 10 17
	NSX100N/100 10 17	NSX160N/160 10 17	NSX250N/250 10 17	NSX400N/400 20 42	NSX630N/630 20 42
	NSX100S/100 15 30	NSX160S/160 15 30	NSX250S/250 15 30	NSX400S/400 25 52	NSX630S/630 25 52
	NSX100L/100 20 40	NSX160L/160 20 40	NSX250L/250 20 40	NSX400L/400 35 74	NSX630L/630 35 74
	100 100 220	160 100 220	250 100 220	400 100 220	630 100 220
	80 100 220	125 100 220	200 100 220	315 100 220	500 100 220
	100 100 220	160 100 220	250 100 220	400 100 220	630 100 220
	80 and 63M80 80 176	125 and 100M125 80 176	160 and 100M160 80 176	315 and 200M315 80 176	500 80 176
	160 and 100M160 80 176	160 and 100M160 80 176	250 and 200M250 80 176	355 and 315M355 80 176	450 and 400M450 80 176

Use of LV switches

Switch-disconnectors protection

Compact NS type NA switch-disconnectors

Upstream protection by circuit breaker

Compact NS

By 380/415 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

By 440/480 V ⁽¹⁾ circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

By 500/525 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

By 690 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak
	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

Masterpact NT H1

By 220/690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽²⁾
	Making capacity	kA peak	DIN off/DIN on ⁽²⁾

Masterpact NT L1

By 220/525 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

By 690 V	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

Masterpact NW N1-H1-H2-H3

By 220/440-480 V ⁽¹⁾ circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾

By 500/525 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾

By 690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾

Masterpact NW L1

By 220/690 V circuit breaker	Type/maximum rating (A)	
	Isc max.	kA rms
	Making capacity	kA peak

⁽¹⁾ Suitable for NEMA 480 V voltage.

⁽²⁾ Maximum setting position 15.

⁽³⁾ DIN on:

■ maximum setting position 15 (In ≤ 2000).

■ maximum setting position 12 (In = 2500).

■ maximum setting position 8 (In = 3200).

	NS630bNA	NS800NA	NS1000NA	NS1250NA	NS1600NA
	NS630bN/630 50 105	NS800N/800 50 105	NS1000N/1000 50 105	NS1250N/1250 50 105	NS1600N-bN/1600 50 105
	NS630bH/630 70 154	NS800H/800 70 154	NS1000H/1000 70 154	NS1250H/1250 70 154	NS1600H-bH/1600 70 154
	NS630bL/630 150 330	NS800L/800 150 330	NS1000L/1000 150 330		
	NS630bN/630 50 105	NS800N/800 50 105	NS1000N/1000 50 105	NS1250N/1250 50 105	NS1600N-bN/1600 50 105
	NS1600H-bH/1600 65 143	NS1600H-bH/1600 65 143	NS2000H/2000 65 143	NS2500H/2500 65 143	NS3200H/3200 65 143
	NS630bL/630 130 286	NS800L/800 130 286	NS1000L/1000 130 286		
	NS630bN/630 40 84	NS800N/800 40 84	NS1000N/1000 40 84	NS1250N/1250 40 84	NS1600N-bN/1600 40 84
	NS630bH/630 50 105	NS800H/800 50 105	NS1000H/1000 50 105	NS1250H/1250 50 105	NS1600H-bH/1600 50 105
	NS630bL/630 100 220	NS800L/800 100 220	NS1000L/1000 100 220		
	NS630bN/630 30 63	NS800N/800 30 63	NS1000N/1000 30 63	NS1250N/1250 30 63	NS1600N-bN/1600 30 63
	NS630bH/630 42 88	NS800H/800 42 88	NS1000H/1000 42 88	NS1250H/1250 42 88	NS1600H-bH/1600 42 88
	NS630bL/630 25 53	NS800L/800 25 53	NS1000L/1000 25 53		
	NT06H1/630 25/42 53/88	NT08H1/800 25/42 53/88	NT10H1/1000 25/42 53/88	NT12H1/1000 25/42 53/88	NT16H1/160 25/42 53/88
	NT06L1/630 100 220	NT08L1/800 100 220	NT10L1/1000 100 220	NT12L1/1250 100 220	NT16L1/160 100 220
	NT06L1/630 25 53	NT08L1/800 25 53	NT10L1/1000 25 53	NT12L1/1250 25 53	NT16L1/160 25 53
	NW08N1/630 25/42 53/88	NW08N1/800 25/42 53/88	NW10N1/1000 25/42 53/88	NW12N1/1250 25/42 53/88	NW16N1/160 25/4 53/88
	NW08H1/630 25/50 53/105	NW08H1/800 25/50 53/105	NW10H1/1000 25/50 53/105	NW12H1/1250 25/50 53/105	NW16H1/1600 25/50 53/105
	NW08H2/630 25/50 53/105	NW08H2/800 25/50 53/105	NW10H2/1000 25/50 53/105	NW12H2/1250 25/50 53/105	NW16H2/1600 25/50 53/105
	NW08N1/630 25/40 53/84	NW08N1/800 25/40 53/84	NW10N1/1000 25/40 53/84	NW12N1/1250 25/40 53/84	NW16N1/160 25/40 53/84
	NW08H1/630 25/40 53/84	NW08H1/800 25/40 53/84	NW10H1/1000 25/40 53/84	NW12H1/1250 25/40 53/84	NW16H1/1600 25/40 53/8
	NW08H2/630 25/40 53/84	NW08H2/800 25/40 53/84	NW10H2/1000 25/40 53/84	NW12H2/1250 25/40 53/84	NW16H2/160 25/40 53/84
	NW08N1/630 25/30 53/63	NW08N1/800 25/30 53/63	NW10N1/1000 25/30 53/63	NW12N1/1250 25/30 53/63	NW16N1/160 25/3 53/6
	NW08H1/630 25/30 53/63	NW08H1/800 25/30 53/63	NW10H1/1000 25/30 53/63	NW12H1/1250 25/30 53/63	NW16H1/160 25/30 53/6
	NW08H2/630 25/30 53/63	NW08H2/800 25/30 53/63	NW10H2/1000 25/30 53/63	NW12H2/1250 25/30 53/63	NW16H2/160 25/30 53/6
	NW08L1/630 25 53	NW08L1/800 25 53	NW10L1/1000 25 53	NW12L1/1250 25 53	NW16L1/160 25 53

Use of LV switches

Switch-disconnectors protection

Compact NS type NA switch-disconnectors Upstream protection by circuit breaker

Compact NS

By 380/415 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
By 440/480 V ⁽¹⁾ circuit breaker	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
By 500/525 V circuit breaker	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
By 690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	
	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	

Masterpact NT H1

By 220/690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽²⁾
	Making capacity	kA peak	DIN off/DIN on ⁽²⁾

Masterpact NT L1

By 220/525 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽²⁾
	Making capacity	kA peak	DIN off/DIN on ⁽²⁾
By 690 V	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽²⁾
	Making capacity	kA peak	DIN off/DIN on ⁽²⁾

Masterpact NW N1-H1-H2-H3

By 220/440-480 V ⁽¹⁾ circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽²⁾
	Making capacity	kA peak	DIN off/DIN on ⁽²⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
By 500/525 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
By 690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾
	Type/maximum rating (A)		
	Isc max.	kA rms	DIN off/DIN on ⁽³⁾
	Making capacity	kA peak	DIN off/DIN on ⁽³⁾

Masterpact NW L1

By 220/690 V circuit breaker	Type/maximum rating (A)		
	Isc max.	kA rms	
	Making capacity	kA peak	

⁽¹⁾ Suitable for NEMA 480 V voltage.

⁽²⁾ Maximum setting position 15.

⁽³⁾ DIN on:

■ maximum setting position 15 (In ≤ 2000).

■ maximum setting position 12 (In = 2500).

■ maximum setting position 8 (In = 3200).

	NS1600bNA	NS2000NA	NS2500NA	NS3200NA
	NS1600N/bN/1600 50/70 105/154	NS2000N/2000 70 154	NS2500N/2500 70 154	NS3200N/3200 70 154
	NS1600H/bH/1600 70/85 154/187	NS2000H/2000 85 187	NS2500H/2500 85 187	NS3200H/3200 85 187
	NS1600N/bN/1600 50/65 105/143	NS2000N/2000 65 143	NS2500N/2500 65 143	NS3200N/3200 65 143
	NS1600H/bH/1600 65/85 143/187	NS2000H/2000 85 187	NS2500H/2500 85 187	NS3200H/3200 85 187
	NS1600N/bN/1600 40/65 84/143	NS2000N/2000 65 143	NS2500N/2500 65 143	NS3200N/3200 65 143
	NS1600H/BH/1600 50/65 105/143	NS2000H/2000 65 143	NS2500H/2500 65 143	NS3200H/3200 65 143
	NS1600N/bN/1600 30/65 63/143	NS2000N/2000 65 143	NS2500N/2500 65 143	NS3200N/3200 65 143
	NS1600H/bH/1600 42/65 88/143	NS2000H/2000 65 143	NS2500H/2500 65 143	NS3200H/3200 65 143
	NT16H1/1600 30/42 63/88	-	-	-
	NT16L1/1600 100 220	-	-	-
	NT16L1/1600 25 50	-	-	-
	NW16N1/1600 50/88 50/88	-	-	-
	NW16H1/1600 65 143	NW20H1/2000 65 143	NW25H1/2500 65 143	NW32H1/3200 65 143
	NW16H2/1600 70 154	NW20H2/2000 70 154	NW25H2/2500 70 154	NW32H2/3200 70 154
		NW20H3/2000 70 154	NW25H3/2500 70 154	NW32H3/3200 70 154
	NW16N1/1600 50/88 50/88	-	-	-
	NW16H1/1600 75 143	NW20H1/3000 65 143	NW25H1/2500 65 143	NW32H1/3200 65 143
	NW16H2/1600 70 154	NW20H2/2000 65 143	NW25H2/2500 65 143	NW32H2/3200 65 143
		NW20H3/2000 65 143	NW25H3/2500 65 143	NW32H3/3200 65 143
	NW16N1/1600 42 88	-	-	-
	NW16H1/1600 65 143	NW20H1/2000 65 143	NW25H1/2500 65 143	NW32H1/3200 65 143
	NW16H2/1600 65 143	NW20H2/2000 65 143	NW25H2/2500 65 143	NW32H2/3200 65 143
		NW20H3/2000 65 143	NW25H3/2500 65 143	NW32H3/3200 65 143
	NW16L1/1600 100 220	NW20L1/2000 100 220	-	-

Protection of switch-disconnectors

INS40 to INS160 by Compact NSX circuit breaker

Interpact INS switch-disconnectors

Upstream protection

By Compact NSX

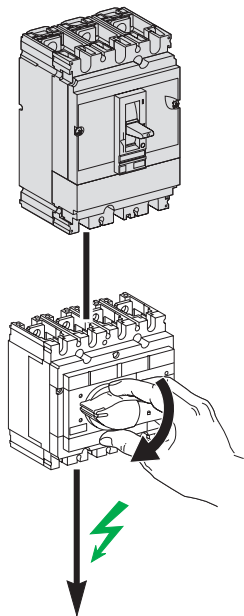
By circuit breaker 380/415 V

[illegible]

Protection of switch- disconnectors

INS40 to INS160 by Compact NSX circuit breaker

	INS40	INS63	INS80	INS100	INS125	INS160
	NSX100B/40 25 52	NSX100B/63 25 52	NSX100B/80 25 52	NSX100B/100 25 52	-	-
	NSX100F/40 36 75	NSX100F/63 36 75	NSX100F/80 36 75	NSX100F/100 36 75	-	-
	NSX100N/40 36 75	NSX100N/63 36 75	NSX100N/80 36 75	NSX100N/100 36 75	-	-
	NSX100H/S/L/40 36 75	NSX100H/S/L/63 36 75	NSX100H/S/L/80 36 75	NSX100H/S/L/100 36 75	-	-
	NSX160B/40 25 52	NSX160B/63 25 52	NSX160B/80 25 52	NSX160B/100 25 52	NSX160B/125 25 52	NSX160B/160 25 52
	NSX160F/40 25 52	NSX160F/63 25 52	NSX160F/80 25 52	NSX160F/100 36 75	NSX160F/125 36 75	NSX160F/160 36 75
	NSX160N/40 25 52	NSX160N/63 25 52	NSX160N/80 25 52	NSX160N/100 50 105	NSX160N/125 50 105	NSX160N/160 50 105
	NSX160H/S/L/40 25 52	NSX160H/S/L/63 25 52	NSX160H/S/L/80 25 52	NSX160H/S/L/100 70 154	NSX160H/S/L/125 70 154	NSX160H/S/L/160 70 154
	-	-	-	NSX250B/100 25 52	NSX250B/125 25 52	NSX250B/160 25 52
	-	-	-	NSX250F/100 36 75	NSX250F/125 36 75	NSX250F/160 36 75
	-	-	-	NSX250N/100 50 105	NSX250N/125 50 105	NSX250N/160 50 105
	-	-	-	NSX250H/S/L/100 70 154	NSX250H/S/L/125 70 154	NSX250H/S/L/160 70 154
	NSC100N/40 18 37	NSC100N/63 18 37	NSC100N/80 18 37	NSC100N/100 18 37	-	-
	NG125N/40 25 52	NG125N/63 25 52	NG125N/80 25 52	NG125N/100 25 52	NG125N/125 25 52	-
	NG125H/40 36 75	NG125H/63 36 75	NG125H/80 36 75	-	-	-
	NG125L/40 50 105	NG125L/63 50 105	NG125L/80 50 105	-	-	-
	NG160N/40 25 52	NG160N/63 25 52	NG160N/80 25 52	NG160N/100 25 52	NG160N/125 25 52	NG160N/160 25 52



By circuit breaker
440/480 V ⁽¹⁾

(1) Applicable for 480 NEMA.

Protection of switch- disconnectors

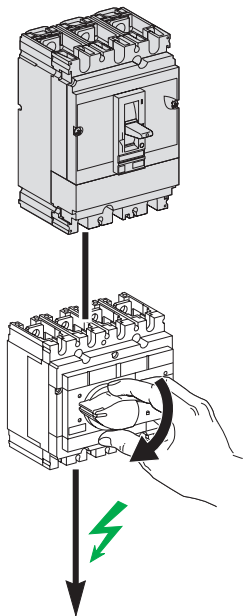
INS40 to INS160 by Compact NSX circuit breaker

	INS40	INS63	INS80	INS100	INS125	INS160
	NSX100B/40 20 40	NSX100B/63 20 40	NSX100B/80 20 40	NSX100B/100 20 40	-	-
	NSX100F/40 35 73	NSX100F/63 35 73	NSX100F/80 35 73	NSX100F/100 35 73	-	-
	NSX100N/40 35 73	NSX100N/63 35 73	NSX100N/80 35 73	NSX100N/100 35 73	-	-
	NSX100H/S/L/40 35 73	NSX100H/S/L/63 35 73	NSX100H/S/L/80 35 73	NSX100H/S/L/100 65 143	-	-
	NSX160B/40 20 40	NSX160B/63 20 40	NSX160B/80 20 40	NSX160B/100 20 40	NSX160B/125 20 40	NSX160B/160 20 40
	NSX160F/40 25 52	NSX160F/63 25 52	NSX160F/80 25 52	NSX160F/100 35 73	NSX160F/125 35 73	NSX160F/160 35 73
	NSX160N/40 25 52	NSX160N/63 25 52	NSX160N/80 25 52	NSX160N/100 35 73	NSX160N/125 35 73	NSX160N/160 35 73
	NSX160H/S/L/40 25 52	NSX160H/S/L/63 25 52	NSX160H/S/L/80 25 52	NSX160H/S/L/100 65 143	NSX160H/S/L/125 65 143	NSX160H/S/L/160 65 143
	-	-	-	NSX250B/100 20 40	NSX250B/125 20 40	NSX250B/160 20 40
	-	-	-	NSX250F/100 35 73	NSX250F/125 35 73	NSX250F/160 35 73
	-	-	-	NSX250N/100 35 73	NSX250N/125 35 73	NSX250N/160 35 73
	-	-	-	NSX250H/S/L/100 65 143	NSX250H/S/L/125 65 143	NSX250H/S/L/160 65 143
	NSC100N/40 18 37	NSC100N/63 18 37	NSC100N/80 18 37	NSC100N/100 18 37	-	-
	NSX100B/40 15 30	NSX100B/63 15 30	NSX100B/80 15 30	NSX100B/100 15 30	-	-
	NSX100F/40 18 36	NSX100F/63 18 36	NSX100F/80 18 36	NSX100F/100 18 36	-	-
	NSX100N/40 18 36	NSX100N/63 18 36	NSX100N/80 18 36	NSX100N/100 18 36	-	-
	NSX100H/S/L/40 25 53	NSX100H/S/L/63 25 53	NSX100H/S/L/80 25 53	NSX100H/S/L/100 25 53	-	-
	NSX160B/40 15 30	NSX160B/63 15 30	NSX160B/80 15 30	NSX160B/100 15 30	NSX160B/125 15 30	NSX160B/160 15 30
	NSX160F/40 15 30	NSX160F/63 15 30	NSX160F/80 15 30	NSX160F/100 15 30	NSX160F/125 22 46	NSX160F/160 22 46
	NSX160N/40 15 30	NSX160N/63 15 30	NSX160N/80 15 30	NSX160N/100 15 30	NSX160N/125 22 46	NSX160N/160 22 46
	NSX160H/S/L/40 15 30	NSX160H/S/L/63 15 30	NSX160H/S/L/80 15 30	NSX160H/S/L/100 22 46	NSX160H/S/L/125 22 46	NSX160H/S/L/160 22 46
	-	-	-	NSX250B/100 15 30	NSX250B/125 15 30	NSX250B/160 15 30
	-	-	-	NSX250F/100 15 30	NSX250F/125 22 46	NSX250F/160 22 46
	-	-	-	NSX250N/100 15 30	NSX250N/125 22 46	NSX250N/160 22 46
	-	-	-	NSX250H/S/L/100 22 46	NSX250H/S/L/125 22 46	NSX250H/S/L/160 22 46
	NSC100N/40 18 37	NSC100N/63 18 37	NSC100N/80 18 37	NSC100N/100 18 37	-	-

Protection of switch- disconnectors

INS40 to INS160 by Compact NSX circuit breaker

DB125666



Interpact INS switch-disconnectors

Upstream protection

By Compact NSX

By circuit breaker 690 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Upstream protection by fuse

By 500 V fuse

Type aM ⁽²⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type gG ⁽³⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type gG ⁽²⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type BS ⁽³⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type BS ⁽²⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By 690 V fuse

Type aM ⁽²⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type gG ⁽³⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak
Type gG ⁽²⁾ /maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

⁽²⁾ Protection by external thermal relay obligatory.

⁽³⁾ Without external thermal relay.

Protection of switch- disconnectors

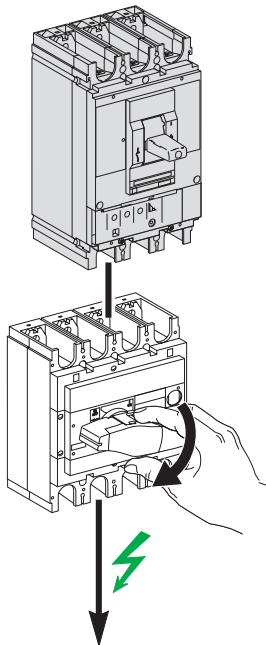
INS40 to INS160 by Compact NSX circuit breaker

	INS40	INS63	INS80	INS100	INS125	INS160
	-	-	-	NSX100B/100 6 9	-	-
	-	-	-	NSX100F/100 8 14	-	-
	-	-	-	NSX100N/100 10 17	-	-
	-	-	-	NSX100H/S/L/100 10 17	-	-
	-	-	-	NSX160B/100 6 9	NSX160B/125 6 9	NSX160B/160 6 9
	-	-	-	NSX160F/100 8 14	NSX160F/125 8 14	NSX160F/160 8 14
	-	-	-	NSX160N/100 10 17	NSX160N/125 10 17	NSX160N/160 10 17
	-	-	-	NSX160H/S/L/100 10 17	NSX160H/S/L/125 10 17	NSX160H/S/L/160 10 17
	-	-	-	NSX250B/100 6 9	NSX250B/125 6 9	NSX250B/160 6 9
	-	-	-	NSX250F/100 8 14	NSX250F/125 8 14	NSX250F/160 8 14
	-	-	-	NSX250N/100 10 17	NSX250N/125 10 17	NSX250N/160 10 17
	-	-	-	NSX250H/S/L/100 10 17	NSX250H/S/L/125 10 17	NSX250H/S/L/160 10 17
	NSC100N/40 18 37	NSC100N/63 18 37	NSC100N/80 18 37	NSC100N/100 18 37	-	-
	125 100 220	125 100 220	125 100 220	200 100 220	200 100 220	200 100 220
	32 100 120	50 100 120	50 100 120	80 100 220	100 100 220	125 100 220
	100 100 220	100 100 220	100 100 220	125/160 100/50 220/105	125/160 100/50 220/105	125/160 100/50 220/105
	32 80 176	50 and 32M50 80 176	63 and 32M63 80 176	80 and 63M80 80 176	100 and 63M100 80 176	125 and 100M125 80 176
	125 and 100M125 80 176	125 and 100M125 80 176	125 and 100M125 80 176	160 and 100M160 80 176	160 and 100M160 80 176	160 and 100M160 80 176
	-	-	-	125 100 220	125 100 220	125 100 220
	-	-	-	80 100 220	100 100 220	125 100 220
	-	-	-	125 100 220	125 100 220	125 100 220

Protection of switch- disconnectors

INS/INV100 to INS/INV630 by Compact NSX circuit breaker

DB125667



Interpact INS switch-disconnectors			INS250-100 / INV100	INS250-160 / INV160
Upstream protection				
By Compact NSX				
By circuit breaker 380/415 V				
Type/maximum rating (A)			NSX100-160-250B/100	NSX160-250B/160
Isc max.	kA rms	25	25	25
Making capacity	kA peak	52	52	52
Type/maximum rating (A)			NSX100-160-250F/100	NSX160-250F/160
Isc max.	kA rms	36	36	36
Making capacity	kA peak	75	75	75
Type/maximum rating (A)			NSX100-160-250N/100	NSX160-250N/160
Isc max.	kA rms	50	50	50
Making capacity	kA peak	105	105	105
Type/maximum rating (A)			NSX100-160-250H/100	NSX160-250H/160
Isc max.	kA rms	70	70	70
Making capacity	kA peak	154	154	154
Type/maximum rating (A)			NSX100-160-250S/100	NSX160-250S/160
Isc max.	kA rms	100	100	100
Making capacity	kA peak	220	220	220
Type/maximum rating (A)			NSX100-160-250L/100	NSX160-250L/160
Isc max.	kA rms	150	150	150
Making capacity	kA peak	330	330	330
By circuit breaker 440/480 V ⁽¹⁾				
Type/maximum rating (A)			NSX100-160-250B/100	NSX160-250B/160
Isc max.	kA rms	20	20	20
Making capacity	kA peak	40	40	40
Type/maximum rating (A)			NSX100-160-250F/100	NSX160-250F/160
Isc max.	kA rms	35	35	35
Making capacity	kA peak	73	73	73
Type/maximum rating (A)			NSX100-160-250N/100	NSX160-250N/160
Isc max.	kA rms	50	50	50
Making capacity	kA peak	105	105	105
Type/maximum rating (A)			NSX100-160-250H/100	NSX160-250H/160
Isc max.	kA rms	65	65	65
Making capacity	kA peak	143	143	143
Type/maximum rating (A)			NSX100-160-250S/100	NSX160-250S/160
Isc max.	kA rms	90	90	90
Making capacity	kA peak	198	198	198
Type/maximum rating (A)			NSX100-160-250L/100	NSX160-250L/160
Isc max.	kA rms	130	130	130
Making capacity	kA peak	286	286	286
By circuit breaker 500 V				
Type/maximum rating (A)			NSX100-160-250B/100	NSX160-250B/160
Isc max.	kA rms	15	15	15
Making capacity	kA peak	30	30	30
Type/maximum rating (A)			NSX100F/100	-
Isc max.	kA rms	25	25	-
Making capacity	kA peak	52	52	-
Type/maximum rating (A)			NSX160-250F/100	NSX160-250H/160
Isc max.	kA rms	30	30	30
Making capacity	kA peak	63	63	63
Type/maximum rating (A)			NSX100-160-250N/100	NSX160-250N/160
Isc max.	kA rms	36	36	36
Making capacity	kA peak	75	75	75
Type/maximum rating (A)			NSX100-160-250H/100	NSX160-250H/160
Isc max.	kA rms	50	50	50
Making capacity	kA peak	105	105	105
Type/maximum rating (A)			NSX100-160-250S/100	NSX160-250S/160
Isc max.	kA rms	65	65	65
Making capacity	kA peak	143	143	143
Type/maximum rating (A)			NSX100-160-250L/100	NSX160-250L/160
Isc max.	kA rms	70	70	70
Making capacity	kA peak	154	154	154

⁽¹⁾ Applicable for 480 NEMA.

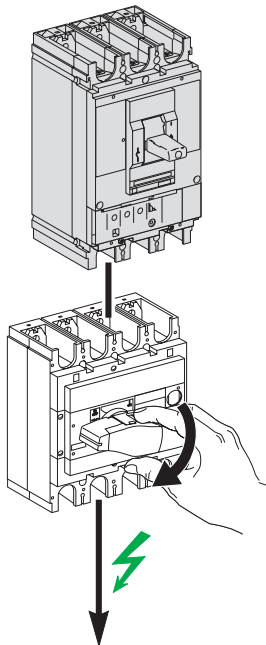
Protection of switch- disconnectors

INS/INV100 to INS/INV630 by Compact NSX circuit breaker

	INS250-200 / INV200	INS/INV250	INS/INV320	INS/INV400	INS/INV500	INS/INV630
	NSX250B/200 25 52	NSX250N/250 25 52	-	-	-	-
	NSX250F/200 36 75	NSX250F/250 36 75	NSX400-630F/320 36 75	NSX400-630F/400 36 75	NSX630F/500 36 75	NSX630F/630 36 75
	NSX250N/200 50 105	NSX250N/250 50 105	NSX400-630N/320 50 105	NSX400-630N/400 50 105	NSX630N/500 50 105	NSX630N/630 50 105
	NSX250H/200 70 154	NSX250H/250 70 154	NSX400-630H/320 70 154	NSX400-630H/400 70 154	NSX630H/500 70 154	NSX630H/630 70 154
	NSX250S/200 100 220	NSX250S/250 100 220	NSX400-630S/320 100 220	NSX400-630S/400 100 220	NSX630S/500 100 220	NSX630S/630 100 220
	NSX250L/200 150 330	NSX250L/250 150 330	NSX400-630L/320 150 330	NSX400-630L/400 150 330	NSX630L/500 150 330	NSX630L/630 150 330
	NSX250B/200 20 40	NSX250B/250 20 40	-	-	-	-
	NSX250F/200 35 73	NSX250F/250 35 73	NSX400-630F/320 35 73	NSX400-630F/400 35 73	NSX630F/500 35 73	NSX630F/630 35 73
	NSX250N/200 50 105	NSX250N/250 50 105	NSX400-630N/320 50 105	NSX400-630N/400 50 105	NSX630N/500 50 105	NSX630N/630 50 105
	NSX250H/200 65 143	NSX250H/250 65 143	NSX400-630H/320 65 143	NSX400-630H/400 65 143	NSX630H/500 65 143	NSX630H/630 65 143
	NSX250S/200 90 198	NSX250S/250 90 198	NSX400-630S/320 90 198	NSX400-630S/400 90 198	NSX630S/500 90 198	NSX630S/630 90 198
	NSX250L/200 130 286	NSX250L/250 130 286	NSX400-630L/320 130 286	NSX400-630L/400 130 286	NSX630L/500 130 286	NSX630L/630 130 286
	NSX250B/200 15 30	NSX250B/250 15 30	-	-	-	-
	-	-	-	-	-	-
	NSX250F/200 30 63	NSX250F/250 30 63	NSX400-630F/320 25 52	NSX400-630F/400 25 52	NSX630F/500 25 52	NSX630F/630 25 52
	NSX250N/200 36 75	NSX250N/250 36 75	NSX400-630N/320 30 63	NSX400-630N/400 30 63	NSX630N/500 30 63	NSX630N/630 30 63
	NSX250H/200 50 105	NSX250H/250 50 105	NSX400-630H/320 50 105	NSX400-630H/400 50 105	NSX630H/500 50 105	NSX630H/630 50 105
	NSX250S/200 65 143	NSX250S/250 65 143	NSX400-630S/320 65 143	NSX400-630S/400 65 143	NSX630S/500 65 143	NSX630S/630 65 143
	NSX250L/200 70 154	NSX250L/250 70 154	NSX400-630L/320 70 154	NSX400-630L/400 70 154	NSX630L/500 70 154	NSX630L/630 70 154

Protection of switch- disconnectors INS/INV100 to INS/INV630 by Compact NSX circuit breaker

DB125667



Interpact INS switch-disconnectors			INS250-100 / INV100	INS250-160 / INV160
Upstream protection By Compact NSX				
By circuit breaker 525 V				
Type/maximum rating (A)			NSX100-160-250B/100	NSX160-250B/160
Isc max.	kA rms	12		12
Making capacity	kA peak	24		24
Type/maximum rating (A)			NSX100-160-250F/100	NSX160-250F/160
Isc max.	kA rms	22		22
Making capacity	kA peak	47		47
Type/maximum rating (A)			NSX100-160-250N/100	NSX160-250N/160
Isc max.	kA rms	35		35
Making capacity	kA peak	73		73
Type/maximum rating (A)			NSX100-160-250H/100	NSX160-250H/160
Isc max.	kA rms	35		35
Making capacity	kA peak	73		73
Type/maximum rating (A)			NSX100-160-250S/100	NSX160-250S/160
Isc max.	kA rms	40		40
Making capacity	kA peak	81		81
Type/maximum rating (A)			NSX100-160-250L/100	NSX160-250L/160
Isc max.	kA rms	50		50
Making capacity	kA peak	105		105
By circuit breaker 690 V				
Type/maximum rating (A)			NSX100-160-250B/100	NSX160-250B/160
Isc max.	kA rms	6		6
Making capacity	kA peak	9		9
Type/maximum rating (A)			NSX100-160-250F/100	NSX160-250F/160
Isc max.	kA rms	8		8
Making capacity	kA peak	14		14
Type/maximum rating (A)			NSX100-160-250N/100	NSX160-250N/160
Isc max.	kA rms	10		10
Making capacity	kA peak	17		17
Type/maximum rating (A)			NSX100-160-250H/100	NSX160-250H/160
Isc max.	kA rms	10		10
Making capacity	kA peak	17		17
Type/maximum rating (A)			NSX100-160-250S/100	NSX160-250S/160
Isc max.	kA rms	15		15
Making capacity	kA peak	30		30
Type/maximum rating (A)			NSX100-160-250L/100	NSX160-250L/160
Isc max.	kA rms	20		20
Making capacity	kA peak	40		40
Upstream protection by fuse				
By 500 V fuse				
Type aM ⁽²⁾ /maximum rating (A)		315		315
Isc max.	kA rms	100		100
Making capacity	kA peak	220		220
Type gG ⁽³⁾ /maximum rating (A)		80		125
Isc max.	kA rms	100		100
Making capacity	kA peak	220		220
Type gG ⁽²⁾ /maximum rating (A)		225/355		225/355
Isc max.	kA rms	100/50		100/50
Making capacity	kA peak	220/105		220/105
Type BS ⁽³⁾ /maximum rating (A)		80 and 63M80		125 and 100M125
Isc max.	kA rms	80		80
Making capacity	kA peak	176		176
Type BS ⁽²⁾ /maximum rating (A)		250 and 200M250		250 and 200M250
Isc max.	kA rms	80		80
Making capacity	kA peak	176		176
By 690 V fuse				
Type aM ⁽²⁾ /maximum rating (A)		250		250
Isc max.	kA rms	100		100
Making capacity	kA peak	220		220
Type gG ⁽³⁾ /maximum rating (A)		80		125
Isc max.	kA rms	100		100
Making capacity	kA peak	220		220
Type gG ⁽²⁾ /maximum rating (A)		200		200
Isc max.	kA rms	100		100
Making capacity	kA peak	220		220

(2) Protection by external thermal relay obligatory.

(3) Without external thermal relay.

Protection of switch- disconnectors

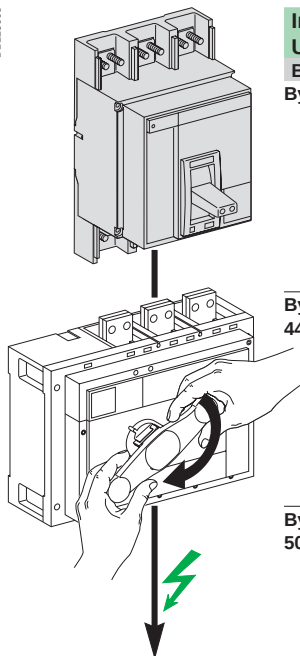
INS/INV100 to INS/INV630 by Compact NSX circuit breaker

	INS250-200 / INV200	INS/INV250	INS/INV320	INS/INV400	INS/INV500	INS/INV630
	NSX250B/200 12 24	NSX250B/250 12 24	-	-	-	-
	NSX250F/200 22 47	NSX250F/250 22 47	NSX400-630F/320 22 47	NSX400-630F/400 22 47	NSX630F/500 22 47	NSX630F/630 22 47
	NSX250N/200 35 73	NSX250N/250 35 73	NSX400-630N/320 22 47	NSX400-630N/400 22 47	NSX630N/500 22 47	NSX630N/630 22 47
	NSX250H/200 35 73	NSX250H/250 35 73	NSX400-630H/320 35 73	NSX400-630H/400 35 73	NSX630H/500 35 73	NSX630H/630 35 73
	NSX250S/200 40 81	NSX250S/250 40 81	NSX400-630S/320 40 81	NSX400-630S/400 40 81	NSX630S/500 40 81	NSX630S/630 40 81
	NSX250L/200 50 105	NSX250L/250 50 105	NSX400-630L/320 50 105	NSX400-630L/400 50 105	NSX630L/500 50 105	NSX630L/630 50 105
	NSX250B/200 6 9	NSX250B/250 6 9	-	-	-	-
	NSX250F/200 8 14	NSX250F/250 8 14	NSX400-630F/320 8 14	NSX400-630F/400 8 14	NSX630F/500 8 14	NSX630F/630 8 14
	NSX250N/200 10 17	NSX250N/250 10 17	NSX400-630N/320 10 17	NSX400-630N/400 10 17	NSX630N/500 10 17	NSX630N/630 10 17
	NSX250H/200 10 17	NSX250H/250 10 17	NSX400-630H/320 10 17	NSX400-630H/400 10 17	NSX630H/500 10 17	NSX630H/630 10 17
	NSX250S/200 15 30	NSX250S/250 15 30	NSX400-630S/320 15 30	NSX400-630S/400 15 30	NSX630S/500 15 30	NSX630S/630 15 30
	NSX250L/200 20 40	NSX250L/250 20 40	NSX400-630L/320 20 40	NSX400-630L/400 20 40	NSX630L/500 20 40	NSX630L/630 20 40
	315 100 220	315 100 220	630 50 105	630 50 105	630 50 105	630 50 105
	160 100 220	200 100 220	250 100 220	315 100 220	400 100 220	500 100 220
	225/355 100/50 220/105	225/355 100/50 220/105	630 50 105	630 50 105	630 50 105	500/630 100/50 220/105
	160 and 100M160 80 176	200 and 100M200 80 176	250 and 200M250 80 176	315 and 200M250 80 176	400 80 176	450 and 400M450 80 176
	250 and 200M250 80 176	250 and 200M250 80 176	355 and 315M355 80 176	355 and 315M355 80 176	450 and 400M450 80 176	450 and 400M450 80 176
	250 100 220	250 100 220	630 50 105	630 50 105	630 50 105	630 50 105
	160 100 220	200 100 220	250 100 220	315 100 220	400 100 220	500 100 220
	200 100 220	200 100 220	630 50 105	630 50 105	630 50 105	500/630 100/50 220/105

Protection of switch- disconnectors

INS/INV630b to INS/INV2500 by Compact
NS circuit breaker

D8125688



Interpact INS switch-disconnectors

Upstream protection

By Compact NS

By circuit breaker 380/415 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By circuit breaker 440/480 V ⁽¹⁾

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By circuit breaker 500/525 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By circuit breaker 690 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By Masterpact NT H1

By circuit breaker 220/690 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By Masterpact NT H2

By circuit breaker 220/690 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By Masterpact NT L1

By circuit breaker 220/525 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

By circuit breaker 690 V

Type/maximum rating (A)	
Isc max.	kA rms
Making capacity	kA peak

⁽¹⁾ Applicable for 480 NEMA.

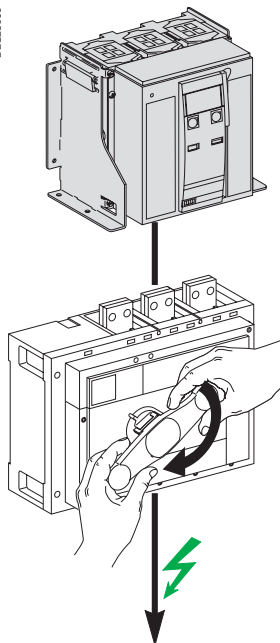
Protection of switch-
disconnectorsINS/INV630b to INS/INV2500 by Compact
NS circuit breaker

	INS/INV630b	INS/INV800	INS/INV1000	INS/INV1250	INS/INV1600	INS/INV2000	INS/INV2500
	NS630bN/630 35 75	NS800N/800 35 75	NS1000N/1000 35 75	NS1250N/1250 35 75	NS1600N - NS1600bN/1600 35 75	NS2000N/2000 50 105	NS2500N/2500 50 105
	NS630bH/630 35 75	NS800H/800 35 75	NS1000H/1000 35 75	NS1250H/1250 35 75	NS1600H - NS1600bH/1600 35 75	NS2000H/2000 50 105	NS2500H/2500 50 105
	NS630bL/630 150 330	NS800L/800 150 330	NS1000L/1000 150 330	-	-	-	-
	NS630bN/630 35 75	NS800N/800 35 75	NS1000N/1000 35 75	NS1250N/1250 35 75	NS1600N - NS1600bN/1600 35 75	NS2000N/2000 50 105	NS2500N/2500 50 105
	NS630bH/630 35 75	NS800H/800 35 75	NS1000H/1000 35 75	NS1250H/1250 35 75	NS1600H - NS1600bH/1600 35 75	NS2000H/2000 50 105	NS2500H/2500 50 105
	NS630bL/630 130 286	NS800L/800 130 286	NS1000L/1000 130 286	-	-	-	-
	NS630bN/630 35 75	NS800N/800 35 75	NS1000N/1000 35 75	NS1250N/1250 35 75	NS1600N - NS1600bN/1600 35 75	NS2000N/2000 50 105	NS2500N/2500 50 105
	NS630bH/630 35 75	NS800H/800 35 75	NS1000H/1000 35 75	NS1250H/1250 35 75	NS1600H - NS1600bH/1600 35 75	NS2000H/2000 50 105	NS2500H/2500 50 105
	NS630bL/630 100 220	NS800L/800 100 220	NS1000L/1000 100 220	-	-	-	-
	NS630bN/630 30 63	NS800N/800 30 63	NS1000N/1000 30 63	NS1250N/1250 30 63	NS1600bN/1600 30 63	NS2000N/2000 50 105	NS2500N/2500 50 105
	NS630bH/630 35 75	NS800H/800 35 75	NS1000H/1000 35 75	NS1250H/1250 35 75	NS1600bH/1600 35 75	NS2000H/2000 50 105	NS2500H/2500 50 105
	NS630bL/630 25 53	NS800L/800 25 53	NS1000L/1000 25 53	-	-	-	-
	NT06H1/630 35 75	NT08H1/800 35 75	NT10H1/1000 35 75	NT12H1/1250 35 75	NT16H1/1600 35 75	-	-
	NT06H2/630 35 75	NT08H2/800 35 75	NT10H2/1000 35 75	NT12H2/1250 35 75	NT16H2/1600 35 75	-	-
	NT06L1/630 100 220	NT08L1/800 100 220	NT10L1/1000 100 220	NT12L1/1250 100 220	NT16L1/1600 100 220	-	-
	NT06L1/630 25 53	NT08L1/800 25 53	NT10L1/1000 25 53	NT12L1/1250 25 53	NT16L1/1600 25 53	-	-

Protection of switch- disconnectors

INS/INV630b to INS/INV2500 by Masterpact NW circuit breakers

DB125609



Interpact INS switch-disconnectors

Upstream protection

By Masterpact NW N1- H1- H2- H3

By circuit breaker

220/440-480 V ⁽¹⁾

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

By circuit breaker

500/525 V

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

By circuit breaker

690 V

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak DIN OFF / DIN ON
DIN OFF / DIN ON

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak DIN OFF / DIN ON
DIN OFF / DIN ON

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak DIN OFF / DIN ON
DIN OFF / DIN ON

By Masterpact NW L1

By circuit breaker

220/690 V

Type/maximum rating (A)

Isc max.

kA rms

Making capacity

kA peak

By fuse

By fuse 500 V

Type aM ⁽²⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type gG ⁽³⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type gG ⁽²⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type BS ⁽³⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type BS ⁽²⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

By fuse 690 V

Type aM ⁽²⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type gG ⁽³⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

Type gG ⁽²⁾ / max. rating (A)

Isc max.

kA rms

Making capacity

kA peak

⁽¹⁾ Applicable for 480 NEMA.

⁽²⁾ Mandatory protection by an external thermal relay.

⁽³⁾ No external thermal relay.

Protection of switch- disconnectors

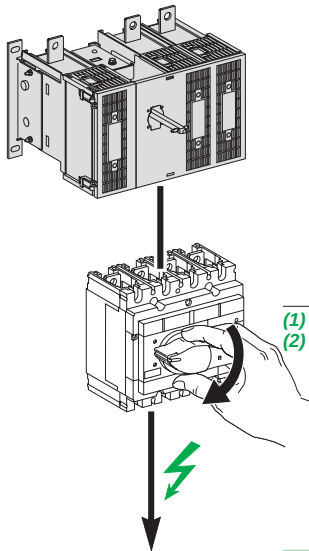
INS/INV630b to INS/INV2500 by Masterpact NW circuit breakers

	INS/INV630b	INS/INV800	INS/INV1000	INS/INV1250	INS/INV1600	INS/INV2000	INS/INV2500
	NW08N1/630 35 75	NW08N1/800 35 75	NW10N1/1000 35 75	NW12N1/1250 35 75	NW16N1/1600 35 75	-	-
	NW08H1/630 35 75	NW08H1/800 35 75	NW10H1/1000 35 75	NW12H1/1250 35 75	NW16H1/1600 35 75	NW20H1/2000 50 105	NW25H1/2500 50 105
	NW08H2/630 35 75	NW08H2/800 35 75	NW10H2/1000 35 75	NW12H2/1250 35 75	NW16H2/1600 35 75	NW20H2/2000 50 105	NW25H2/2500 50 105
	-	-	-	-	-	NW20H3/2000 50 105	NW25H3/2500 50 105
	NW08N1/630 35 75	NW08N1/800 35 75	NW10N1/1000 35 75	NW12N1/1250 35 75	NW16N1/1600 35 75	-	-
	NW08H1/630 35 75	NW08H1/800 35 75	NW10H1/1000 35 75	NW12H1/1250 35 75	NW16H1/1600 35 75	NW20H1/2000 50 105	NW25H1/2500 50 105
	NW08H2/630 35 75	NW08H2/800 35 75	NW10H2/1000 35 75	NW12H2/1250 35 75	NW16H2/1600 35 75	NW20H2/2000 50 105	NW25H2/2500 50 105
	-	-	-	-	-	NW20H3/2000 50 105	NW25H3/2500 50 105
	NW08N1/630 35 75	NW08N1/800 35 75	NW10N1/1000 35 75	NW12N1/1250 35 75	NW16N1/1600 35 75	-	-
	NW08H1/630 35 75	NW08H1/800 35 75	NW10H1/1000 35 75	NW12H1/1250 35 75	NW16H1/1600 35 75	NW20H1/2000 50 105	NW25H1/2500 50 105
	NW08H2/630 35 75	NW08H2/800 35 75	NW10H2/1000 35 75	NW12H2/1250 35 75	NW16H2/1600 35 75	NW20H2/2000 50 105	NW25H2/2500 50 105
	-	-	-	-	-	NW20H3/2000 50 105	NW25H3/2500 50 105
	NW08L1/630 35 75	NW08L1/800 35 75	NW10L1/1000 35 75	NW12L1/1250 35 75	NW16L1/1600 35 75	NW20L1/2000 50 105	-
	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	-	-
	500 100 220	630 100 220	800 100 220	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-
	500 80 176	630 80 176	800 80 176	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-
	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	-	-
	500 100 220	630 100 220	800 100 220	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-

Protection of switch- disconnectors

INS40 to 2500 and INV100 to 2500 by fuses

DB115722



Interpact INS switch-disconnectors			INS40	INS63	INS80
Upstream protection					
By fuse 500 V	Type aM ⁽¹⁾ / max. rating (A)		125	125	125
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽²⁾ / max. rating (A)		32	50	63
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽¹⁾ / max. rating (A)		100	100	100
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type BS ⁽²⁾ / max. rating (A)		32	50 & 32M50	63 & 32M63
	Isc max.	kA rms	80	80	80
	Making capacity	kA peak	176	176	176
	Type BS ⁽¹⁾ / max. rating (A)		125 & 100M125	125 & 100M125	125 & 100M125
	Isc max.	kA rms	80	80	80
	Making capacity	kA peak	176	176	176

(1) Mandatory protection by an external thermal relay.
(2) No external thermal relay.

Interpact INS switch-disconnectors			INS/INV400	INS/INV500	INS/INV630
Upstream protection					
By fuse 500 V	Type aM ⁽¹⁾ / max. rating (A)		800	800	800
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽²⁾ / max. rating (A)		315	400	500
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽¹⁾ / max. rating (A)		630	630	500/630
	Isc max.	kA rms	50	50	100/50
	Making capacity	kA peak	105	105	220/105
	Type BS ⁽²⁾ / max. rating (A)		315 & 200M315	400	500
	Isc max.	kA rms	80	80	80
	Making capacity	kA peak	176	176	176
By fuse 690 V	Type BS ⁽¹⁾ / max. rating (A)		355 & 315M355	450 & 400M450	450 & 400M450
	Isc max.	kA rms	80	80	80
	Making capacity	kA peak	176	176	176
	Type aM ⁽¹⁾ / max. rating (A)		800	800	800
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽²⁾ / max. rating (A)		315	400	500
	Isc max.	kA rms	100	100	100
	Making capacity	kA peak	220	220	220
	Type gG ⁽¹⁾ / max. rating (A)		630	630	500/630
	Isc max.	kA rms	50	50	100/50
	Making capacity	kA peak	105	105	220/105

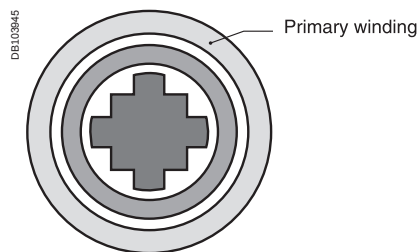
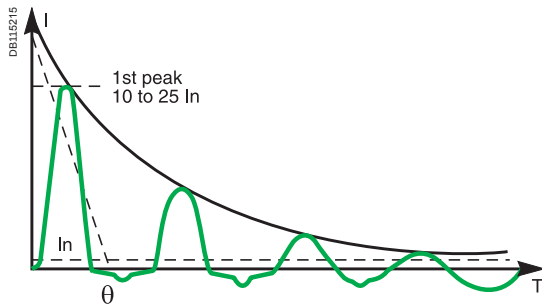
(1) Mandatory protection by an external thermal relay.
(2) No external thermal relay.

Protection of switch- disconnectors

INS40 to 2500 and INV100 to 2500 by
fuses

	INS100	INS125	INS160	INS250-100 INV100	INS250-160 INV160	INS250-200 INV200	INS/INV250	INS/INV320
	200 100 220	200 100 220	200 100 220	315 100 220	315 100 220	315 100 220	315 100 220	800 100 220
	80 100 220	100 100 220	125 100 220	80 100 220	125 100 220	160 100 220	200 100 220	250 100 220
	125/160 100/50 220/105	125/160 100/50 220/105	125/160 100/50 220/105	225/355 100/50 220/105	225/355 100/50 220/105	225/355 100/50 220/105	225/355 100/50 220/105	630 50 105
	80 & 63M80 80 176	100 & 63M100 80 176	125 & 100M125 80 176	80 & 63M80 80 176	125 & 100M125 80 176	160 & 100M160 80 176	200 & 100M200 80 176	250 & 200M250 80 176
	160 & 100M160 80 176	160 & 100M160 80 176	160 & 100M160 80 176	250 & 200M250 80 176	250 & 200M250 80 176	250 & 200M250 80 176	250 & 200M250 80 176	355 & 315M355 80 176

	INS/INV630b	INS/INV800	INS/INV1000	INS/INV1250	INS/INV1600	INS/INV2000	INS/INV2500
	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	-	-
	500 100 220	630 100 220	800 100 220	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-
	500 80 176	630 80 176	800 80 176	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-
	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	1000/1250 100 220	-	-
	500 100 220	630 100 220	800 100 220	1000 80 176	1000/1250 80/50 176/105	-	-
	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	1000/1250 80/50 176/105	-	-



Inrush currents

When LV/LV transformers are switched on, very high inrush currents are produced which must be taken into account when choosing overcurrent protection devices. The peak value of the first current wave often reaches 10 to 15 times the rated rms current of the transformer and may reach values of 20 to 25 times the rated current even for transformers rated less than 50 kVA.

Selecting the protection

Schneider Electric has conducted an extensive test programme to optimise the protection of LV/LV transformers. The Compact and Masterpact circuit breakers detailed in the following tables offer the following advantages:

- protection of the transformer in the event of abnormal overloads
- no nuisance tripping when the primary winding is energised
- unimpaired electrical endurance of the circuit breaker.

The transformers used for the tests are standard. The values in the tables have been calculated for a crest factor of 25. These tables indicate the circuit breaker and trip unit to be used depending on:

- the primary supply voltage (230 V or 400 V)
- the type of transformer (single-phase or three-phase).

They correspond to the most frequent case in which the primary is wound externally ⁽¹⁾.

The type of circuit breaker to be used (i.e. N, H or L) depends on the breaking capacity required at the point of installation.

Protection using a Compact circuit breaker (1st peak ≤ 25 In)

Compact NSX100 to NSX250 equipped with TM-D thermal-magnetic trip unit					
Transformer rating (kVA)			Protective device		
230/240 V 1-phase	230/240 V 3-phases 400/415 V 1-phase	400/415 V 3-phases	Circuit breakers	Trip unit	I _r max setting
3	5 to 6	9 to 12	NSX100B/F/N/H/S/L	TM16D	1
5	8 to 9	14 to 16	NSX100B/F/N/H/S/L	TM25D	1
7 to 9	13 to 16	22 to 28	NSX100B/F/N/H/S/L	TM40D	1
12 to 15	20 to 25	35 to 44	NSX100B/F/N/H/S/L	TM63D	1
16 to 19	26 to 32	45 to 56	NSX100B/F/N/H/S/L	TM80D	1
18 to 23	32 to 40	55 to 69	NSX160B/F/N/H/S/L	TM100D	1
23 to 29	40 to 50	69 to 87	NSX160B/F/N/H/S/L	TM125D	1
29 to 37	51 to 64	89 to 111	NSX250B/F/N/H/S/L	TM160D	1
37 to 46	64 to 80	111 to 139	NSX250B/F/N/H/S/L	TM200D	1

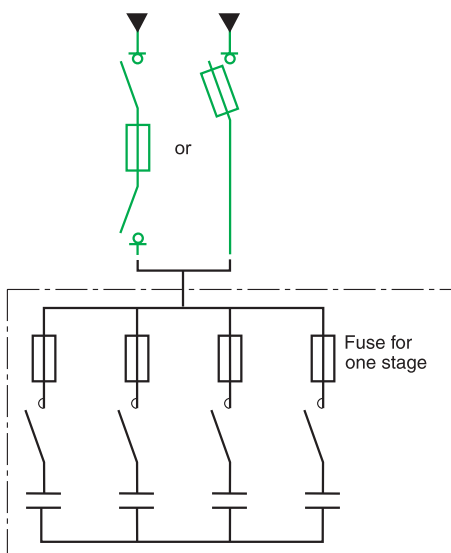
Compact NSX100 to NS1600 / Masterpact equipped with STR and Micrologic trip unit

Transformer rating (kVA)			Protective device		
230/240 V 1-phase	230/240 V 3-phases 400/415 V 1-phase	400/415 V 3-phases	Circuit breakers	Trip unit	I _r max setting
4 to 7	6 to 13	11 to 22	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2 40	0.8
9 to 19	16 to 30	27 to 56	NSX100B/F/N/H/S/L	Micrologic 2.2 or 6.2 100	0.8
15 to 30	05 to 50	44 to 90	NSX160B/F/N/H/S/L	Micrologic 2.2 or 6.2 160	0.8
23 to 46	40 to 80	70 to 139	NSX250B/F/N/H/S/L	Micrologic 2.2 or 6.2 250	0.8
37 to 65	64 to 112	111 to 195	NSX400F/N/H/S	Micrologic 2.3 or 6.3 400	0.7
37 to 55	64 to 95	111 to 166	NSX400L	Micrologic 2.3 or 6.3 400	0.6
58 to 83	100 to 144	175 to 250	NSX630F/N/H/S/L	Micrologic 2.3 or 6.3 630	0.6
58 to 150	100 to 250	175 to 436	NS630bN/bH-NT06H1	Micrologic 5.0/6.0/7.0	1
74 to 184	107 to 319	222 to 554	NS800N/H-NT08H1-NW08N1/H1	Micrologic 5.0/6.0/7.0	1
90 to 230	159 to 398	277 to 693	NS1000N/H-NT10H1-NW10N1/H1	Micrologic 5.0/6.0/7.0	1
115 to 288	200 to 498	346 to 866	NS1250N/H-NT12H1-NW12N1/H1	Micrologic 5.0/6.0/7.0	1
147 to 368	256 to 640	443 to 1108	NS1600N/H-NT16H1-NW16N1/H1	Micrologic 5.0/6.0/7.0	1
184 to 460	320 to 800	554 to 1385	NW20N1/H1	Micrologic 5.0/6.0/7.0	1
230 to 575	400 to 1000	690 to 1730	NW25H2/H3	Micrologic 5.0/6.0/7.0	1
294 to 736	510 to 1280	886 to 2217	NW32H2/H3	Micrologic 5.0/6.0/7.0	1

(1) For other windings, please consult us.

If a circuit breaker upstream of a transformer with a transformation ratio of 1 and a rated power of less than 5 kVA is subject to nuisance tripping, before choosing a circuit breaker with a higher rating, invert the input and the output of the transformer (the inrush current may be doubled if the primary is wound internally rather than externally).

DB115216



Capacitor-bank protection.

056639



Rectimat 2 capacitor bank

Protection of capacitors

It is necessary to take into account:

- permissible variations in the fundamental voltage and in harmonic content
The increase in the current rating for the protection device may reach 30 %.
- variations due to capacitor tolerances.

The increase in the current rating for the protection device may reach 15 % (but only 5 % for Rectiphase capacitors).

Given the above, the generally required correction factor ranges from 1.6 to 2.

For Rectiphase capacitor banks, an optimised factor of only 1.4 may be used for standard banks.

Protection table for fixed or automatic capacitor banks

400/415 V		
Capacitor (kVAR)	gG fuse-link rating	Fupact
10 kVAR	20 A	INF●32 / INF40
20 kVAR	40 A	INF●63 / INF40
30 kVAR	63 A	INF●63
50 kVAR	100 A	INF●125
60 kVAR	125 A	INF●125
80 kVAR	160 A	INF●250
105 kVAR	250 A	INF●250
150 kVAR	315 A	INF●400
210 kVAR	450 A	INF●630
315 kVAR	670 A	INF●800

690 V		
Capacitor (kVAR)	gG fuse-link rating	Fupact
10 kVAR	16 A	INF●32 / INF40
20 kVAR	32 A	INF●32 / INF40
30 kVAR	40 A	INF●63 / INF40
50 kVAR	63 A	INF●63
60 kVAR	80 A	INF●125
80 kVAR	100 A	INF●125
105 kVAR	125 A	INF●160
150 kVAR	200 A	INF●250
210 kVAR	250 A	INF●400
315 kVAR	400 A	INF●400
405 kVAR	500 A	INF●630
450 kVAR	560 A	INF●630
495 kVAR	630 A	INF●800
540 kVAR	670 A	INFp800

Coordination tables between circuit breaker and Canalis electrical busbar trunking

When choosing a circuit breaker to protect a busbar trunking system, it is necessary to take into account:

- the usual rules concerning the circuit breaker current settings:

$I_b \leq I_r \leq I_{nc}$ where:

I_b = maximum load current

I_r = circuit breaker current setting

I_{nc} = current rating of the busbar trunking

- the electrodynamic withstand of the busbar trunking: the peak current $\hat{I}$ limited by the circuit breaker must be less than the electrodynamic withstand capacity (or rated peak current) of the busbar trunking.

Coordination tables

The tables for coordinating Merlin Gerin.

Traditional circuit breaker selection method

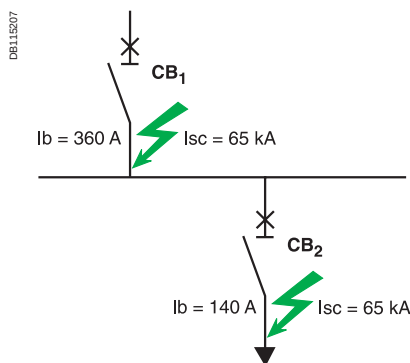
The circuit breaker used to protect a distribution circuit is chosen according to two fundamental criteria:

- the maximum load current I_b flowing in the supply circuit
- the prospective short-circuit current I_{sc} at a point where the circuit breaker is to be installed.

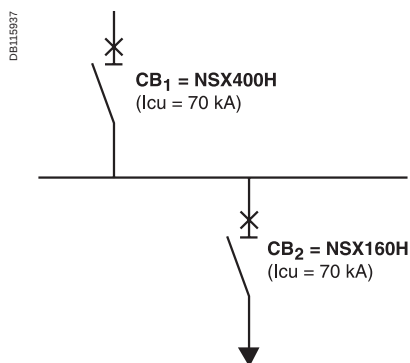
The circuit breaker is chosen such that:

- $I_n \text{ circuit breaker} \geq I_b$
- breaking capacity of the circuit breaker $\geq I_{sc}$.

Installation example at 380/415 V



Application for Compact NSX range at 380/415 V



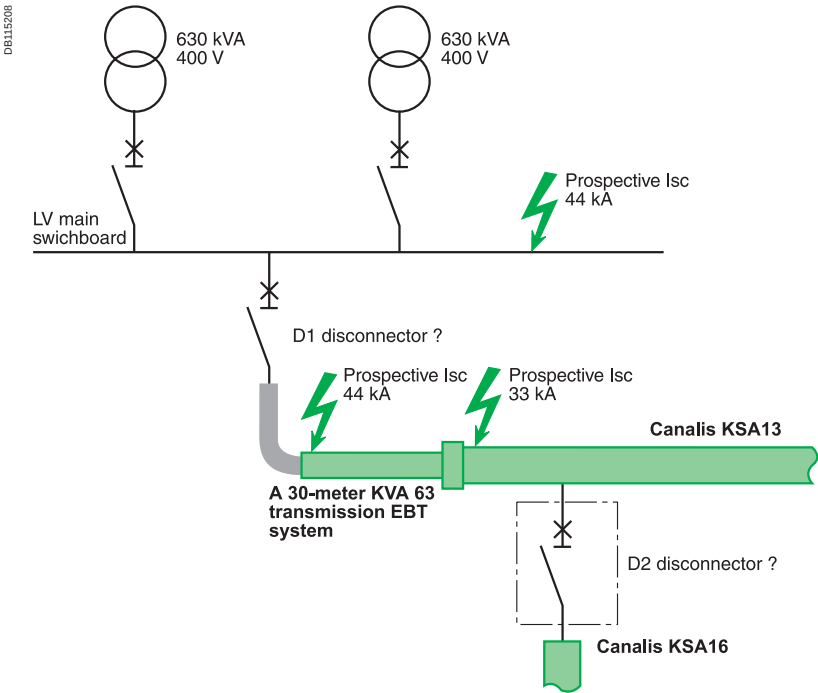
Coordination tables between circuit breaker and Canalis electrical busbar trunking

Example

Consider two 630 kVA/400 V transformer (Usc 4 %) supplying a main LV switchboard for which the prospective short-circuit current on the busbars is 44 kA.
From the switchboard, a 30-metre long Canalis KVA63 transmission electrical busbar trunking system (630 A) supplies a Canalis KSA63 trunking system (630A) for distribution with high-density tap-offs.
A tap-off on the KSA63 trunking supplies a Canalis KSA16 trunking system.
The short-circuit level are respectively:
■ 44 kA downstream of circuit-breaker CB1 and at the upstream connection of the KVA63 trunking
■ 33 kA at the junction between the KVA63 transmission trunking and the KSA63 trunking for high-density tap-offs.
The short-circuit level are respectively:
■ 44 kA downstream of circuit-breaker CB1 and at the upstream connection of the KVA63 trunking
■ 33 kA at the junction between the KVA63 transmission trunking and the KSA63 trunking for high-density tap-offs.

What circuit breakers should be chosen for CB1 and CB2 to protect the installation against short-circuits?

	CB1	CB2
Prospective Isc	44 kA	33 kA
Circuit breakers	NSX630N (50 kA breaking capacity)	NSX160F (36 kA breaking capacity)
Isc protection level for KVA63 trunking	50 kA	
Isc protection level for KVA63 trunking	50 kA	
Isc protection level for KSA16 trunking		35 kA 35 kA



Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 220/240 V

Type of Canalis busbar trunking KDP20						
Isc max. in kA rms		10 kA	15 kA	20 kA		
Type of circuit breaker	C60	C60N 10/16/20	C60H 10/16/20	C60L 10/16/20		
Isc max. in kA rms	NG	NG125N 10/16/20				
Type of Canalis busbar trunking KBA25						
		10 kA	15 kA	20 kA	25 kA	
Type of circuit breaker	C60	C60N 10/.../25	C60H 10/.../25		C60L 10/.../25	
Isc max. in kA rms	NG	NG125N 10/.../25				
Type of Canalis busbar trunking KBB25						
		10 kA	15 kA	20 kA	25 kA	
Type of circuit breaker	C60	C60N 10/.../25	C60H 10/.../25		C60L 10/.../25	
Isc max. in kA rms	NG	NG125N 10/.../25				
Type of Canalis busbar trunking KBA40						
		10 kA	15 kA	20 kA	25 kA	50 kA
Type of circuit breaker	C60	C60N 10/.../40	C60H 10/.../40	C60L 40	C60L 10/.../25	
Isc max. in kA rms	NG			NG125N 10/.../40		NG125L 10/.../40
Type of Canalis busbar trunking KBB40						
		10 kA	15 kA	20 kA	25 kA	50 kA
Type of circuit breaker	C60	C60N 10/.../40	C60H 10/.../40	C60L 40	C60L 10/.../25	
Isc max. in kA rms	NG			NG125N 10/.../40		NG125L 10/.../40

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 380/415 V

Type of Canalis busbar trunking KDP20							
Isc max kA rms		10 kA	15 kA	20 kA			
Type of circuit breaker	C60	C60N10/16/20	C60H10/16/20	C60L10/16/20			
	NG125	NG125N10/16/20					
Type of Canalis busbar trunking KBA25							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA		
Type of circuit breaker	C60	C60N10/.../25	C60H10/.../25	C60L10/.../25	C60L10/.../25		
	NG125	NG125N10/.../25					
Type of Canalis busbar trunking KBB25							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA		
Type of circuit breaker	C60	C60N10/.../25	C60H10/.../25	C60L10/.../25	C60L10/.../25		
	NG125	NG125N10/.../25					
Type of Canalis busbar trunking KBA40							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Type of circuit breaker	C60	C60N10/.../40	C60H10/.../40	C60L40	C60L10/.../25		
	NG125			NG125N10/.../40		NG125H10/.../40	NG125L10/.../40
Type of Canalis busbar trunking KBB40							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Type of circuit breaker	C60	C60N10/.../40	C60H10/.../40	C60L40	C60L10/.../25		
	NG125			NG125N10/.../40		NG125H10/.../40	NG125L10/.../40
Type of Canalis busbar trunking KNA40							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA		
Type of circuit breaker	C60	C60N40	C60H40		C60L40		
	NG125	NG125N10/.../40					
	Compact NSX				NSX100B/F/N/H/S/L 40A		
Type of Canalis busbar trunking KNA63							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Type of circuit breaker	C60	C60N63	C60H63		C60H63		
	C120	C120N	C120H				
	NG125				NG125N 63	NG125H 63	NG125L 63
	Compact NSX				NSX100B/F/N/H/S/L		
Type of Canalis busbar trunking KNA100							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA		
Type of circuit breaker	C60	C120N	C120H				
	NG125				NG125N 100		
	Compact NSX			NSX100B/F/N/H/S/L NSX160B/F/N/H/S/L	NSX100B/F/N/H/S/L NSX160B/F/N/H/S/L		
Type of Canalis busbar trunking KNA160							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Type of circuit breaker	NG125	NG125N125	NG125N125	NG125N125	NG125N125		
	Compact NSX				NSX100B/F/N/H/S/L NSX160B/F/N/H/S/L NSX250B/F/N/H/S/L	NSX100F/N/H/S/L NSX160F/N/H/S/L NSX250F/N/H/S/L	NSX100N/H/S/L NSX160N/H/S/L NSX250N/H/S/L

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 380/415 V

Type of Canalis busbar trunking KSA100							
Isc max kA rms		25 kA	36 kA				
Type of circuit breaker	NG125	NG125N 100					
	Compact NSX	NSX100B/F/N/H/S/L					
Type of Canalis busbar trunking KSA160							
Isc max kA rms		25 kA	36 kA	50 kA	70 kA	90 kA	
Type of circuit breaker	Compact NSX	NSX100B/F/N/H/S/L NSX160B/F/N/H/S/L NSX250B/F/N/H/S/L	NSX100F/N/H/S/L NSX160F/N/H/S/L NSX250F/N/H/S/L	NSX100N/H/S/L NSX160N/H/S/L NSX250N/H/S/L	NSX100H/S/L NSX160H/S/L	NSX100S/L	
Type of Canalis busbar trunking KSA250							
Isc max kA rms		25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX160B/F/N/H/S/L NSX250B/F/N/H/S/L NSX400F/N/H/S/L	NSX160F/N/H/S/L NSX250F/N/H/S/L NSX400F/N/H/S/L	NSX160N/H/S/L NSX250N/H/S/L NSX400N/H/S/L	NSX160H/S/L NSX250H/S/L	NSX160S/L NSX250S/L	NSX160L NSX250L
Type of Canalis busbar trunking KSA400							
Isc max kA rms		25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX250B/F/N/H/S/L NSX400F/N/H/S/L NSX630F/N/H/S/L	NSX250F/N/H/S/L NSX400F/N/H/S/L NSX630F/N/H/S/L	NSX250N/H/S/L NSX400N/H/S/L NSX630N/H/S/L	NSX250H/S/L NSX400H/S/L NSX630H/S/L	NSX250S/L NSX400S/L NSX630S/L	NSX250L NSX400L NSX630L
	Compact NS	NS630b N/H/L/LB	NS630b L / LB	NS630b L / LB	NS630b LB		
Type of Canalis busbar trunking KSA500							
Isc max kA rms		25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX400F NSX630F	NSX400F NSX630F	NSX400N NSX630N	NSX400H NSX630H	NSX400S NSX630S	NSX400L NSX630L
	Compact NS	NS630b N	NS630b N	NS630b L / LB	NS630b LB	NS630b LB	
Type of Canalis busbar trunking KSA630							
Isc max kA rms		≤ 32 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX400F NSX630F	NSX400F NSX630F	NSX400N NSX630N	NSX400H NSX630H	NSX400S NSX630S	NSX400L NSX630L
	Compact NS	NS630b N NS800N	NS630b L NS800L	NS630b L NS800L	NS630bL NS800L	NS630bL NS800L	NS630b LB NS800LB
	Masterpact NT	NT06H1 NT08H1	NT06L1 NT08L1	NT06L1 NT08L1	NT06L1 NT08L1	NT06L1 NT08L1	
Type of Canalis busbar trunking KSA800							
Isc max kA rms			36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX		NSX630F	NSX630N	NSX630H	NSX630S	NSX630L
	Compact NS		NS630bN NS800N NS1000N	NS630bL NS800L NS1000L	NS630bL NS800L NS1000L	NS630bL NS800L NS1000L	NS630bL NS800L NS1000L
	Masterpact NT		NT06H1 NT08H1 NT10H1	NT06L1 NT08L1 NT10L1	NT06L1 NT08L1 NT10L1	NT06L1 NT08L1 NT10L1	NT06L1 NT08L1 NT10L1
Type of Canalis busbar trunking KSA1000							
Isc max kA rms			36 kA	50 kA	70 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS800N NS1000N NS1250N	NS800L NS1000L	NS800L NS1000L	NS800L NS1000L	NS800L NS1000L
	Masterpact NT		NT08H1 NT10H1 NT12H1	NT08L1 NT10L1 NT12L1	NT08L1 NT10L1 NT12L1	NT08L1 NT10L1 NT12L1	NT08L1 NT10L1 NT12L1

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 380/415 V

Type of Canalis busbar trunking KTA0800							
Isc max kA rms		≤ 30 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX630F (->36kA)	NSX630N/H/S/L	NSX630H/S/L	NSX630S/L	NSX630L	NSX630L
	Compact NSX	NS630bN NS800N NS1000N		NS630bL NS800L NS1000L			NS630bLB NS800LB
	Masterpact NT	NT06 H1 NT08 H1 NT10 H1			NT06 L1 NT08 L1 NT10 L1		
	Masterpact NW	NW08H1 NW10H1					
Type of Canalis busbar trunking KTA0800 PER							
Isc max kA rms		≤ 30 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NSX	NSX630F (->36kA)	NSX630N/H/S/L	NSX630H/S/L	NSX630S/L	NSX630L	NSX630L
	Compact NSX	NS630bN NS800N NS1000N		NS630bL NS800L NS1000L			NS630bLB NS800LB
	Masterpact NT	NT06 H1 NT08 H1 NT10 H1				NT06 L1 NT08 L1 NT10 L1	
	Masterpact NW	NW08H1 NW10H1					
Type of Canalis busbar trunking KTA1000 / KTC1000							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS800N NS1000N NS1250N				NS800L NS1000L
	Masterpact NT	NT08H1 NT10H1 NT12H1	NT08H2 NT10H2 NT12H2				NT08L1 NT10L1
	Masterpact NW	NW08N1 NW10N1 NW12N1	NW08H1 NW10H1 NW12H1				
Type of Canalis busbar trunking KTC1000 / KTC1000 PER							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS800N NS1000N	NS800H NS1000H NS1250H			NS800L NS1000L
	Masterpact NT	NT08H1 NT10H1 NT12H1	NT08H2 NT10H2 NT12H2				NT08L1 NT10L1
	Masterpact NW	NW08N1 NW10N1 NW12N1		NW08H1 NW10H1 NW12H1	NW08L1 NW10L1 NW12L1		
Type of Canalis busbar trunking KTA1250 / KTC1350							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS1000N NS1250N NS1600N	NS1000L	NS1000L	NS1000L	NS1000L
	Masterpact NT	NT10H1 NT12H1 NT16H1	NT10H2 NT12H2 NT16H2	NT10L1	NT10L1	NT10L1	NT10L1
	Masterpact NW	NW10N1 NW12N1 NW16N1	NW10H1 NW12H1 NW16H1				
Type of Canalis busbar trunking KTA1250 / KTC1350 PER							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS1000N NS1250N NS1600N	NS1000H NS1250H NS1600H			NS1000L
	Masterpact NT	NT10H1 NT12H1 NT16H1	NT10H2 NT12H2 NT16H2				NT10L1
	Masterpact NW	NW10N1 NW12N1 NW16N1	NW10H1 NW12H1 NW16H1	NW10H1 NW12H1 NW16H1	NW10L1 NW12L1 NW16L1		
Type of Canalis busbar trunking KTA1600 / KTC1600							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS1250N NS1600N	NS1250H NS1600H NS1600bN NS2000N			
	Masterpact NT	NT12H1 NT16H1	NT12H2 NT16H2				
	Masterpact NW	NW12N1 NW16N1 NW20H1		NW12H1 NW16H1 NW20H1		NW12L1 NW16L1 NW20L1	

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 380/415 V

Type of Canalis busbar trunking KTA1600 PER/ KTC1600 PER							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS		NS1250N	NS1250H NS1600H NS1600bN NS2000N	NS1600bH NS2000H		
	Masterpact NT	NT12H1 NT16H1	NT12H2 NT16H2				
	Masterpact NW	NW12N1 NW16N1 NW20H1		NW1H1 NW16H1 NW20H1			NW12L1 NW16L1 NW20L1
Type of Canalis busbar trunking KTA2000 / KTC2000							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS			NS1600bN NS2000N			
	Masterpact NT	NT16H1	NT16H2				
	Masterpact NW	NW16N1 NW20H1 NW25H1		NW16H1 NW20H1 NW25H1		NW 16 L1 NW20L1	
Type of Canalis busbar trunking KTA2000 PER / KTC2000 PER							
Isc max kA rms		42 kA	50 kA	65 kA	85 kA	100 kA	150 kA
Type of circuit breaker	Compact NS			NS1600bN NS2000N	NS1600bH NS2000H		
	Masterpact NT	NT16H1	NT16H2				
	Masterpact NW	NW16N1 NW20H1 NW25H1		NW16H1 NW20H1 NW25H1		NW16H2 NW20H2 NW25H2	NW16L1 NW20L1
Type of Canalis busbar trunking KTA2500 / KTC2500							
Isc max kA rms				65 kA	80 kA	100 kA	150 kA
Type of circuit breaker	Masterpact NW			NW20H1 NW25H1 NW32H1	NW20H2 NW25H2 NW32H2	NW20L1	NW20L1
Type of Canalis busbar trunking KTA2500 PER / KTC2500 PER							
Isc max kA rms				65 kA	80 kA	100 kA	110 kA
Type of circuit breaker	Masterpact NW			NW20H1 NW25H1 NW32H1		NW20H2 NW25H2 NW32H2	NW20L1 NW25H3 NW32H3
Type of Canalis busbar trunking KTA3200 / KTC3200							
Isc max kA rms				65 kA	85 kA	100 kA	110 kA
Type of circuit breaker	Masterpact NW			NW25H1 NW32H1 NW40H1	NW25H2 NW32H2 NW40H2 NW40bH1		
Type of Canalis busbar trunking KTA3200 PER / KTC3200 PER							
Isc max kA rms				65 kA		100 kA	110 kA
Type of circuit breaker	Masterpact NW			NW25H1 NW32H1 NW40H1		NW25H2 NW32H2 NW40H2 NW40bH1	NW32H3 NW40H3 NW40bH2
Type of Canalis busbar trunking KTA4000 / KTC4000							
Isc max kA rms				65 kA	90 kA	100 kA	110 kA
Type of circuit breaker	Masterpact NW			NW32H1 NW40H1 NW40bH1 NW50H1	NW32H2 NW40H2 NW40bH1 NW50H1		
Type of Canalis busbar trunking KTA4000 PER / KTC4000 PER							
Isc max kA rms				65 kA		100 kA	110 kA
Type of circuit breaker	Masterpact NW			NW32H1 NW40H1 NW40bH1 NW50H1		NW32H2 NW40H2 NW40bH1 NW50H1	NW32H3 NW40H3 NW40bH2 NW50H2
Type of Canalis busbar trunking KTC5000							
Isc max kA rms				65 kA		95 kA	
Type of circuit breaker	Masterpact NW			NW40H1		NW40H2 NW40bH1 NW50H1 NW63H1	
Type of Canalis busbar trunking KTC5000 PER							
Isc max kA rms				65 kA		95 kA	120 kA
Type of circuit breaker	Masterpact NW			NW40H1 NW40bH1 NW50H1 NW63H1		NW40H2 NW40bH1 NW50H1 NW63H1	NW40H3 NW40bH2 NW50H2 NW63H2

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 660/690 V

Type of Canalis busbar trunking KSA100							
Isc max kA rms		10 kA	15 kA	20 kA			75 kA
Type of circuit breaker	Compact NSX	NSX100N/H/S/L NSX160N/H/S/L NSX250N/H/S/L	NSX100S/L NSX160S/L NSX250S/L	NSX100L			
	Compact NS						NS100L
Type of Canalis busbar trunking KSA160							
Isc max kA rms		10 kA	15 kA	20 kA			75 kA
Type of circuit breaker	Compact NSX	NSX100N/H/S/L NSX160N/H/S/L NSX250N/H/S/L	NSX100S/L NSX160S/L NSX250S/L	NSX100L NSX160L NSX250L			
	Compact NS						NS100L
Type of Canalis busbar trunking KSA250							
Isc max kA rms		10 kA	15 kA	20 kA		35 kA	75 kA
Type of circuit breaker	Compact NSX	NSX160N/H/S/L NSX250N/H/S/L NSX400F/N/H/S/L	NSX160S/L NSX250S/L NSX400H/S/L	NSX160L NSX250L NSX400S/L		NSX400L	
	Compact NS						NS400L
Type of Canalis busbar trunking KSA400							
Isc max kA rms		10 kA	15 kA	20 kA		35 kA	75 kA
Type of circuit breaker	Compact NSX	NSX250N/H/S/L NSX400F/N/H/S/L NSX630F/N/H/S/L	NSX250S/L	NSX250L NSX400H/S/L NSX630H/S/L		NSX400L NSX630L	
	Compact NS			NS630bN			NS400L NS630bLB
Type of Canalis busbar trunking KSA500							
Isc max kA rms		10 kA	15 kA	20 kA	25 kA	35 kA	75 kA
Type of circuit breaker	Compact NSX	NSX400F/N/H/S/L NSX630F/N/H/S/L		NSX400H/S/L NSX630H/S/L		NSX400L NSX630L	
	Compact NS				NS630bN NS800N		NS400L NS630bLB NS800LB
Type of Canalis busbar trunking KSA630							
Isc max kA rms		10 kA	15 kA	20 kA	30 kA	35 kA	75 kA
Type of circuit breaker	Compact NSX	NSX400F/N/H/S/L NSX630F/N/H/S/L	NSX400H/S/L NSX630H/S/L	NSX400S/L NSX630S/L		NSX400L NSX630L	
	Compact NS				NS630bN NS800N	NS630bH NS800H	NS400L NS630bLB NS800LB
Type of Canalis busbar trunking KSA800							
Isc max kA rms		10 kA	15 kA	20 kA	30 kA	35 kA	75 kA
Type of circuit breaker	Compact NSX	NSX630F/N/H/S/L	NSX630H/S/L	NSX630S/L			
	Compact NS				NS630bN NS800N NS1000N	NS630bH NS800H NS1000H	NS630bLB NS800LB
Type of Canalis busbar trunking KSA1000							
Isc max kA rms		10 kA	15 kA	20 kA	30 kA	35 kA	75 kA
Type of circuit breaker	Compact NS				NS800N NS1000N NS1250N	NS800H NS1000H NS1250H	NS800LB
	Masterpact NT					NT08H1/H2 NT10H1/H2 NT12H1/H2	
	Masterpact NW					NW08N1 NW10N1 NW12N1	

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 660/690 V

Type of Canalis busbar trunking KTA1000 / KTC1000							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS800N NS1000N NS1250N	NS800H NS1000H NS1250H			NS800LB	
	Masterpact NT		NT08H1/H2 NT10H1/H2 NT12H1/H2				
	Masterpact NW		NW08N1 NW10N1 NW12N1	NW08H1 NW10H1 NW12H1			
Type of Canalis busbar trunking KTA1000 PER / KTC1000 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS800N NS1000N NS1250N	NS800H NS1000H NS1250H			NS800LB	
	Masterpact NT		NT08H1/H2 NT10H1/H2 NT12H1/H2				
	Masterpact NW		NW08N1 NW10N1 NW12N1		NW08H1 NW10H1 NW12H1		
Type of Canalis busbar trunking KTA1250 / KTC1350							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1000N NS1250N NS1600N	NS1000H NS1250H NS1600H				
	Masterpact NT		NT10H1/H2 NT12H1/H2 NT16H1/H2	NS1600bN			
	Masterpact NW		NW10N1 NW12N1 NW16N1	NW10H1 NW12H1 NW16H1			
Type of Canalis busbar trunking KTA1250 PER / KTC1350 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1000N NS1250N NS1600N	NS1000H NS1250H NS1600H				
	Masterpact NT		NT10H1/H2 NT12H1/H2 NT16H1/H2	NS1600bN	NS1600bN		
	Masterpact NW		NW10N1 NW12N1 NW16N1	NW10H1 NW12H1 NW16H1	NW10H1 NW12H1 NW16H1	NW10L1 NW12L1 NW16L1	
Type of Canalis busbar trunking KTA1600 / KTC1600							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1250N NS1600N	NS1250H NS1600H				
	Masterpact NT		NT12H1/H2 NT16H1/H2		NS1600bN NS2000N		
	Masterpact NW		NW12N1 NW16N1		NW12H1 NW16H1 NW20H1	NW12L1 NW16L1 NW20 L1	
Type of Canalis busbar trunking KTA1600 PER / KTC1600 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1250N NS1600N	NS1250H NS1600H				
	Masterpact NT		NT12H1/H2 NT16H1/H2		NS1600bN NS2000N		
	Masterpact NW		NW12N1 NW16N1		NW12H1 NW16H1 NW20H1	NW12H2 NW16H2 NW20H2	NW12L1 NW16L1 NW20L1

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Voltage: 660/690 V

Type of Canalis busbar trunking KTA2000 / KTC2000							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1600N	NS1600H		NS1600bN NS2000N NS2500N		
	Masterpact NT		NT16H1/H2				
	Masterpact NW		NW16N1		NW16H1 NW20H1 NW25H1		NW16L1 NW20L1
Type of Canalis busbar trunking KTA2000 PER / KTC2000 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Compact NS	NS1600N	NS1600H		NS1600bN NS2000N NS2500N		
	Masterpact NT		NT16H1/H2				
	Masterpact NW		NW16N1		NW16H1 NW20H1 NW25H1	NW16H2 NW20H2 NW25H2	NW16L1 NW20H3 NW25H3
Type of Canalis busbar trunking KTA2500 / KTC2500							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	80 kA	100 kA
Type of circuit breaker	Compact NS				NS2000N NS2500N NS3200N		
	Masterpact NT		NT16H1/H2				
	Masterpact NW				NW20H1 NW25H1 NW32H1	NW20H2 NW25H2 NW32H2	NW20L1
Type of Canalis busbar trunking KTA2500 PER / KTC2500 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	80 kA	100 kA
Type of circuit breaker	Compact NS				NS2000N NS2500N NS3200N		
	Masterpact NT		NT16H1/H2				
	Masterpact NW				NW20H1 NW25H1 NW32H1	NW20H2 NW25H2 NW32H2	NW20H3 NW25H3 NW32H3
Type of Canalis busbar trunking KTA3200 / KTC3200							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	85 kA	100 kA
Type of circuit breaker	Compact NS				NS2500N NS3200N		
	Masterpact NW				NW25H1 NW32H1 NW40H1	NW25H2 NW32H2 NW40H2 NW40b H1/H2	
Type of Canalis busbar trunking KTA3200 PER / KTC3200 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	85 kA	100 kA
Type of circuit breaker	Compact NS				NS2500N NS3200N		
	Masterpact NW				NW25H1 NW32H1 NW40H1	NW25H2 NW32H2 NW40H2	NW25H3 NW32H3 NW40H3 NW40bH1/2
Type of Canalis busbar trunking KTA4000 / KTC4000							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	85 kA	100 kA
Type of circuit breaker	Compact NS				NS3200N		
	Masterpact NW				NW32H1 NW40H1	NW32H2 NW40H2 NW40bH1/H2 NW50 H1/H2	
Type of Canalis busbar trunking KTA4000 PER / KTC4000 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	85 kA	100 kA
Type of circuit breaker	Compact NS				NS3200N		
	Masterpact NW				NW32H1 NW40H1	NW32H2 NW40H2	NW32H3 NW40H3 NW40bH1/H2 NW50H1/H2
Type of Canalis busbar trunking KTC5000							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	85 kA	95 kA
Type of circuit breaker	Masterpact NW				NW40H1	NW40H2	NW40H3 NW40bH1/H2 NW50H1/H2 NW63H1/H2
Type of Canalis busbar trunking KTC5000 PER							
Isc max kA rms		30 kA	42 kA	50 kA	65 kA	75 kA	100 kA
Type of circuit breaker	Masterpact NW				NW40H1	NW40H2	NW40H3 NW40bH1/H2 NW50H1/H2 NW63H1/H2

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through cascading

Introduction

The use of current-limiting circuit breakers makes it possible to implement coordination techniques. This improves circuit breaker performance in terms of breaking capacity and continuity of service.

Coordination techniques are described and recognised by the following standards:

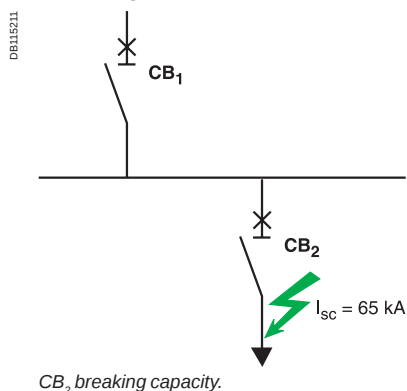
- product standards IEC 60947-1 and 60947-2
- installation standards IEC 60364, NF C15-100, etc

Cascading

The use of a current-limiting circuit breaker upstream to reinforce the breaking capacity of a downstream circuit breaker.

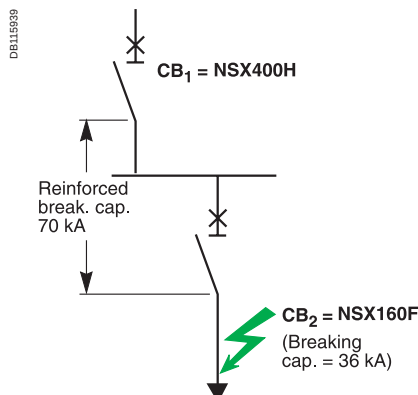
Principle

Cascading.



Application for Compact range

Cascading.



Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through cascading

Discrimination

In the event of an electrical fault on one outgoing circuit, discrimination is the ability of the electrical installation to maintain the continuity of electrical power supplied to the other circuits not concerned by the fault.

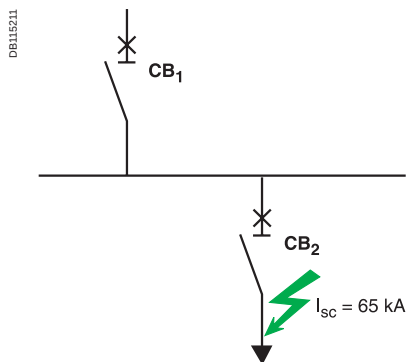
As a general rule, cascading and discrimination techniques are applied independently.

Schneider Electric has developed an exclusive system to conciliate cascading and discrimination.

This system ensures discrimination up to the reinforced breaking capacity of the association of circuit breakers CB_1 and CB_2 .

Principle

Cascading and reinforced discrimination.

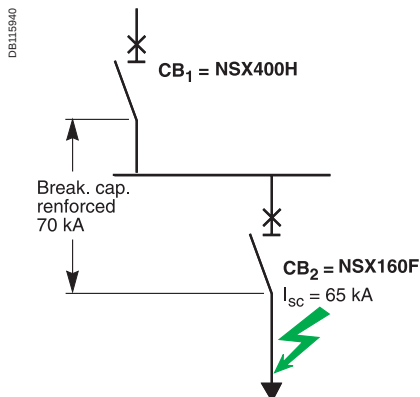


CB_2 breaking capacity.

Discrimination ensured up to the reinforced breaking capacity of CB_2 .

Application for Compact range

Cascading and reinforced discrimination.



Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through cascading

Cascading, reinforced discrimination and reinforced protection of busbar trunking systems (BTS)

This technique is the direct application of cascading and discrimination techniques to the protection of busbar trunking systems.

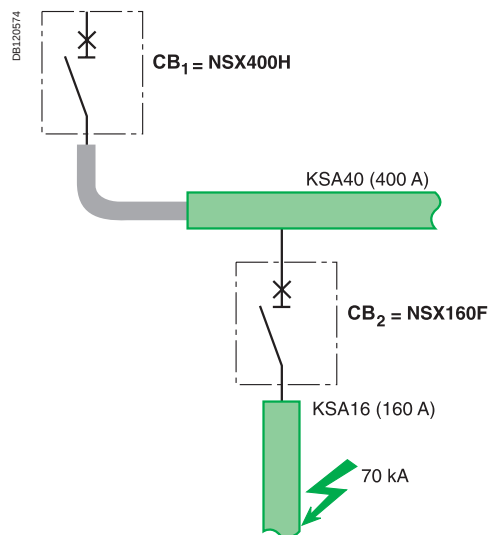
For various upstream circuit breakers and upstream busbar trunking systems, the tables below give directly:

- the level of short-circuit protection of the busbar trunking
- the downstream circuit breaker and associated busbar trunking
- the cascading breaking capacity of the downstream circuit breaker
- the level of reinforced discrimination of the upstream and downstream circuit breakers
- the level of reinforced protection of the downstream busbar trunking.

Application to a Canalis distributed distribution system:

- reinforcement of the breaking capacity of the NSX160F (CB₂) up to **70 kA**
- discrimination between CB₁ and CB₂ ensured up to **70 kA**
- protection of Canalis KSA 16 busbar trunking up to **70 kA**.

Alimentation



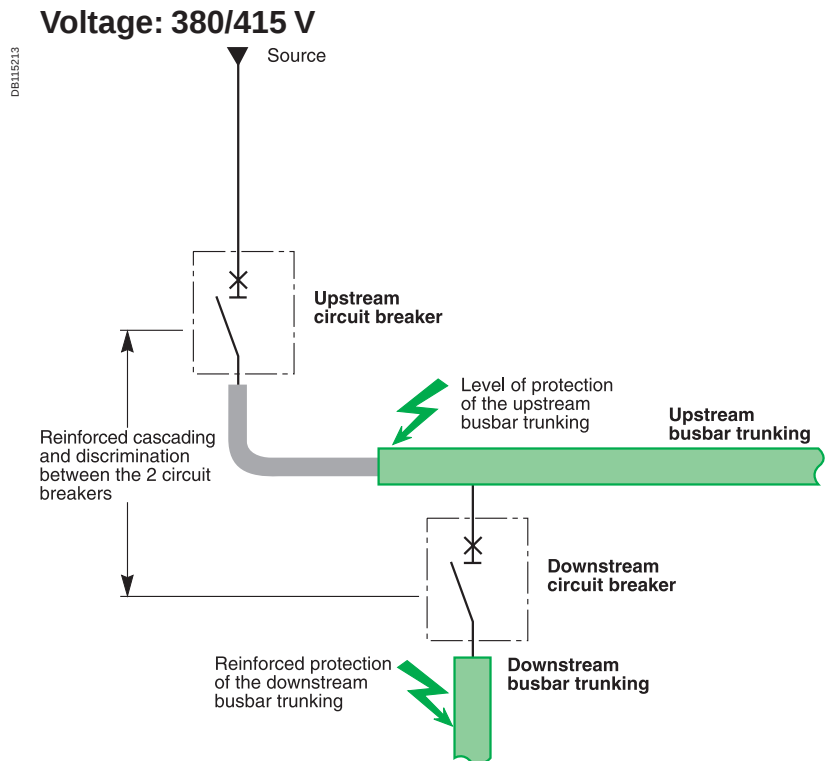
Example of a table corresponding to the above diagram.

Rated current of the upstream busbar trunking: 315 and 400 A

Upstream circuit breaker	NSX400N		NSX400H		NSX400L	
Associated trip unit	Micrologic		Micrologic		Micrologic	
Upstream busbar trunking	KSA/KVA/KVC 315 and 400 A		KSA/KVA/KVC 315 and 400 A		KSA/KVA/KVC 315 and 400 A	
Level of protection of the upstream busbar trunking (kA)	45		70		150	
Downstream circuit breaker	NSX100F NSX160F		NSX100N NSX160F		NSX100H NSX160H	
Associated trip unit	TMD/Micrologic		TMD/ Micrologic		TMD/Micrologic	
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 100 A	KSA 160 A	KSA 100 A	KSA 160 A
Discrimination limit between upst. and downst. circuit breakers (kA)	45	45	70	70	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	45	45	70	70	150	150
Reinforced protection of the downstream busbar trunking (kA)	45	45	70	70	70	70

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading



Rated current of the upstream busbar trunking: 1600 A

Upstream circuit breaker Associated trip unit	NS1600N Micrologic 5.0					NS1600N Micrologic 5.0		
Upstream busbar trunking	KTA-16/KTC-16 1600 A					KTA-16/KTC-16 1600 A		
Level of protection of the upstream busbar trunking (kA)	50					50		
Downstream circuit breaker Associated trip unit	NSX100F TMD/Micrologic	NSX160F KSA	NSX250F KSA	NSX400F Micrologic KSA/KVA/KVC	NSX630F 500-630 A	NSX100F 40 A	TMD/Micrologic 63 A	100 A
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A	500-630 A	KN 40 A	KN 63 A	KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	45	40	50	50	50
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	50	50	50	50	50
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	50	50	50	50	50

Upstream circuit breaker Associated trip unit	NS1600N Micrologic 5.0					NS1600N Micrologic 5.0		
Upstream busbar trunking	KTA-16/KTC-16 1600 A					KTA-16/KTC-16 1600 A		
Level of protection of the upstream busbar trunking (kA)	70					70		
Downstream circuit breaker Associated trip unit	NSX100F TMD/Micrologic	NSX160F KSA	NSX250F KSA	NSX400F Micrologic KSA/KVA/KVC	NSX630F 500-630 A	NSX100F 40 A	TMD/Micrologic 63 A	100 A
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A	500-630 A	KN 40 A	KN 63 A	KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	70	70	70	45	40	70	70	70
Reinforced breaking capacity of the downstream circuit breaker (kA)	70	70	70	70	70	70	70	70
Reinforced protection of the downstream busbar trunking (kA)	70	70	70	70	70	50	50	50

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading

Rated current of the upstream busbar trunking: 1200 to 1350 A

Upstream circuit breaker Associated trip unit	NS1250N Micrologic 5.0					NS1250N Micrologic 5.0		
Upstream busbar trunking	KTA-12/KTC-13 1200 and 1350 A					KTA-12/KTC-13 1200 and 1350 A		
Level of protection of the upstream busbar trunking (kA)	50					50		
Downstream circuit breaker Associated trip unit	NSX100F	NSX160F	NSX250F	NSX400F	NSX630F	NSX100F	TMD/Micrologic	
Downstream busbar trunking	TMD/Micrologic			Micrologic		40 A	63 A	100 A
	KSA	KSA	KSA	KSA/KVA/KVC		KN	KN	KN
	100 A	160 A	250 A	315-400 A	500-630 A	40 A	63 A	100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	45	40	50	50	50
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	50	50	50	50	50
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	50	50	50	50	50

Upstream circuit breaker Associated trip unit	NS1250H Micrologic 5.0					NS1250H Micrologic 5.0		
Upstream busbar trunking	KTA-12/KTC-13 1200 and 1350 A					KTA-12/KTC-13 1200 and 1350 A		
Level of protection of the upstream busbar trunking (kA)	70					70		
Downstream circuit breaker Associated trip unit	NSX100N	NSX160N	NSX250N	NSX400N	NSX630N	NSX100N	TMD/Micrologic	
Downstream busbar trunking	TMD/Micrologic			Micrologic		40 A	63 A	100 A
	KSA	KSA	KSA	KSA/KVA/KVC		KN	KN	KN
	100 A	160 A	250 A	315-400 A	500-630 A	40 A	63 A	100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	70	70	70	45	40	70	70	70
Reinforced breaking capacity of the downstream circuit breaker (kA)	70	70	70	70	70	70	70	70
Reinforced protection of the downstream busbar trunking (kA)	70	70	70	70	70	50	50	50

Rated current of the upstream busbar trunking: 1000 A

Upstream circuit breaker Associated trip unit	NS1000N Micrologic 5.0					NS1000N Micrologic 5.0		
Upstream busbar trunking	KTA-10/KTC-10 1000 A					KTA-10/KTC-10 1000 A		
Level of protection of the upstream busbar trunking (kA)	50					50		
Downstream circuit breaker Associated trip unit	NSX100F	NSX160F	NSX250F	NSX400F	NSX630F	NSX100F	TMD/Micrologic	
Downstream busbar trunking	TMD/Micrologic			Micrologic		40 A	63 A	100 A
	KSA	KSA	KSA	KSA/KVA/KVC		KN	KN	KN
	100 A	160 A	250 A	315-400 A	500-630 A	40 A	63 A	100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	45	40	50	50	50
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	50	50	50	50	50
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	50	50	50	50	50

Upstream circuit breaker Associated trip unit	NS1000H Micrologic 5.0					NS1000H Micrologic 5.0		
Upstream busbar trunking	KTA-10/KTC-10 1000 A					KTA-10/KTC-10 1000 A		
Level of protection of the upstream busbar trunking (kA)	55					55		
Downstream circuit breaker Associated trip unit	NSX100N	NSX160N	NSX250N	NSX400N	NSX630N	NSX100N	TMD/Micrologic	
Downstream busbar trunking	TMD/Micrologic			Micrologic		40 A	63 A	100 A
	KSA	KSA	KSA	KSA/KVA/KVC		KN	KN	KN
	100 A	160 A	250 A	315-400 A	500-630 A	40 A	63 A	100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	70	70	70	45	40	70	70	70
Reinforced breaking capacity of the downstream circuit breaker (kA)	70	70	70	70	70	70	70	70
Reinforced protection of the downstream busbar trunking (kA)	55	55	55	55	55	50	50	50

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading

Rated current of the upstream busbar trunking: 1000 A

Upstream circuit breaker Associated trip unit	NS1000L Micrologic 5.0					NS1000L Micrologic 5.0		
Upstream busbar trunking	KTA-10/KTC-10 1000 A					KTA-10/KTC-10 1000 A		
Level of protection of the upstream busbar trunking (kA)	150					150		
Downstream circuit breaker Associated trip unit	NSX100N	NSX160N	NSX250N	NSX400N	NSX630N	NSX100N	TMD/Micrologic	
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A	500-630 A	40 A KN 40 A	63 A KN 63 A	100 A KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	150	150	150	150	150	150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	150	150	150	150	150	150	150	150
Reinforced protection of the downstream busbar trunking (kA)	50	70	150	150	150	50	50	50

Rated current of the upstream busbar trunking: 800 A

Upstream circuit breaker Associated trip unit	NS800N Micrologic 5.0					NS800N Micrologic 5.0		
Upstream busbar trunking	KVA-80/KVC-80 800 A					KVA-80/KVC-80 800 A		
Level of protection of the upstream busbar trunking (kA)	50					50		
Downstream circuit breaker Associated trip unit	NSX100F	NSX160F	NSX250F	NSX400F	NSX630F	NSX100F	TMD/Micrologic	
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A		40 A KN 40 A	63 A KN 63 A	100 A KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	35		50	50	50
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	50		50	50	50
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	50		50	50	50

Upstream circuit breaker Associated trip unit	NS800H Micrologic 5.0					NS800H Micrologic 5.0		
Upstream busbar trunking	KVA-80/KVC-80 800 A					KVA-80/KVC-80 800 A		
Level of protection of the upstream busbar trunking (kA)	60					60		
Downstream circuit breaker Associated trip unit	NSX100N	NSX160N	NSX250N	NSX400N	NSX630N	NSX100N	TMD/Micrologic	
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A		40 A KN 40 A	63 A KN 63 A	100 A KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	70	70	70	35		70	70	70
Reinforced breaking capacity of the downstream circuit breaker (kA)	70	70	70	70		70	70	70
Reinforced protection of the downstream busbar trunking (kA)	60	60	60	60		50	50	50

Upstream circuit breaker Associated trip unit	NS800L Micrologic 5.0					NS800L Micrologic 5.0		
Upstream busbar trunking	KVA-80/KVC-80 800 A					KVA-80/KVC-80 800 A		
Level of protection of the upstream busbar trunking (kA)	150					150		
Downstream circuit breaker Associated trip unit	NSX100N/H	NSX160N/H	NSX250N/H	NSX400N/H		NSX100N	TMD/Micrologic	
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA/KVA/KVC 315-400 A		40 A KN 40 A	63 A KN 63 A	100 A KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	150	150	150	150		150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	150	150	150	150		150	150	150
Reinforced protection of the downstream busbar trunking (kA)	50	70	150	150		50	50	50

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading

Rated current of the upstream busbar trunking: 500 and 630 A

Upstream circuit breaker Associated trip unit	NS630bN Micrologic 5.0			NS630bH Micrologic 5.0			NS630bL Micrologic 5.0		
Upstream busbar trunking	KSA/KVA/KVC 630 A			KSA/KVA/KVC 630 A			KSA/KVA/KVC 630 A		
Level of protection of the upstream busbar trunking (kA)	20			29			150		
Downstream circuit breaker Associated trip unit	NSX100F	NSX160F	NSX250F	NSX100N	NSX160N	NSX250N	NSX100N	NSX160N	NSX250N
Downstream busbar trunking	TMD/Micrologic			TMD/Micrologic			TMD/Micrologic		
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA 100 A	KSA 160 A	KSA 250 A	KSA 100 A	KSA 160 A	KSA 250 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	70	70	70	150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	70	70	70	150	150	150
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	60	70	70	50	70	150

Upstream circuit breaker Associated trip unit	NS630bN Micrologic 5.0			NS630bH Micrologic 5.0			NS630bL Micrologic 5.0		
Upstream busbar trunking	KSA/KVA/KVC 630 A			KSA/KVA/KVC 630 A			KSA/KVA/KVC 630 A		
Level of protection of the upstream busbar trunking (kA)	29			29			150		
Downstream circuit breaker Associated trip unit	NSX100F TMD/Micrologic			NSX100N TMD/Micrologic			NSX100N/H TMD/Micrologic		
Downstream busbar trunking	KN 40 A	KN 63 A	KN 100 A	KN 40 A	KN 63 A	KN 100 A	KN 40 A	KN 63 A	KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	50	50	50	70	70	70	150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	50	50	50	70	70	70	150	150	150
Reinforced protection of the downstream busbar trunking (kA)	50	50	50	50	50	50	50	50	50

Upstream circuit breaker Associated trip unit	NSX630N Micrologic			NSX630H Micrologic			NSX630L Micrologic		
Upstream busbar trunking	KSA/KVA/KVC 500 and 630 A			KSA/KVA/KVC 500 and 630 A			KSA/KVA/KVC 500 and 630 A		
Level of protection of the upstream busbar trunking (kA)	45			70			150		
Downstream circuit breaker Associated trip unit	NSX100N	NSX160N	NSX250N	NSX100N	NSX160N	NSX250N	NSX100N	NSX160N	NSX250N
Downstream busbar trunking	TMD/Micrologic			TMD/Micrologic			TMD/Micrologic		
Downstream busbar trunking	KSA 100 A	KSA 160 A	KSA 250 A	KSA 100 A	KSA 160 A	KSA 250 A	KSA 100 A	KSA 160 A	KSA 250 A
Discrimination limit between upst. and downst. circuit breakers (kA)	45	45	45	70	70	70	150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	45	45	45	70	70	70	150	150	150
Reinforced protection of the downstream busbar trunking (kA)	45	45	45	70	70	70	70	70	70

Upstream circuit breaker Associated trip unit	NSX630N Micrologic			NSX630H Micrologic			NSX630L Micrologic		
Upstream busbar trunking	KSA/KVA/KVC 500 and 630 A			KSA/KVA/KVC 500 and 630 A			KSA/KVA/KVC 500 and 630 A		
Level of protection of the upstream busbar trunking (kA)	45			70			150		
Downstream circuit breaker Associated trip unit	NSX100N TMD/Micrologic			NSX100N TMD/Micrologic			NSX100N/H TMD/Micrologic		
Downstream busbar trunking	KN 40 A	KN 63 A	KN 100 A	KN 40 A	KN 63 A	KN 100 A	KN 40 A	KN 63 A	KN 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	45	45	45	70	70	70	150	150	150
Reinforced breaking capacity of the downstream circuit breaker (kA)	45	45	45	70	70	70	150	150	150
Reinforced protection of the downstream busbar trunking (kA)	45	45	45	50	50	50	50	50	50

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading

Rated current of the upstream busbar trunking: 315 and 400 A

Upstream circuit breaker Associated trip unit	NSX400N Micrologic	NSX400H Micrologic	NSX400L Micrologic
Upstream busbar trunking	KSA/KVA/KVC 315 and 400 A	KSA/KVA/KVC 315 and 400 A	KSA/KVA/KVC 315 and 400 A
Level of protection of the upstream busbar trunking (kA)	45	70	150
Downstream circuit breaker Associated trip unit	NSX100F NSX160F TMD/Micrologic	NSX100N NSX160N TMD/Micrologic	NSX100N NSX160N TMD/Micrologic
Downstream busbar trunking	KSA KSA 100 A 160 A	KSA KSA 100 A 160 A	KSA KSA 100 A 160 A
Discrimination limit between upst. and downst. circuit breakers (kA)	45 45	70 70	150 150
Reinforced breaking capacity of the downstream circuit breaker (kA)	45 45	70 70	150 150
Reinforced protection of the downstream busbar trunking (kA)	45 45	70 70	70 70

Upstream circuit breaker Associated trip unit	NSX400N Micrologic	NSX400H Micrologic	NSX400L Micrologic
Upstream busbar trunking	KSA/KVA/KVC 315 and 400 A	KSA/KVA/KVC 315 and 400 A	KSA/KVA/KVC 315 and 400 A
Level of protection of the upstream busbar trunking (kA)	45	70	150
Downstream circuit breaker Associated trip unit	NSX100N TMD/Micrologic 40 A 63 A 100 A	NSX100N TMD/Micrologic 40 A 63 A 100 A	NSX100N/H TMD/Micrologic 40 A 63 A 100 A
Downstream busbar trunking	KN KN KN 40 A 63 A 100 A	KN KN KN 40 A 63 A 100 A	KN KN KN 40 A 63 A 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	45 45 45	70 70 70	150 150 150
Reinforced breaking capacity of the downstream circuit breaker (kA)	45 45 45	70 70 70	150 150 150
Reinforced protection of the downstream busbar trunking (kA)	45 45 45	50 50 50	50 50 50

Rated current of the upstream busbar trunking: 200 and 250 A

Upstream circuit breaker Associated trip unit	NSX250N TDM/Micrologic	NSX250H TDM/Micrologic	NSX250L TDM/Micrologic
Upstream busbar trunking	KSA/KVA/KVC 200 and 250 A	KSA/KVA/KVC 200 and 250 A	KSA/KVA/KVC 200 and 250 A
Level of protection of the upstream busbar trunking (kA)	36	70	150
Downstream circuit breaker Associated trip unit	NSX100F TMD/Micrologic	NSX100N TMD/Micrologic	NSX100H TMD/Micrologic
Downstream busbar trunking	KSA-10 100 A	KSA-10 100 A	KSA-10 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	36	36	36
Reinforced breaking capacity of the downstream circuit breaker (kA)	36	70	150
Reinforced protection of the downstream busbar trunking (kA)	36	70	70

Upstream circuit breaker Associated trip unit	NSX250N TDM/Micrologic	NSX250H TDM/Micrologic	NSX250L TDM/Micrologic
Upstream busbar trunking	KSA/KVA/KVC 200 and 250 A	KSA/KVA/KVC 200 and 250 A	KSA/KVA/KVC 200 and 250 A
Level of protection of the upstream busbar trunking (kA)	36	70	150
Downstream circuit breaker Associated trip unit	NSX100F TMD/Micrologic 40 A 63 A 100 A	NSX100N TMD/Micrologic 40 A 63 A 100 A	NSX100N/H TMD/Micrologic 40 A 63 A 100 A
Downstream busbar trunking	KN KN KN 40 A 63 A 100 A	KN KN KN 40 A 63 A 100 A	KN KN KN 40 A 63 A 100 A
Discrimination limit between upst. and downst. circuit breakers (kA)	36 36 36	36 36 36	36 36 36
Reinforced breaking capacity of the downstream circuit breaker (kA)	36 36 36	70 70 70	150 150 150
Reinforced protection of the downstream busbar trunking (kA)	36 36 36	50 50 50	70 50 50

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Enhanced discrimination through
cascading

Rated current of the upstream busbar trunking:
200 and 250 A (cont.)

Upstream circuit breaker Associated trip unit	NSX250N TDM/Micrologic		NSX250H TDM/Micrologic	
Upstream busbar trunking	KSA/KVA/KVC 200 and 250 A		KSA/KVA/KVC 200 and 250 A	
Level of protection of the upstream busbar trunking (kA)	36		70	
Downstream circuit breaker	C60N	C60N	C60H	C60H
Associated trip unit	16/20	25/40	16/20	25/40
Downstream busbar trunking	KLE 16-20 A	KBA/KBB 25-40 A	KLE 16-20 A	KBA/KBB 25-40 A
Discrimination limit between upst. and downst. circuit breakers (kA)	25	25	30	30
Reinforced breaking capacity of the downstream circuit breaker (kA)	25	25	30	30
Reinforced protection of the downstream busbar trunking (kA)	25	25	30	30

Upstream circuit breaker Associated trip unit	NSX250N TDM/Micrologic		NSX250H TDM/Micrologic	
Upstream busbar trunking	KSA/KVA/KVC 200 and 250 A		KSA/KVA/KVC 200 and 250 A	
Level of protection of the upstream busbar trunking (kA)	36		70	
Downstream circuit breaker	C60N	C60N	C60H	C60H
Associated trip unit	40 A	63 A	40 A	63 A
Downstream busbar trunking	KN 40 A	KN 63 A	KN 40 A	KN 63 A
Discrimination limit between upst. and downst. circuit breakers (kA)	25	25	30	30
Reinforced breaking capacity of the downstream circuit breaker (kA)	25	25	30	30
Reinforced protection of the downstream busbar trunking (kA)	25	25	30	30

Rated current of the upstream busbar trunking: 160 A

Upstream circuit breaker Associated trip unit	NSX160N TDM/Micrologic		NSX160H TDM/Micrologic	
Upstream busbar trunking	KSA 160 A		KSA 160 A	
Level of protection of the upstream busbar trunking (kA)	36		70	
Downstream circuit breaker	C60N	C60N	C60H	C60H
Associated trip unit	16/20	25/40	16/20	25/40
Downstream busbar trunking	KLE 17-20 A	KBA/KBB 25-40 A	KLE 16-20 A	KBA/KBB 25-40 A
Discrimination limit between upst. and downst. circuit breakers (kA)	25	25	40	40
Reinforced breaking capacity of the downstream circuit breaker (kA)	25	25	40	40
Reinforced protection of the downstream busbar trunking (kA)	25	25	40	40

Upstream circuit breaker Associated trip unit	NSX160N TDM/Micrologic		NSX160H TDM/Micrologic	
Upstream busbar trunking	KSA 160 A		KSA 160 A	
Level of protection of the upstream busbar trunking (kA)	36		70	
Downstream circuit breaker	C60N	C60N	C60H	C60H
Associated trip unit	40 A	63 A	40 A	63 A
Downstream busbar trunking	KN 40 A	KN 63 A	KN 40 A	KN 63 A
Discrimination limit between upst. and downst. circuit breakers (kA)	25	25	30	30
Reinforced breaking capacity of the downstream circuit breaker (kA)	25	25	30	30
Reinforced protection of the downstream busbar trunking (kA)	25	25	30	30

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