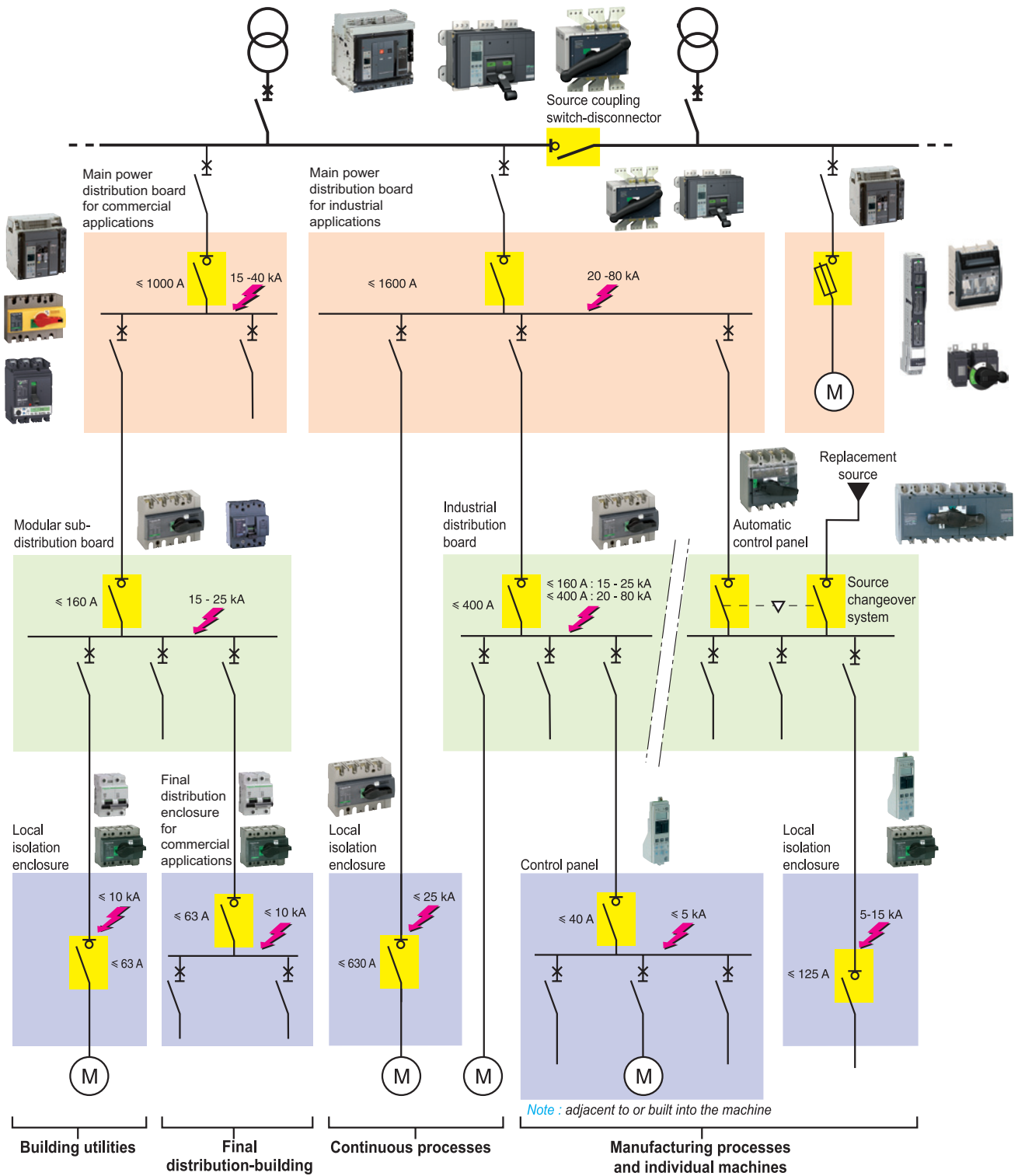


LV product characteristics

Circuit protection and control devices 0.5 to 6300 A



Overview of solutions



LV devices



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Acti 9 circuit breakers from 0.5 to 125 A



PB107141_28.eps

iDPN N



PB104440_28.eps

iC60N





058900N_26_SE.eps

C120



058900N_32_SE.eps

NG125N

Acti 9 circuit breaker			DPN N Vigì
Number of poles			1 + N
Electrical characteristics			
Rated current (A)	In		4-40
Rated insulation voltage (V)	Ui		400
Impulse withstand voltage (kV)	Uimp		4
Maximum operational voltage (V)	Ue	AC 50/60 Hz	230/400
Fast closing			■
Suitability for isolation and positive contact indication			■
AC breaking capacity			
IEC 60898 (EN 60898)	Icn (A)	230/400 V	6000
Rated current (A)	In		4-40
IEC 60947-2 (EN 60947-2)	Icu (kA)	12...60 V	-
		12...133 V	-
		100.133 V	-
		220.240 V	-
		380...415V	-
		440 V	-
	Ics	(% of Icu)	-
Trip units (non adjustable)			
Curve type		B (Im = 3 to 5 In)	■
		C (Im = 5 to 10 In)	■
		D (Im = 10 to 14 In)	-
		K (Im = 10 to 14 In)	-
		Z (Im = 2.4 to 3.2)	-
		MA (Im = 12 In)	-
Earth leakage protection			
Add-on rod's (Vigi module)			-
Integrated			■
Sensitivity type (mA)		AC	30-300
		A	30-300
		A si	30-300
Electrical auxiliaries			
Auxiliary and alarm switches (iOF-iSD)			■
Shunt trip (MX); undervoltage release (MN)			■
Emergency stop opening switch (MNx)			■
Voltage threshold release (MSU)			■
Connection			
Cable maxi capacity (mm ²)		Flexible	10
		Rigid	16
Installation			
Plug in base			
Terminal shields			
Padlocking device			
Rotary handle			
Dimensions (mm)	W		18
	H		
	D		

Acti 9 circuit breakers from 0.5 to 125 A

iC60N				iC60H				iC60L								iC60LMA	
1-1+N		2-3-4		1-1+N		2-3-4		1-1+N		2-3-4						2-3P	
0.5-63				0.5-63				0.5-63								1.6-40	
500				500				500								500	
6				6				6								6	
440				440				440								440	
■				■				■								■	
■				■				■								■	
6000				10000				15000								-	
0.5-4		6-63		0.5-4		6-63		0.5-6		6-25		32-40		50-63		1.6-16	25-40
Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/Ph	Ph/Ph
50	-	36	-	70	-	42	-	100	-100	70	80	70	80	70	80	-	-
50	50	-	36	-	70	-	42	-	-	-	-	-	-	-	-	-	-
50	-	20	-	70	-	30	-	100	100	50	70	36	70	30	70	-	-
50	50	10	20	70	70	15	30	100	100	25	50	20	36	15	30	40	30
-	50	-	10	-	50	-	15	-	100	-	25	-	20	6	15	20	15
-	25	-	6	-	25	-	15	-	70	-	20	-	15	-	10	15	10
100 %		75 %		100 %		50 %		100 %		50 %		50 %		50 %		50 %	
■				■				■									
■				■				■									
■				■				■									
-				-				-									
-				-				-									
-				-				-								■	
■				■				■								■	
-				-				-								-	
10-1000				10-1000				10-1000								10-1000	
30-1000				30-1000				30-1000								10-1000	
10-1000				10-1000				10-1000								10-1000	
■				■				■								■	
■				■				■								■	
■				■				■								■	
■				■				■								■	
16 (≤ 25 A)		25 (> 25 A)		16 (≤ 25 A)		25 (> 25 A)		16 (≤ 25 A)		25 (> 25 A)		16 (≤ 25 A)		25 (> 25 A)			
25 (≤ 25 A)		35 (> 25 A)		25 (≤ 25 A)		35 (> 25 A)		25 (≤ 25 A)		35 (> 25 A)		25 (≤ 25 A)		35 (> 25 A)			
■				■				■									
■				■				■									
■				■				■									
■				■				■									
18 per pole				18 per pole				18 per pole									
85				85				85									
78.5				78.5				78.5									

Acti 9 circuit breakers from 0.5 to 125 A



iDPN N



iC60N



C120



NG125N

Acti 9 circuit breaker			C120N	
Number of poles			1	2-3-4
Electrical characteristics				
Rated current (A)	I_n		63-125	
Rated insulation voltage (V)	U_i		500	
Impulse withstand voltage (kV)	U_{imp}		6	
Maximum operational voltage (V)	U_e	AC 50/60 Hz	440	
Fast closing			■	
Suitability for isolation and positive contact indication			■	
AC breaking capacity				
IEC 60898 (EN 60898)	I_{cn} (A)	230/400 V	10000	
			Ph	Ph/Ph
IEC 60947-2 (EN 60947-2)	I_{cu} (kA)	110...130 V	-	
		130 V	20	
		220...240 V	10	
		380...415 V	3 ⁽¹⁾	
		400/415	-	
		440 V	-	
		500 V	-	
	I_{cs}	(% of I _{cu})	75 %	
Trip units (non adjustable)				
Curve type		B (I _m = 3 to 5 I _n)	■	
		C (I _m = 5 to 10 I _n)	■	
		D (I _m = 10 to 14 I _n)	-	
		MA (I _m = 12 I _n)	-	
Earth leakage protection				
Add-on rcd's (Vigi module)			■	
Integrated			-	
Sensitivity type (mA)		AC	30-1000	
		A	30-1000	
		A si	30-1000	
		A si E	30-1000	
Electrical auxiliaries				
Auxiliary and alarm switches (OF-SD)			■	
Shunt trip (MX); undervoltage release (MN)			■	
Emergency stop opening switch (MNx)			■	
Voltage threshold release (MSU)			■	
Connection				
Cable maxi capacity (mm ²)			Flexible	16
			Rigid	25
Installation				
Plug in base			■ ≤ 63 A	
Terminal shields			■	
Padlocking device			■	
Rotary handle			■	
Dimensions (mm)		W	27 per pole	
		H	81	
		D	73	

(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).

C120H		NG125N		NG125H		NG125L		NG125L MA	
1	2-3-4	1	2-3-4	1	2-3-4	1	2-3-4	2-3	
10-125		10-125		10-80		10-80		4-80	
500		690		690		690		500	
6		8		8		8		8	
440		500		500		500		500	
■		■		■		■		■	
■		■		■		■		■	
15000		-		-		-		-	
Ph	Ph/Ph	Ph	Ph/Ph	Ph	Ph/Ph	Ph	Ph/Ph	Ph/Ph	
-	-	50	-	70	-	100	-	-	
30	-	-	-	-	-	-	-	-	
15	30	25	50	36	70	50	100	100	
4.5 ⁽¹⁾	15	6	25	6	36	6	50	50	
-	-	-	-	-	-	-	-	-	
-	10	-	20	-	30	-	40	40	
-	-	-	10	-	12	-	15	15	
75 %		75 %		75 %		75 %		75 %	
■		■		-		■			
■		■		■		■			
		■		-		■			
								■	
■		■		■		■		■	
-		-		-		-			
30-1000		30-300		30-300		30-300		30-300	
30-1000		30-3000		30-3000		30-3000		30-3000	
30-1000		30-3000		30-3000		30-3000		30-3000	
30-1000		-		-		-		-	
■		■		■		■		■	
■		■		■		■		■	
■		■		■		■		■	
■		-		-		-		-	
25		25		35		35			
35		35		50		50			
		-							
		■							
		■							
		■							
		27 per pole							
		103							
		81							

Characteristics of NG160 circuit breakers and switch-disconnectors

Incomer for modular switchboards

3 and 4 pole circuit breakers and switch-disconnectors specially designed for use upstream of Multi 9 modular devices:

- reinforcement of breaking capacities of downstream devices by cascading up to 25 kA
- easy installation in Pragma or Prisma Plus type G enclosures:
 - standard 45 mm front cut-out
 - clip-on installation on a DIN rail
 - reduced depth (82.5 mm).

PB103512_SE_40 eps



NG160 circuit breaker.

NG160 circuit breaker

Electrical characteristics as per IEC 60947-2

Rated current (A)	In	40 °C	160
Rated insulation voltage (V)	Ui		800
Rated impulse withstand voltage (kV)	Uimp		8
Rated operational voltage (V)	Ue	AC 50/60 Hz	500
Type of circuit breaker			
Ultimate breaking capacity (kA rms)	Icu	AC 220/240 V	25 40 50
		50/60 380/415 V	16 25 36
		Hz 440 V	10 16 22
		500 V	8 10 15
Service breaking capacity	Ics	% Icu	75 %
Suitability for isolation			■
Durability (C-O cycles)		mechanical	10000
		electrical (In -440 V)	5000

Protection

Built-in thermal-magnetic trip unit

Ratings	In	16	25	32	40	50	63	80	100	125	160
Thermal protection	Ir	fixed threshold									
Magnetic protection	Im	600	600	600	600	600	800	800	1000	1250	1250

NG160NA switch-disconnector

Electrical characteristics as per IEC 60947-3

Conventional thermal current (A)	Ith	40 °C	160
Rated insulation voltage (V)	Ui		800
Rated impulse withstand voltage (kV)	Uimp		8
Rated operational voltage (V)	Ue	AC 50/60 Hz	500
Rated operational current	Ie	AC 50/60 Hz	AC22A AC23A
		220/240 V	160 160
		380/415 V	160 160
		440/480 V	160 160
		500 V	160 125
Short-circuit making capacity	Icm	(kA peak) min. for switch-disconnector alone	2.1
		max. with protection by upstream circuit breaker	330
Short-time withstand current	Icw	(A rms) 1 s	1500
		3 s	1500
Suitability for isolation			■

Coordination between circuit breakers and switch-disconnectors

The switch-disconnector must be protected against downstream short-circuits. The choice of the right switch-disconnector therefore depends on coordination with the protective device installed upstream. The table below indicates the maximum short-circuit current in kArms for which the switch-disconnector is protected by coordination with the circuit breaker located upstream.

Important: the switch-disconnector must be protected against overloads. The rating of the switch-disconnector must be greater than or equal to that of the upstream circuit breaker.

Upstream protection			NR100F	NS100 - NS160		
NG160NA downstream			NR160F	N	SX	H
380 - 415 V	Isc max	kA rms	25	36	50	70
	Making capacity	kA peak	52	75	105	154
440 V	Isc max	kA rms	20	35	50	65
	Making capacity	kA peak	42	73	105	143

Characteristics of NG160 circuit breakers and switch-disconnectors

Incomer for modular switchboards



NG160 in modular enclosure.

Installation and connections

Connections			
Connectors	Bare cables from 1.5 to 70 mm ² cables		
Dimensions (mm)		W x H x D	Width in 9 mm modules
NG160	3P	90 x 120 x 82.5	10
	4P	120 x 120 x 82.5	14
NG160 with Vigi	3P	210 x 120 x 82.5	24
	4P	240 x 120 x 82.5	27
Weight (kg)			
Device	3P	1.1	
	4P	1.4	
Device + Vigi module	3P	2.6	
	4P	2.9	

Selection table

EZC circuit breakers



PB101838_SE_10.eps

EZC100-1P.



PB101840_SE_15.eps

EZC100-2P.



PB101843_SE_22.eps

EZC100-3P.



PB102172_SE_27.eps

EZC100-4P.



PB101845_SE_29.eps

EZC250-3P.

EasyPact circuit breakers

Fixed version		
Plug-in version		
Number of poles		
Rated current (A)	In	at 40 °C
Rated insulation voltage (V)		
Ui		
Rated impulse withstand voltage (kV)		
Uimp		
Rated operational voltage (V)		
Ue		AC 50/60 Hz DC

Electrical characteristics as per IEC 60947-2, EN 60947-2, JIS C8201-2-1

Ultimate breaking capacity (kA rms)	Icu	AC 50/60 Hz	110/130 V
			220/230/240 V
			380 V
			400/415 V
			440 V
DC	550 V		
	125 V (1P)		
	250 V (2P in series)		
Rated service breaking capacity (kA rms)	Ics	% Icu	110-400 V 415-550 V

Suitability for isolation		
Utilisation category		
Pollution degree		
Endurance (C-O cycles)	Mechanical	
	Electrical	In/415 V

Electrical characteristics as per NEMA-AB1

Breaking capacity (kA rms)	HIC	AC 50/60 Hz	240 V
			277/480 V

Protection

Overload protection	Bimetal	
Instantaneous protection	Magnetic	Fixed (±20 %)

Auxiliaries

Indication contacts	Auxiliary switch	AX
	Alarm switch	AL
	Combined AX + AL	AXAL
Voltage releases	Shunt trip release	SHT
	Undervoltage release	UVR

Installation

Connection	Crimp lugs/bars	
Accessories	Box lugs for bare cables	
	Rotary handles	Direct Extended
Terminal extensions		
Spreaders		
Phase barriers		
Terminal shields		
Padlocking system		
DIN rail adaptor		

Dimension and weight

Dimensions (mm)	D x H	
	W	
Weight (kg)		

Selection table

EZC circuit breakers

	EZC100B	EZC100F	EZC100N	EZC100H		EZC250F	EZC250N	EZC250H	
	■	■	■	■	■	■	■	■	
	■	■	-	■ ⁽⁴⁾	-	■	■	■	
	3	3	1	3-4	1	2-3-4	3	3	2-3
	15, 16, 20, 25, 30, 32, 40, 45, 50, 60	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	100, 125, 150, 160, 175, 200, 225, 250	100, 125, 150, 160, 175, 200, 225, 250	100, 125, 150, 160, 175, 200, 225, 250
	690	690	690	690	690	690	690	690	
	6	6	6	6	6	6	6	6	
	550	550	415	550	415	550	550	550	
	-	250	125	250	125	250	250	250	
	10	25	25	25	50	100	25	50	85
	10	25	18	25	25	100 ⁽¹⁾	25	50	85
	7.5	10	2.5	18	5	30	18	25	36
	7.5	10	2.5	15	5	30	18	25	36
	5	7.5	-	10	-	20	15	20	25
	2.5	5	-	5	-	10	5	8	10
	-	5	5	5	10	10	5	20	30
	-	5	-	5	-	10	5	20	30
	25 %	50 %	50 %	50 %	50 %	50 %	50 %	50 %	50 %
	25 %	50 %	50 %	50 %	50 %	25 %	50 %	50 %	50 %
	■	■	■	■	■	■	■	■	
	A	A	A	A	A	A	A	A	
	3	3	3	3	3	3	3	3	
	8 500	8 500	8 500	8 500	8 500	8 500	10 000	10 000	10 000
	1 500	1 500	1 500	1 500	1 500	1 500	5 000	5 000	5 000
	-	-	10	25	18	100	25	50	85
	-	-	10 ⁽²⁾	10	18 ⁽²⁾	18 ⁽³⁾	15	18	25 ⁽³⁾
	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed
	fixed	fixed	fixed	fixed	fixed	fixed	10 In	10 In	10 In
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	-	■	-	■ ⁽³⁾	■	■	■
	■	■	-	■	-	■ ⁽³⁾	■	■	■
	-	-	-	-	-	-	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	-	■	-	■ ⁽³⁾	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	-	-	-
	60 x 130	60 x 130	60 x 130	60 x 130	60 x 130	60 x 130	60 x 165	60 x 165	60 x 165
	75	75	25	75 (3P) 100 (4P)	25	50 (2P) 75 (3P) 100 (4P)	105	105	105
	0.78	0.78	0.28	0.78 (3P) 1.0 (4P)	0.28	0.6 (2P) 0.78 (3P) 1.0 (4P)	1.3	1.3	1.1 (2P) 1.3 (3P)

(1) 50 kA for 2 poles.
 (2) For 277 V only.
 (3) For 3 and 4 poles only.
 (4) For 3P only.

Selection table

EZC circuit breakers



EZC250.



EZCV250-4P.



EZC400-3P.



EZC400-4P.

EasyPact circuit breakers

Fixed version		
Plug-in version		
Number of poles		
Rated current (A)	I_n	at 40 °C
Rated insulation voltage (V) U_i		
Rated impulse withstand voltage (kV) U_{imp}		
Rated operational voltage (V)	U_e	AC 50/60 Hz DC

Electrical characteristics as per IEC 60947-2, EN 60947-2 and JIS C8201-2-1/C8201-2-2

Ultimate breaking capacity (kA rms)	I_{cu}	AC 50/60 Hz	220/230/240 V 380 V 400/415 V 440 V 550 V
		DC	125 V (1P) 250 V (2P in series)

Rated service breaking capacity (kA rms)	I_{cs}	% I _{cu}
Suitability for isolation		
Utilisation category		
Pollution degree		
Endurance (C-O cycles)	Mechanical	
	Electrical	I _n /415 V

Electrical characteristics as per NEMA-AB1

Breaking capacity (kA rms)	HIC	AC 50/60 Hz	240 V 277/480 V
----------------------------	------------	-------------	--------------------

Protection

Overload protection	Bimetal	
Instantaneous protection	Magnetic	fixed (± 20 %)

Earth-leakage protection

Sensitivity (A)	I _{Δn}	adjustable
Time-delay (ms)	Δt	adjustable
Max. breaking time (s)	at 2 I _{Δn}	

Auxiliaries

Indication contacts	Auxiliary switch	AX
	Alarm switch	AL
	Combined AX + AL	AXAL
	Earth-alarm switch	ALV
Voltage releases	Shunt trip release	SHT
	Undervoltage release	UVR

Installation

Connection	Crimp lugs / bars	
Accessories	Box lugs for bare cables	
	Rotary handles	Direct Extended
	Terminal extensions	
	Spreaders	
	Phase barriers	
	Terminal shields	
	Padlocking system	

Dimension and weight

Dimensions (mm)	D x H	
	W	

Weight (kg)	
-------------	--

Selection table

EZC circuit breakers

	EZC250N	EZC250H	EZCV250N	EZCV250H	EZC400N	EZC400H
	■	■	■	■	■	■
	■	■	■	■	-	-
	4	4	3-4	3-4	3-4	3-4
	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	250, 300, 320, 350, 400	250, 300, 320, 350, 400
	690	690	440	440	690	690
	6	6	6	6	8	8
	550	550	440	440	550	550
	250	250	-	-	250	250
	50	85	85	100	85	100
	25	36	25	36	36	50
	25	36	25	36	36	50
	20	25	20	25	36	50
	8	10	-	-	15	20
	20	30	-	-	-	-
	20	30	-	-	20	40
	50 %	50 %	50 %	50 %	50 %	50 %
	■	■	■	■	■	■
	A	A	A	A	A	A
	3	3	3	3	3	3
	10 000	10 000	10 000	10 000	4 000	4 000
	5 000	5 000	5 000	5 000	1 000	1 000
	50	85	50	85	50	85
	18	25	-	-	25	35
	fixed	fixed	fixed	fixed	fixed	fixed
	10 In	10 In	10 In	10 In	10 In	10 In
	-	-	0.1/0.3/0.5/1	0.1/0.3/0.5/1	-	-
	-	-	0/200/500/1000	0/200/500/1000	-	-
	-	-	0.15/0.4/1/2	0.15/0.4/1/2	-	-
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	-	-	■	■	-	-
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	■	■	■	■	■	■
	68 x 165	68 x 165	68 x 165	68 x 165	103 x 257	103 x 257
	140	140	105 (3P) 140 (4P)	105 (3P) 140 (4P)	140 (3P) 185 (4P)	140 (3P) 185 (4P)
	1.8	1.8	1.6 (3P) 2.1 (4P)	1.6 (3P) 2.1 (4P)	5 (3P) 7.5 (4P)	5 (3P) 7.5 (4P)

Characteristics and performance of Compact NSX circuit breakers from 100 to 630 A

PB10354-40.eps



Compact NSX100/160/250.

PB103279_44.eps



Compact NSX400/630.

Common characteristics

Rated voltages			
Insulation voltage (V)	Ui		800
Impulse withstand voltage (kV)	Uimp		8
Operational voltage (V)	Ue	AC 50/60 Hz	690
Suitability for isolation		IEC/EN 60947-2	yes
Utilisation category			A
Pollution degree		IEC 60664-1	3

Circuit breakers

Breaking capacity levels

Electrical characteristics as per IEC 60947-2

Rated current (A)	In	40 °C		
Number of poles				
Breaking capacity (kA rms)				
	Icu	AC 50/60 Hz	220/240 V	
			380/415 V	
			440 V	
			500 V	
			525 V	
			660/690 V	

Service breaking capacity (kA rms)

	Ics	AC 50/60 Hz	220/240 V	
			380/415 V	
			440 V	
			500 V	
			525 V	
			660/690 V	

Durability (C-O cycles)	Mechanical		
	Electrical		
	440 V	In/2	
	690 V	In/2	
		In	

Characteristics as per Nema AB1

Breaking capacity (kA rms)	AC 50/60 Hz	240 V	
		480 V	
		600 V	

Characteristics as per UL 508

Breaking capacity (kA rms)	AC 50/60 Hz	240 V	
		480 V	
		600 V	

Protection and measurements

Short-circuit protection	Magnetic only
Overload / short-circuit protection	Thermal magnetic
	Electronic
	with neutral protection (Off-0.5-1-OSN) ⁽¹⁾
	with ground-fault protection
	with zone selective interlocking (ZSI) ⁽²⁾

Display / I, U, f, P, E, THD measurements / interrupted-current measurement

Options	Power Meter display on door
	Operating assistance
	Counters
	Histories and alarms
	Metering Com
	Device status/control Com

Earth-leakage protection	By Vigi module
	By Vigirex relay

Installation / connections

Dimensions and weights

Dimensions (mm)	Fixed, front connections	2/3P
	W x H x D	4P
Weight (kg)	Fixed, front connections	2/3P
		4P

Connections

Connection terminals	Pitch	With/without spreaders
----------------------	-------	------------------------

Large Cu or Al cables	Cross-section	mm ²
-----------------------	---------------	-----------------

⁽¹⁾ OSN: Over Sized Neutral protection for neutrals carrying high currents (e.g. 3rd harmonics).

⁽²⁾ ZSI: Zone Selective Interlocking using pilot wires.

⁽³⁾ 2P circuit breaker in 3P case for B and F types, only with thermal-magnetic trip unit.

Characteristics and performance of Compact NSX circuit breakers from 100 to 630 A

Common characteristics

Control				
Manual	With toggle		■	
	With direct or extended rotary handle		■	
Electrical	With remote control		■	
Versions				
Fixed			■	
Withdrawable	Plug-in base		■	
	Chassis		■	

NSX100						NSX160						NSX250						NSX400						NSX630					
B	F	N	H	S	L	B	F	N	H	S	L	B	F	N	H	S	L	F	N	H	S	L	F	N	H	S	L		
100						160						250						400						630					
2 ⁽³⁾ , 3, 4						2 ⁽³⁾ , 3, 4						2 ⁽³⁾ , 3, 4						3, 4						3, 4					
40	85	90	100	120	150	40	85	90	100	120	150	40	85	90	100	120	150	40	85	100	120	150	40	85	100	120	150		
25	36	50	70	100	150	25	36	50	70	100	150	25	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150		
20	35	50	65	90	130	20	35	50	65	90	130	20	35	50	65	90	130	30	42	65	90	130	30	42	65	90	130		
15	25	36	50	65	70	15	30	36	50	65	70	15	30	36	50	65	70	25	30	50	65	70	25	30	50	65	70		
-	22	35	35	40	50	-	22	35	35	40	50	-	22	35	35	40	50	20	22	35	40	50	20	22	35	40	50		
-	8	10	10	15	20	-	8	10	10	15	20	-	8	10	10	15	20	10	10	20	25	35	10	10	20	25	35		
40	85	90	100	120	150	40	85	90	100	120	150	40	85	90	100	120	150	40	85	100	120	150	40	85	100	120	150		
25	36	50	70	100	150	25	36	50	70	100	150	25	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150		
20	35	50	65	90	130	20	35	50	65	90	130	20	35	50	65	90	130	30	42	65	90	130	30	42	65	90	130		
7.5	12.5	36	50	65	70	15	30	36	50	65	70	15	30	36	50	65	70	25	30	50	65	70	25	30	50	65	70		
-	11	35	35	40	50	-	22	35	35	40	50	-	22	35	35	40	50	10	11	11	12	12	10	11	11	12	12		
-	4	10	10	15	20	-	8	10	10	15	20	-	8	10	10	15	20	10	10	10	12	12	10	10	10	12	12		
50000						40000						20000					15000											15000	
50000						40000						20000					12000											8000	
30000						20000						10000					6000											4000	
20000						15000						10000					6000											6000	
10000						7500						5000					3000											2000	
40	85	90	100	120	150	40	85	90	100	120	150	40	85	90	100	120	150	40	85	100	120	150	40	85	100	120	150		
20	35	50	65	90	130	20	35	50	65	90	130	20	35	50	65	90	130	30	42	65	90	130	30	42	65	90	130		
-	8	20	35	40	50	-	20	20	35	40	50	-	20	20	35	40	50	-	20	35	40	50	-	20	35	40	50		
-	85	85	85	-	-	-	85	85	85	-	-	-	85	85	85	-	-	85	85	85	-	-	85	85	85	-	-		
-	25	50	65	-	-	-	35	50	65	-	-	-	35	50	65	-	-	35	50	65	-	-	35	50	65	-	-		
-	10	10	10	-	-	-	10	10	10	-	-	-	15	15	15	-	-	20	20	20	-	-	20	20	20	-	-		
■						■						■					■											■	
■						■						■					■											■	
■						■						■					■											■	
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■						■						■					■											■	
■						■						■					■											■	
■						■						■					■											■	
■						■						■					■											■	
105 x 161 x 86						105 x 161 x 86						105 x 161 x 86					140 x 255 x 110										140 x 255 x 110		
140 x 161 x 86						140 x 161 x 86						140 x 161 x 86					185 x 255 x 110										185 x 255 x 110		
2.05						2.2						2.4					6.05										6.2		
2.4						2.6						2.8					7.90										8.13		
35/45 mm						35/45 mm						35/45 mm					45/52.5 mm										45/52.5 mm		
																	45/70 mm										45/70 mm		
300						300						300					4 x 240										4 x 240		

Protection of distribution systems

Compact NS circuit breakers from 630 up to 3200 A

PB10452.eps



Compact NS800L.

PB10453.eps



Compact NS2000H.

Compact circuit breakers

Number of poles				
Control	manual	toggle		
	electric	direct or extended rotary handle		
Type of circuit breaker				
Connections	fixed	front connection		
		rear connection		
		front connection with bare cables		
	withdrawable (on chassis)	front connection		
		rear connection		
Electrical characteristics as per Nema AB1				
Breaking capacity at 60 Hz (kA)				240 V
				480 V
				600 V
Electrical characteristics as per IEC 60947-2 and EN 60947-2				
Rated current (A)	In	50 °C		
		65 °C ⁽¹⁾		
Rated insulation voltage (V)	Ui			
Rated impulse withstand voltage (kV)	Uimp			
Rated operational voltage (V)	Ue	AC 50/60 Hz		
Type of circuit breaker				
Ultimate breaking capacity (kA rms)	Manual	Icu	AC	220/240 V
			50/60 Hz	380/415 V
				440 V
	Ics	AC	220/240 V	
		50/60 Hz	380/415 V	
			440 V	
Electrical	Icu	AC	220/240 V	
		50/60 Hz	380/415 V	
			440 V	
	Ics	AC	220/240 V	
		50/60 Hz	380/415 V	
			440 V	
Short-time withstand current (kArms)	Icw	AC	1 s	
		50/60 Hz	3 s	
Integrated instantaneous protection		kA peak ±10 %		
Suitability for isolation				
Utilisation category				
Durability (C-O cycles)	mechanical			
		electrical	440 V	In/2
			690 V	In
Pollution degree				

(1) 65 °C with vertical connections. See the temperature derating tables for other types of connections.

(2) Ics: 100 % Icu for breaking capacity 440V/500V/660V
Ics: 75 % Icu for breaking capacity 220V/380V.

Protection of distribution systems

Compact NS circuit breakers from 630 up to 3200 A

NS630b				NS800				NS1000				NS1250				NS1600				NS1600b				NS2000				NS2500				NS3200							
3, 4				3, 4				3, 4				3, 4				3, 4				3, 4				3, 4				3, 4				3, 4							
■				■				■				■				■				■				■				■				■				■			
■				■				■				■				■				■				■				■				■				■			
■ (except LB)				■				■				■				■				■				■				■				■				■			
N		H		L		LB		N		H		L		N		H		N		H		N		H		N		H		N		H		N		H			
■		■		■		-		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■			
■		■		■		-		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■			
■		■		-		-		■		■		-		-		-		-		-		-		-		-		-		-		-		-		-			
■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■			
■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■			
N		H		L		LB		N		H		L		N		H		N		H		N		H		N		H		N		H		N		H			
50		65		125		200		50		65		125		50		65		50		65		85		125		50		65		85		50		-		-			
35		50		100		200		35		50		100		35		50		35		50		65		85		65		85		65		85		65		85			
25		50		-		100		25		50		-		25		50		25		50		50		-		50		-		50		-		-		-			
630				800				1000				1250				1600				1600				2000				2500				3200							
630				800				1000				1250				1510				1550				1900				2500				2970							
800				800				800				800				800				800				800				800				800							
8				8				8				8				8				8				8				8				8							
690				690				690				690				690				690				690				690				690							
N		H		L		LB		N		H		L		N		H		N		H		N		H		N		H		N		H		N		H			
85		85		150		200		85		85		150		85		85		85		85		85		125		85		125		85		125		85		125			
50		70		150		200		50		70		150		50		70		50		70		70		85		70		85		70		85		70		85			
50		65		130		200		50		65		130		50		65		50		65		65		85		65		85		65		85		65		85			
40		50		100		100		40		50		100		40		50		40		50		65		-		65		-		65		-		65		-			
30		42		-		75		30		42		-		30		42		30		42		65		-		65		-		65		-		65		-			
50		52		150		200		50		52		150		50		52		37		35		65		94		65		94		65		94		65		94			
50		52		150		200		50		52		150		50		52		37		35		52		64		52		64		52		64		52		64			
50		48		130		200		50		48		130		50		48		37		32		65		64		65		64		65		64		65		64			
40		37		100		100		40		37		100		40		37		30		25		65		-		65		-		65		-		65		-			
30		31		-		75		30		31		-		30		31		22		21		65		-		65		-		65		-		65		-			
50		70		150		-		50		70		150		50		70		50		70		-		-		-		-		-		-		-		-			
50		70		150		-		50		70		150		50		70		50		70		-		-		-		-		-		-		-		-			
50		65		130		-		50		65		130		50		65		50		65		-		-		-		-		-		-		-		-			
40		50		100		-		40		50		100		40		50		40		50		-		-		-		-		-		-		-		-			
30		42		-		-		30		42		-		30		42		30		42		-		-		-		-		-		-		-		-			
37		35		150		-		37		35		150		37		35		37		35		-		-		-		-		-		-		-		-			
37		35		150		-		37		35		150		37		35		37		35		-		-		-		-		-		-		-		-			
37		32		130		-		37		32		130		37		32		37		32		-		-		-		-		-		-		-		-			
30		25		100		-		30		25		100		30		25		30		25		-		-		-		-		-		-		-		-			
22		21		-		-		22		21		-		22		21		22		21		-		-		-		-		-		-		-		-			
19.2		19.2		-		-		19.2		19.2		-		19.2		19.2		19.2		19.2		-		-		-		-		-		-		-		-			
-		-		-		-		-		-		-		-		-		-		-		32		-		-		-		-		-		-		-			
40		40		-		-		40		40		-		40		40		40		40		130		-		-		-		-		-		-		-			
■				■				■				■				■				■				■				■											
B		B		A		A		B		B		A		B		B		B		B		B		B		B		B		B		B		B		B			
10000				10000				10000				10000				10000				10000				10000				10000											
6000		6000		4000		4000		6000		6000		4000		5000		5000		5000		5000		3000		3000		3000		3000		3000		3000		3000		3000			
5000		5000		3000		3000		5000		5000		3000		4000		4000		2000		2000		2000		2000		2000		2000		2000		2000		2000		2000			
4000		4000		3000		3000		4000		4000		3000		3000		3000		2000		2000		2000		2000		2000		2000		2000		2000		2000		2000			
2000		2000		2000		2000		2000		2000		2000		2000		2000		1000		1000		1000		1000		1000		1000		1000		1000		1000		1000			
3				3				3				3				3				3				3				3											

Protection of distribution systems

Compact NS circuit breakers from 630 up to 3200 A

Protection and measurements

Interchangeable control units

Overload protection	long time	I_r (In x ...)
Short-circuit protection	short time	I_{sd} (Ir x ...)
	instantaneous	I_i (In x ...)

Earth-fault protection	I_g (In x ...)
------------------------	------------------

Residual earth-leakage protection	$I_{\Delta n}$
-----------------------------------	----------------

Zone selective interlocking	ZSI
-----------------------------	-----

Protection of the fourth pole

Current measurements

Power measurements

Advanced protection

Quick view

Remote communication by bus

Device-status indication

Device remote operation ⁽²⁾

Transmission of settings

Indication and identification of protection devices and alarms

Transmission of measured current values

Compact circuit breakers

Additional indication and control auxiliaries

Indication contacts

Voltage releases	MX shunt release/MN undervoltage release
------------------	--

Installation

Accessories	terminal extensions and spreaders
	terminal shields and interphase barriers
	escutcheons

Dimensions fixed devices, front connections (mm)	3P
--	----

H x W x D	4P
-----------	----

Weight fixed devices, front connections (kg)	3P
--	----

	4P
--	----

Source changeover system (see section on "source changeover systems")

Manual, remote-operated and automatic source changeover systems

⁽¹⁾ Except 1600b-3200.

⁽²⁾ With NS630b...NS1600, remote operation is possible with electrically operated device.
With NS1600...NS3200, remote operation is not possible.

Protection of distribution systems

Compact NS circuit breakers
from 630 up to 3200 A

Micrologic													
	2.0	5.0	6.0	2.0A	5.0A	6.0A	7.0A	2.0E	5.0E	6.0E	5.0P ⁽¹⁾	6.0P ⁽¹⁾	7.0P ⁽¹⁾
■	■	■	■	■	■	■	■	■	■	■	■	■	■
-	■	■	-	■	■	■	■	-	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■
-	-	■	-	-	■	■	-	-	-	■	-	■	-
-	-	-	-	-	-	-	■	-	-	-	-	-	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-	-	-	■	■	■
-	-	-	-	-	-	-	-	■	■	■	-	-	-
■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
-	-	-	■	■	■	■	■	■	■	■	■	■	■
NS630b	NS800	NS1000	NS1250	NS1600	NS1600b	NS2000	NS2500	NS3200					
■					■								
■					■								
■					-								
■					■								
■					■								
327 x 210 x 147					350 x 420 x 160								
327 x 280 x 147					350 x 535 x 160								
14					24								
18					36								
■					-								

DC circuit breakers characteristics

Compact NSX100 DC to NSX630 DC

PB107518_13_1.eps



PB107524_10_1.eps



PB107547_32_1.eps



PB107528_31_1.eps



Compact circuit breaker

Number of poles

Electrical characteristics as per IEC 60947-1/ 60947-2 and EN 60947-1 / 60947-2

Rated current at 40 °C	In	(A)
Rated insulation voltage	Ui	(V)
Rated impulse withstand voltage	Uimp	(kV peak)
Rated operational voltage	Ue	(V DC)

Type of circuit breaker

Ultimate breaking capacity (L/R = 5 ms and L/R = 15 ms)	Icu	(kA rms)	V DC	48-125 V (1P) ⁽¹⁾
				250 V (1P) ⁽¹⁾
				500 V (2P) ⁽¹⁾
				750 V (3P) ⁽¹⁾

Service breaking capacity	Ics	% Icu
Rated making capacity	Icm	% Icu
Utilisation category		
Breaking time		(ms)

Suitability for isolation
Pollution degree (as per IEC 60664-1)

Protection against overcurrents (see trip-unit table page A-9)

Trip units	Built-in Interchangeable
Protection	Overloads Short-circuits

Durability

(O/C cycles)	Mechanical	
		Electrical
		250 V In
		250 V In/2
		500 V In
		500 V In/2
	750 V In	
	750 V In/2	

Indication and control auxiliaries

Auxiliary contacts	
Voltage release	MX shunt release MN undervoltage release

Installation and connections

Fixed	Front connection
	Rear connection
Plug-in (base)	Front connection
	Rear connection
Withdrawable (chassis)	Front connection
	Rear connection
Control	Manual
	Electrical
	with toggle with direct or extended rotary handle
	with remote control

Dimensions and weight

Dimensions H x W x D (mm) connected in series	Fixed	1P
		2P
		3P
		4P
Weight (kg) connected in series	Fixed	1P
		2P
		3P
		4P

⁽¹⁾ Number of poles taking part in current interruption.

Example. The NSX100N DC circuit breaker exists in the following versions:

- 1 pole with an Icu of 50 kA, for systems ≤ 250 V

- 2 poles with an Icu of 85 kA, for systems ≤ 500 V; 1 pole can be used in a 250 V system.

DC circuit breaker characteristics

Compact NSX100 DC to NSX630 DC

NSX100 DC						NSX160 DC						NSX250 DC		NSX400 DC		NSX630 DC	
1		2		3/4		1		2		3/4		3/4		3/4		3/4	
100						160						250		400		550	
750						750						750		750		750	
8						8						8		8		8	
250		500		750		250		500		750		750		750		750	
N	H	N	H	F	S	N	H	N	H	F	S	F	S	F	S	F	S
50	85	85	100	36	100	50	85	85	100	36	100	36	100	36	100	36	100
50	85	85	100	36	100	50	85	85	100	36	100	36	100	36	100	36	100
-	-	85	100	36	100	-	-	85	100	36	100	36	100	36	100	36	100
-	-	-	-	36	100	-	-	-	-	36	100	36	100	36	100	36	100
100 %						100 %						100 %		100 %		100 %	
100 %						100 %						100 %		100 %		100 %	
A						A						A		A		A	
< 10 ms						< 10 ms						< 10 ms		< 10 ms		< 10 ms	
■						■						■		■		■	
3						3						3		3		3	
■	■	■	■	-	-	■	■	■	■	-	-	-	-	■	■	■	■
-	-	-	-	■	-	-	-	-	-	■	-	■	-	-	-	-	-
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
10000						10000						5000		5000		5000	
5000						5000						1000		1000		1000	
10000						10000						2000		2000		2000	
5000						5000						1000		1000		1000	
10000						10000						2000		2000		2000	
5000						5000						1000		1000		1000	
10000						10000						2000		2000		2000	
■						■						■		■		■	
■						■						■		■		■	
■						■						■		■		■	
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
161 x 35 x 86						161 x 35 x 86						-		-		-	
-						-						161 x 70 x 86		-		-	
-						-						-		161 x 105 x 86		255 x 140 x 110	
-						-						-		161 x 140 x 86		225 x 185 x 110	
0.7						0.7						-		-		-	
-						-						1.2		-		-	
-						-						-		1.6 to 1.9		6.0	
-						-						-		-		2.1 to 2.3	
-						-						-		-		7.8	

Circuit breakers and switch-disconnectors

NT06 to NT16

PB106365A49 eps



Common characteristics

Number of poles		3/4
Rated insulation voltage (V)	Ui	1000
Impulse withstand voltage (kV)	Uimp	12
Rated operational voltage (V AC 50/60 Hz)	Ue	690
Suitability for isolation	IEC 60947-2	
Degree of pollution	IEC 60664-1	3

Basic switchgear

Circuit-breaker as per IEC 60947-2

Rated current (A)	In	at 40 °C/50 °C ⁽¹⁾
Rating of 4th pole (A)		
Sensor ratings (A)		
Type of circuit breaker		
Ultimate breaking capacity (kArms) V AC 50/60 Hz	Icu	220/415 V 440 V 525 V 690 V
Rated service breaking capacity (kArms)	Ics	% Icu
Utilisation category		
Rated short-time withstand current (kArms) V AC 50/60 Hz	Icw	0.5 s 1 s 3 s
Integrated instantaneous protection (kA peak ±10 %)		
Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220/415 V 440 V 525 V 690 V
Break time (ms) between tripping order and arc extinction		
Closing time (ms)		

Circuit-breaker as per NEMA AB1

Breaking capacity (kA) V AC 50/60 Hz		240 V 480 V 600 V
---	--	-------------------------

Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector		
Rated making capacity (kA peak) AC23A/AC3 category V AC 50/60 Hz	Icm	220 V 440 V 525/690 V
Rated short-time withstand current (kArms) AC23A/AC3 category V AC 50/60 Hz	Icw	0.5 s 1 s 3 s
Ultimate breaking capacity Icu (kArms) with an external protection relay Maximum time delay: 350 ms		690 V

Mechanical and electrical durability as per IEC 60947-2/3 at In/Ie

Service life	Mechanical	without maintenance	
C/O cycles x 1000			
Type of circuit breaker			
Rated current			In (A)
C/O cycles x 1000	Electrical	without maintenance	440 V ⁽⁴⁾
			690 V
Type of circuit breaker or switch-disconnector			
Rated operational current			Ie (A)
C/O cycles x 1000	Electrical	without maintenance	440 V ⁽⁴⁾
			690V
Type of circuit breaker or switch-disconnector			
Rated operational current			AC3⁽⁵⁾
Motor power			380/415 V (kW) 440 V (kW)
C/O cycles x 1000	Electrical	without maintenance	440 V ⁽⁴⁾
			690 V

(1) 50 °C: rear vertical connected. Refer to temperature derating tables for other connection types.

(2) See the current-limiting curves in the "additional characteristics" section.

(3) SELLIM system.

(4) Available for 480 V NEMA.

(5) Suitable for motor control (direct-on-line starting).

Circuit breakers and switch-disconnectors

NT06 to NT16

Sensor selection

Sensor rating (A)	250 ⁽¹⁾	400	630	800	1000	1250	1600
I _r threshold setting(A)	100 to 250	160 to 400	250 to 630	320 to 800	400 to 1000	500 to 1250	640 to 1600

⁽¹⁾ For circuit-breaker NT02, please consult us.

NT06			NT08			NT10			NT12		NT16	
630			800			1000			1250		1600	
630			800			1000			1250		1600	
400 to 630			400 to 800			400 to 1000			630 to 1250		800 to 1600	
H1	H2	L1 ⁽²⁾							H1	H2		
42	50	150							42	50		
42	50	130							42	50		
42	42	100							42	42		
42	42	25							42	42		
100 %									100 %			
B	B	A							B	B		
42	36	10							42	36		
42	36	-							42	36		
24	20	-							24	20		
-	90	10 x I _n ⁽³⁾							-	90		
88	105	330							88	105		
88	105	286							88	105		
88	88	220							88	88		
88	88	52							88	88		
25	25	9							25	25		
< 50									< 50			
42 50 150									42 50			
42 50 100									42 50			
42 42 25									42 42			
HA									HA			
75									75			
75									75			
75									75			
36									36			
36									36			
20									20			
36									36			
12.5												
H1	H2	L1	H1	H2	L1	H1	H2	L1	H1	H2	H1	H2
630			800			1000			1250		1600	
6	6	3	6	6	3	6	6	3	6	6	3	3
3	3	2	3	3	2	3	3	2	3	3	1	1
H1/H2/HA			800			1000			1250		1600	
6			6			6			6		3	
3			3			3			3		1	
H1/H2/HA			630			800			1000		1000	
≤ 250			250 to 335			335 to 450			450 to 560		450 to 560	
≤ 300			300 to 400			400 to 500			500 to 630		500 to 630	
6												
-												

Circuit breakers and switch-disconnectors

NW08 to NW63

PB106362/A65.eps



PB106362/A65.eps



Common characteristics

Number of poles	3/4		
Rated insulation voltage (V)	Ui	1000	1250 for H10, HA10
Impulse withstand voltage (kV)	Uimp	12	12
Rated operational voltage (V AC 50/60 Hz)	Ue	690	1150 for H10, HA10
Suitability for isolation	IEC 60947-2		
Degree of pollution	IEC 60664-1	4 (1000 V) / 3 (1250 V)	

Basic circuit-breaker

Circuit-breaker as per IEC 60947-2

Rated current (A)	at 40 °C / 50 °C ⁽¹⁾		
Rating of 4th pole (A)			
Sensor ratings (A)			

Type of circuit breaker

Ultimate breaking capacity (kA rms) V AC 50/60 Hz	Icu	220/415/440 V 525 V 690 V 1150 V
Rated service breaking capacity (kA rms)	Ics	% Icu

Utilisation category		
Rated short-time withstand current (kA rms) V AC 50/60 Hz	Icw	1 s 3 s

Integrated instantaneous protection (kA peak ±10 %)		
Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220/415/440 V 525 V 690 V 1150 V

Break time (ms) between tripping order and arc extinction

Closing time (ms)

Circuit-breaker as per NEMA AB1

Breaking capacity (kA) V AC 50/60 Hz	240/480 V 600 V
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Unprotected circuit-breaker

Tripping by shunt trip as per IEC 60947-2

Type of circuit breaker

Ultimate breaking capacity (kA rms) V AC 50/60 Hz	Icu	220...690 V
Rated service breaking capacity (kA rms)	Ics	% Icu
Rated short-time withstand current (kA rms)	Icw	1 s 3 s

Overload and short-circuit protection

External protection relay: short-circuit protection, maximum delay: 350 ms ⁽⁴⁾

Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220...690 V
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Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector

Rated making capacity (kA peak) AC23A/AC3 category V AC 50/60 Hz	Icm	220...690 V 1150 V
Rated short-time withstand current (kA rms) AC23A/AC3 category V AC 50/60 Hz	Icw	1 s 3 s

Earthing switch

Latching capacity (kA peak)	135
Rating short time withstand (kA rms)	Icw 1 s 3 s

Mechanical and electrical durability as per IEC 60947-2/3 at In/Ie

Service life	Mechanical	with maintenance
C/O cycles x 1000		without maintenance

Type of circuit breaker

Rated current	In (A)		
C/O cycles x 1000	Electrical	without maintenance	440 V ⁽⁵⁾
IEC 60947-2			690 V 1150 V

Type of circuit breaker or switch-disconnector

Rated operational current	Ie (A)		AC23A
C/O cycles x 1000	Electrical	without maintenance	440 V ⁽⁵⁾
IEC 60947-3			690 V

Type of circuit breaker or switch-disconnector

Rated operational current	Ie (A)		AC3 ⁽⁶⁾
Motor power			380/415 V (kW) 440 V ⁽⁵⁾ (kW) 690 V (kW)

C/O cycles x 1000	Electrical	without maintenance	440/690 V ⁽⁵⁾
IEC 60947-3 Annex M/IEC 60947-4-1			

(1) 50 °C: rear vertical connected. Refer to temperature derating tables for other connection types.

(2) See the current-limiting curves in the "additional characteristics" section.

(3) Equipped with a trip unit with a making current of 90 kA peak.

(4) External protection must comply with permissible thermal constraints of the circuit breaker (please consult us). No fault-trip indication by the SDE or the reset button.

(5) Available for 480 V NEMA.

(6) Suitable for motor control (direct-on-line starting).

(7) The use of NW08 to NW20 H1 in IT systems is limited to 500 V network voltage.

Circuit breakers and switch-disconnectors NW08 to NW63

Sensor selection													
Sensor rating (A)	250 ⁽¹⁾	400	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Ir threshold setting(A)	100 to 250	160 to 400	250 to 630	320 to 800	400 to 1000	500 to 1250	630 to 1600	800 to 2000	1000 to 2500	1250 to 3200	1600 to 4000	2000 to 5000	2500 to 6300

(1) For circuit-breaker NW02, please consult us.

NW08	NW10	NW12	NW16		NW20					NW25	NW32	NW40		NW40b	NW50	NW63
800	1000	1250	1600		2000					2500	3200	4000		4000	5000	6300
800	1000	1250	1600		2000					2500	3200	4000		4000	5000	6300
400 to 800	400 to 1000	630 to 1250	800 to 1600		1000 to 2000					1250 to 2500	1600 to 3200	2000 to 4000		2000 to 4000	2500 to 5000	3200 to 6300
N1	H1 ⁽⁷⁾	H2	L1 ⁽²⁾	H10	H1 ⁽⁷⁾	H2	H3	L1 ⁽²⁾	H10	H1	H2	H3	H10	H1	H2	
42	65	100	150	-	65	100	150	150	-	65	100	150	-	100	150	
42	65	85	130	-	65	85	130	130	-	65	85	130	-	100	130	
42	65	85	100	-	65	85	100	100	-	65	85	100	-	100	100	
-	-	-	-	50	-	-	-	-	50	-	-	-	50	-	-	
100 %					100 %					100 %				100 %		
B					B					B				B		
42	65	85	30	50	65	85	65	30	50	65	85	65	50	100	100	
22	36	50	30	50	36	75	65	30	50	65	75	65	50	100	100	
-	-	190	80	-	-	190	150	80	-	-	190	150	-	-	270	
88	143	220	330	-	143	220	330	330	-	143	220	330	-	220	330	
88	143	187	286	-	143	187	286	286	-	143	187	286	-	220	286	
88	143	187	220	-	143	187	220	220	-	143	187	220	-	220	220	
-	-	-	-	105	-	-	-	-	105	-	-	-	105	-	-	
25	25	25	10	25	25	25	25	10	25	25	25	25	25	25	25	
< 70					< 70					< 70				< 80		

42	65	100	150	-	65	100	150	150	-	65	100	150	-	100	150	
42	65	85	100	-	65	85	100	100	-	65	85	100	-	100	100	

	HA	HF ⁽³⁾		HA	HF ⁽³⁾		HA	HF ⁽³⁾		HA
	50	85		50	85		55	85		85
	100 %			100 %			100 %			100 %
	50	85		50	85		55	85		85
	36	50		36	75		55	75		85
	-	-		-	-		-	-		-
	105	187		105	187		121	187		187

NW08/NW10/NW12/NW16				NW20				NW25/NW32/NW40			NW40b/NW50/NW63
NA	HA	HF	HA10	HA	HF	HA10	HA	HF	HA10	HA	
88	105	187	-	105	187	-	121	187	-	187	
-	-	-	105	-	-	105	-	-	105	-	
42	50	85	50	50	85	50	55	85	50	85	
-	36	50	50	36	75	50	55	75	50	85	

60 Hz
50 Hz

25						20						10		
12.5						10						5		
N1/H1/H2	L1	H10				H1/H2	H3	L1	H10	H1/H2	H3	H10	H1	H2
800/1000/1250/1600				2000				2500/3200/4000				4000b/5000/6300		
10	3	-				8	2	3	-	5	1.25	-	1.5	1.5
10	3	-				6	2	3	-	2.5	1.25	-	1.5	1.5
-	-	0.5				-	-	-	0.5	-	-	0.5	-	-
H1/H2/NA/HA/HF				H1/H2/H3/HA/HF				H1/H2/H3/HA/HF				H1/H2/HA		
800/1000/1250/1600				2000				2500/3200/4000				4000b/5000/6300		
10				8				5				1.5		
10				6				2.5				1.5		
H1/H2/NA/HA/HF				H1/H2/H3/HA/HF										
800				1000				1250				1600		
335 to 450		450 to 560		560 to 670		670 to 900		900 to 1150						
400 to 500		500 to 630		500 to 800		800 to 1000		1000 to 1300						
≤ 800		800 to 1000		1000 to 1250		1250 to 1600		1600 to 2000						

6

All Compact NS and Masterpact circuit breakers are equipped with a Micrologic control unit that can be changed on site.

Control units are designed to protect Power circuits and loads. Alarms may be programmed for remote indications.

Measurements of current, voltage, frequency, power and power quality optimise continuity of service and energy management.

Dependability

Integration of protection functions in an ASIC electronic component used in all Micrologic control units guarantees a high degree of reliability and immunity to conducted or radiated disturbances.

On Micrologic A, E, P and H control units, advanced functions are managed by an independent microprocessor.

Accessories

Certain functions require the addition of Micrologic control unit accessories, described on catalogues LVPED211021EN and LVPED208008EN.

The rules governing the various possible combinations can be found in the documentation accessible via the Products and services menu of the www.schneider-electric.com web site.

Micrologic name codes

2.0 E
X Y Z

X: type of protection

- 2 for basic protection
- 5 for selective protection
- 6 for selective + earth-fault protection
- 7 for selective + earth-leakage protection.

Y: control-unit generation

Identification of the control-unit generation. "0" signifies the first generation.

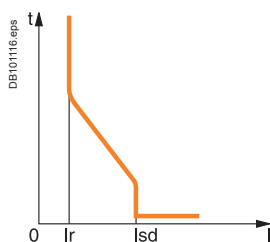
Z: type of measurement

- A for "ammeter"
- E for "energy"
- P for "power meter"
- H for "harmonic meter".



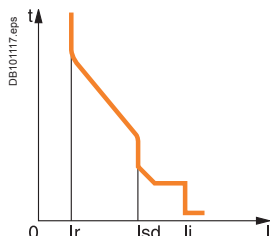
Current protection

Micrologic 2: basic protection



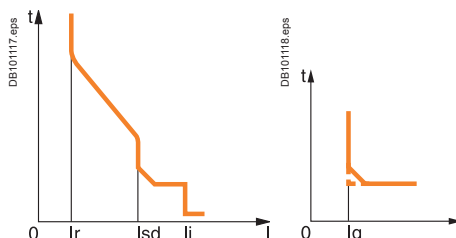
Protection:
long time
+ instantaneous

Micrologic 5: selective protection



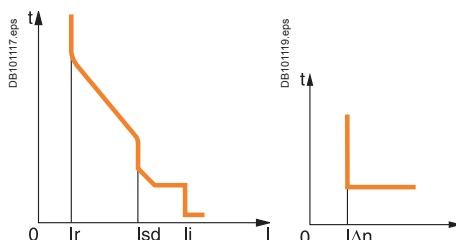
Protection:
long time
+ short time
+ instantaneous

Micrologic 6: selective + earth-fault protection



Protection:
long time
+ short time
+ instantaneous
+ earth fault

Micrologic 7: selective + earth-leakage protection



Protection:
long time
+ short time
+ instantaneous
+ earth leakage up to 3200A

Measurements and programmable protection

A: ammeter

- I₁, I₂, I₃, N, earth-fault, earth-leakage and maximeter for these measurements
- fault indications
- settings in amperes and in seconds.

E: Energy

- incorporates all the rms measurements of Micrologic A, plus voltage, power factor, power and energy metering measurements.
- calculates the current demand value
- "Quickview" function for the automatic cyclical display of the most useful values (as standard or by selection).

P: A + power meter + programmable protection

- measurements of V, A, W, VAR, VA, Wh, VARh, VAh, Hz, V_{peak}, A_{peak}, power factor and maximeters and minimeters
- IDMTL long-time protection, minimum and maximum voltage and frequency, voltage and current imbalance, phase sequence, reverse power
- load shedding and reconnection depending on power or current
- measurements of interrupted currents, differentiated fault indications, maintenance indications, event histories and time-stamping, etc.

H: P + harmonics

- power quality: fundamentals, distortion, amplitude and phase of harmonics up to the 31st order
- waveform capture after fault, alarm or on request
- enhanced alarm programming: thresholds and actions.

2.0 A



2.0 E



5.0 A



5.0 E



5.0 P



5.0 H



6.0 A



6.0 E



6.0 P



6.0 H



7.0 A



7.0 P



7.0 H



DC circuit breakers characteristics

Masterpact NW10 to NW40 DC

PB104917.eps



PB104428-42SE.eps



NW10DC 4P

Masterpact DC circuit breaker

Poles coupling version

C or D (3 poles)
E (4 poles)

Electrical characteristics as per IEC 60947-1/ 60947-2 and EN 60947-1 / 60947-2

Rated current at 40 °C / 50 °C ⁽¹⁾	I_n	(A)
Rated insulation voltage	U_i	(V)
Rated impulse withstand voltage	U_{imp}	(kV peak)
Rated operational voltage	U_e	(V DC)

Type of circuit breaker

Ultimate breaking capacity	L/R = 5 ms	I_{cu}	(kA)	V DC	500
					750
					900
	L/R = 15 ms	I_{cu}			500
					750
					900
	L/R = 30 ms	I_{cu}			500
					750
					900

Service breaking capacity	I_{cs}	% I _{cu}
Rated making capacity	I_{cm}	% I _{cu}
Short-time withstand current	I_{cw}	1 s

Utilisation category

Breaking time (ms)

Making time (ms)

Suitability for isolation

Pollution degree (as per IEC 60664-1)

Protection against overcurrents (see trip-unit table page A-40)

Trip units	Built-in
Protection	Overloads Short-circuits

Durability

(O/C cycles)	Mechanical	With maintenance	
		Without maintenance	
	Electrical	Without maintenance	500 V DC 900 V DC

Indication and control auxiliaries

Auxiliary contacts

Voltage release	MX shunt release MN undervoltage release
-----------------	---

Characteristics of switch-disconnectors as per IEC 60947-3 and EN 60947-3

Type of switch-disconnector

Rated making capacity	I_{cm}	(kA)
Rated short-time withstand current	I_{cw}	(kA) 1 s

Installation and connections

Connection	Drawout	3P	RC	Horizontal
		4P		Vertical
	Fixed	3P	RC	Horizontal
		4P		Vertical

Dimensions and weight

Dimensions H x W x D (mm) connected in series	Drawout	3P
		4P
	Fixed	3P
		4P
Weight (kg) connected in series (approximate values)	Drawout	3P
		4P
	Fixed	3P
		4P

⁽¹⁾ 50 °C - see the derating table for the NW40 DC.

DC circuit breakers characteristics

Masterpact NW10 to NW40 DC

NW10 DC		NW20 DC		NW40 DC	
■		■		■	
■		■		■	
1000		2000		4000	
1000		1000		1000	
12		12		12	
500/900		500/900		500/900	
N	H	N	H	N	H
85	100	85	100	85	100
-	85	-	85	-	85
-	85	-	85	-	85
35	85	35	85	35	85
-	50	-	50	-	50
-	35	-	35	-	35
25	50	25	50	25	50
-	50	-	50	-	50
-	25	-	25	-	25
100 %					
100 %					
50	85	50	85	50	85
B					
30 to 75					
< 70					
■	■	■	■	■	■
4					
■	■	■	■	■	■
-	-	-	-	-	-
■	■	■	■	■	■
20000					
10000					
8500		5000		2000	
-	2000	-	2000	-	1000
■	■	■	■	■	■
■	■	■	■	■	■
■	■	■	■	■	■
	HA		HA		HA
-	85	-	85	-	85
-	85	-	85	-	85
■	■	■	■	-	-
■	■	■	■	■	■
■	■	■	■	-	-
■	■	■	■	■	■
439 x 441 x 494				439 x 441 x 594	
439 x 556 x 494				439 x 556 x 594	
352 x 422 x 427				352 x 422 x 527	
352 x 537 x 427				352 x 537 x 527	
90 to 116					
125 to 146					
60 to 86					
85 to 106					

Switch-disconnector selection

Interpact INS40 to 160

052164b_08_SE.eps



Interpact INS80 switch-disconnector.

052020_L45_SE.eps



Interpact INS40 emergency-off switch-disconnector.

052168_L160_SE.eps



Interpact INS160 switch-disconnector.

052020_L160_SE.eps



Interpact INS160 emergency-off switch-disconnector.

Interpact INS switch-disconnectors

Number of poles

Electrical characteristics as defined by IEC 60947-1 / 60947-3 and EN 60947-1 / 60947-3

Conventional thermal current (A)	I_{th}	at 60 °C
Conventional thermal current in enclosure	I_{the}	at 60 °C
Rated insulation level (V)	Ui	AC 50/60 Hz
Impulse-withstand voltage (kV)	U_{imp}	
Rated operational voltage (V)	U_e	AC 50/60 Hz DC
Rated operational voltage AC20 and DC20 (V)		AC 50/60 Hz
Rated operational current (A)	I_e	Electrical AC 50/60 Hz

220-240 V
380-415 V
440-480 V ⁽¹⁾
500 V
660-690 V

Electrical DC

125 V (2P in series)
250 V (4P in series)

Rated operational power AC23 (kW)

Electrical AC 50/60 Hz

220-240 V
230 V (NEMA)
380-415 V
440 V
480 V (NEMA)
500-525 V
660-690 V

Rated duties

Uninterrupted duty
Intermittent duty

Short-circuit making capacity (kA peak)

I_{cm}

Min. (switch-disconnector alone)
Max. (with upstream protection circuit breaker)

Short-time withstand current (A rms)

I_{cw}

1 s
3 s
20 s
30 s

Suitability for isolation
Durability (O-C cycles)

Mechanical

Electrical AC 50/60 Hz
220-240 V
380-415 V
440 V
500 V
690 V

Electrical DC

250 V

Positive contact indication

Visible break

Emergency-off switch disconnector

Degree of pollution

Upstream protection

See catalogue LVPED208015EN.

⁽¹⁾ Suitable for 480 V NEMA.

Switch-disconnector selection

Interpact INS40 to 160

INS40		INS63		INS80		INS100		INS125		INS160	
3-4		3-4		3-4		3-4		3-4		3-4	
40		63		80		100		125		160	
40		63		80		100		125		160	
690		690		690		750		750		750	
8		8		8		8		8		8	
500		500		500		690		690		690	
250		250		250		250		250		250	
690		690		690		750		750		750	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
40	40	63	63	80	80	100	100	125	125	160	160
40	40	63	63	80	72	100	100	125	125	160	160
40	40	63	63	80	63	100	100	125	125	160	160
40	32	63	40	80	40	100	100	125	125	160	160
-	-	-	-	-	-	100	63	125	80	160	100
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A
40	40	63	63	80	80	100	100	125	125	160	160
40	40	63	63	80	80	100	100	125	125	160	160
11	15	22	22	37	45	55	75	90	110	160	160
7,5	15	15	22	37	45	55	75	90	110	160	160
20	30	37	45	55	75	90	110	160	160	160	160
22	30	37	45	55	75	90	110	160	160	160	160
22	30	37	45	55	75	90	110	160	160	160	160
18,5	22	22	22	37	45	55	75	90	110	160	160
-	-	-	-	37	45	55	75	90	110	160	160
■	■	■	■	■	■	■	■	■	■	■	■
Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %	
15		15		15		20		20		20	
75		75		75		154		154		154	
3000		3000		3000		5500		5500		5500	
1730		1730		1730		3175		3175		3175	
670		670		670		1230		1230		1230	
550		550		550		1000		1000		1000	
■		■		■		■		■		■	
20000		20000		20000		15000		15000		15000	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
-	-	-	-	-	-	1500	1500	1500	1500	1500	1500
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■	■	■	■	■
3	3	3	3	3	3	3	3	3	3	3	3
-	-	-	-	-	-	-	-	-	-	-	-

Switch-disconnector selection

Interpact INS40 to 160

Interpact INS switch-disconnectors

Installation

Fixed, front connection
 Fixed, rear connection
 On symmetrical rails
 On a backplate

Connection

By cables	To bare cable connectors
By cables with lugs	Directly to terminals
	To spreaders
	To vertical-connection adapters via cable-lug adapters
Flat-facing bars	Directly to terminals
	To spreaders
Edgewise bars	To vertical-connection adapters

Indication and measurement auxiliaries

Auxiliary contacts
 Voltage-presence indicator
 Current-transformer module
 Ammeter module

Control, locking and interlocking

Control	Direct front rotary handle
	Extended front rotary handle
	Direct lateral rotary handle
	Extended lateral rotary handle
Locking	By keylock
	By padlocks
Interlocking	By keylock
	Mechanical

Complete source-changeover assembly
 Operating torque (Nm) (typical value for 3-4 poles with front handle)

Installation and connection accessories

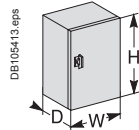
Bare cable connectors
 Rear connectors
 Terminal extensions
 Spreader
 One-piece spreader
 Terminal shrouds
 Terminal shields
 Interphase-barrier
 Front panel escutcheons
 Coupling accessories
 Tightening torque for electrical connections (Nm)

Dimensions and weights

Overall dimensions H x W x D (mm)	3 poles
	4 poles
Approximate weight (kg)	3 poles
	4 poles

Enclosure dimensions for the

H x W x D (mm)



Switch-disconnector selection

Interpact INS40 to 160

	INS40	INS63	INS80	INS100	INS125	INS160
■	■	■	■	■	■	■
-	-	-	-	■	■	■
■	■	■	■	-	-	-
■	■	■	■	■	■	■
■	■	■	■	■	■	■
-	-	-	-	■	■	■
-	-	-	-	-	-	-
-	-	-	-	-	-	-
■	■	■	■	■	■	■
-	-	-	-	-	-	-
-	-	-	-	-	-	-
■	■	■	■	■	■	■
-	-	-	-	-	-	-
-	-	-	-	-	-	-
■	■	■	■	■	■	■
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.7 < Nm < 1.3	0.7 < Nm < 1.3	0.7 < Nm < 1.3	1.4 < Nm < 2	1.4 < Nm < 2	1.4 < Nm < 2	
■	■	■	■	■	■	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
■	■	■	■	■	■	
■	■	■	■	■	■	
■	■	■	■	■	■	
-	-	-	-	-	-	
-	-	-	-	-	-	
5	5	5	8	8	8	
85 x 90 x 62.5	85 x 90 x 62.5	85 x 90 x 62.5	100 x 135 x 62.5	100 x 135 x 62.5	100 x 135 x 62.5	
85 x 90 x 62.5	85 x 90 x 62.5	85 x 90 x 62.5	100 x 135 x 62.5	100 x 135 x 62.5	100 x 135 x 62.5	
0.5	0.5	0.5	0.8	0.8	0.8	
0.6	0.6	0.6	0.9	0.9	0.9	
190 x 115 x 55	190 x 115 x 55	190 x 115 x 55	260 x 160 x 55	260 x 160 x 55	260 x 160 x 55	

Switch-disconnector selection

Interpact INS250-100 to 630

05846_L38_SE.eps



Interpact INS250 switch-disconnector.

058652_L42_SE.eps



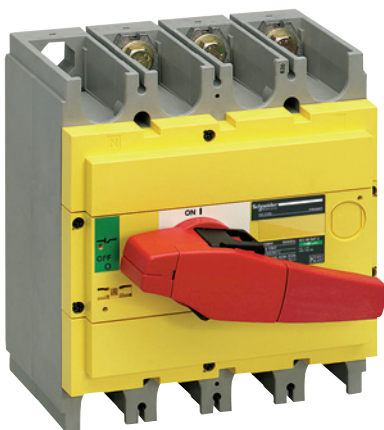
Interpact INS250 emergency-off switch-disconnector.

058487_L54_SE.eps



Interpact INS400 switch-disconnector.

058488_L54_SE.eps



Interpact INS400 emergency-off switch-disconnector.

Interpact INS switch-disconnectors

Number of poles

Electrical characteristics as defined by IEC 60947-1 / 60947-3 and EN 60947-1 / 60947-3

Conventional thermal current (A)	I_{th}	at 60 °C
Conventional thermal current in enclosure	I_{the}	at 60 °C
Rated insulation level (V)	Ui	AC 50/60 Hz
Impulse-withstand voltage (kV)	U_{imp}	
Rated operational voltage (V)	U_e	AC 50/60 Hz DC
Rated operational voltage AC20 and DC20 (V)		AC 50/60 Hz
Rated operational current (A)	I_e	Electrical AC 50/60 Hz

220-240 V
380-415 V
440-480 V⁽¹⁾
500-525 V
660-690 V

Electrical DC

125 V (2P in series)
250 V (4P in series)

Rated operational power AC23 (kW)	Electrical AC 50/60 Hz
	220-240 V 230 V (NEMA) 380-415 V 440 V 480 V (NEMA) 500-525 V 660-690 V

Rated duties	Uninterrupted duty Intermittent duty
Short-circuit making capacity (kA peak)	I_{cm} Min. (switch-disconnector alone) Max. (with upstream protection circuit breaker)
Short-time withstand current (A rms)	I_{cw} 1 s 3 s 20 s 30 s

Suitability for isolation	
Durability (O-C cycles)	Mechanical
	Electrical AC 50/60 Hz
	440 V 500 V 690 V
	Electrical DC
	250 V

Positive contact indication
Visible break
Emergency-off switch disconnector
Degree of pollution

Upstream protection

See catalogue LVPED208015EN.

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ 550 A (DC).

Switch-disconnector selection

Interpact INS250-100 to 630

INS250-100		INS250-160		INS250-200		INS250		INS320		INS400		INS500		INS630	
3-4		3-4		3-4		3-4		3-4		3-4		3-4		3-4	
100		160		200		250		320		400		500		630	
100		160		200		250		320		400		500		630 ⁽²⁾	
750		750		750		750		750		750		750		750	
8		8		8		8		8		8		8		8	
690		690		690		690		690		690		690		690	
250		250		250		250		250		250		250		250	
750		750		750		750		750		750		750		750	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
100	100	160	160	200	200	250	250	320	320	400	400	500	500	630	630
100	100	160	160	200	200	250	250	320	320	400	400	500	500	630	630
100	100	160	160	200	200	250	250	320	320	400	400	500	500	630	630
100	100	160	160	200	200	250	250	320	320	400	400	500	500	630	630
100	100	160	160	200	200	250	250	320	320	400	400	500	500	630	630
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23B
100	100	160	160	200	200	250	250	320	320	400	400	500	500	550	550
100	100	160	160	200	200	250	250	320	320	400	400	500	500	550	630
22		45		55		75		90		110		132		200	
22		45		55		75		90		110		150		200	
45		75		90		132		160		200		250		315	
55		90		110		150		185		220		250		400	
55		90		110		150		185		220		250		375	
55		110		132		160		220		250		355		400	
55		90		160		210		250		400		500		560	
■		■		■		■		■		■		■		■	
Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %		Class 120 - 60 %	
30		30		30		30		50		50		50		50	
330		330		330		330		330		330		330		330	
8500		8500		8500		8500		20000		20000		20000		20000	
4900		4900		4900		4900		11500		11500		11500		11500	
2200		2200		2200		2200		4900		4900		4900		4900	
1800		1800		1800		1800		4000		4000		4000		4000	
■		■		■		■		■		■		■		■	
15000		15000		15000		15000		10000		10000		10000		10000	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC23A	DC23B	DC23A	DC23B	DC23A	DC23B	DC23A	DC23B
1500	1500	1500	1500	1500	1500	1500	1500	1000	-	1000	-	1000	-	1000	200
■		■		■		■		■		■		■		■	
-		-		-		-		-		-		-		-	
■		■		■		■		■		■		■		■	
3		3		3		3		3		3		3		3	
-		-		-		-		-		-		-		-	

Switch-disconnector selection

Interpact INS250-100 to 630

Interpact INS switch-disconnectors

Installation

Fixed, front connection
 Fixed, rear connection
 On symmetrical rails
 On a backplate

Connection

By cables	To bare cable connectors
By cables with lugs	Directly to terminals
	To spreaders
	To vertical-connection adapters via cable-lug adapters
Flat-facing bars	Directly to terminals
	To spreaders
Edgewise bars	To vertical-connection adapters

Indication and measurement auxiliaries

Auxiliary contacts

Voltage-presence indicator

Current-transformer module

Ammeter module

Control, locking and interlocking

Control	Direct front rotary handle
	Extended front rotary handle
	Direct lateral rotary handle
	Extended lateral rotary handle

Locking	By keylock
	By padlocks

Interlocking	By keylock
	Mechanical

Complete source-changeover assembly

Operating torque (Nm) (typical value for 3-4 poles with front handle)

Installation and connection accessories

Bare cable connectors

Rear connectors

Terminal extensions

Spreaders

One-piece spreader

Terminal shrouds

Terminal shields

Interphase-barrier

Front panel escutcheons

Coupling accessories

Tightening torque for electrical connections (Nm)

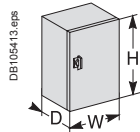
Dimensions and weights

Overall dimensions H x W x D (mm)	3 poles
	4 poles

Approximate weight (kg)	3 poles
	4 poles

Enclosure dimensions for lthe

H x W x D (mm)



Switch-disconnector selection

Interpact INS250-100 to 630

	INS250-100	INS250-160	INS250-200	INS250	INS320	INS400	INS500	INS630
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	-	-	-	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 < Nm < 6.2	5 < Nm < 6.2	5 < Nm < 6.2	5 < Nm < 6.2	13.5 < Nm < 16.5	13.5 < Nm < 16.5	13.5 < Nm < 16.5	13.5 < Nm < 16.5	13.5 < Nm < 16.5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	15	15	15	50	50	50	50	50
136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130
136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130
2	2	2	2	4.6	4.6	4.6	4.6	4.6
2.2	2.2	2.2	2.2	4.9	4.9	4.9	4.9	4.9
400 x 300 x 200	400 x 300 x 200	400 x 300 x 200	400 x 300 x 200	600 x 400 x 200	600 x 400 x 200	600 x 400 x 200	600 x 400 x 200	600 x 400 x 200

Switch-disconnector selection

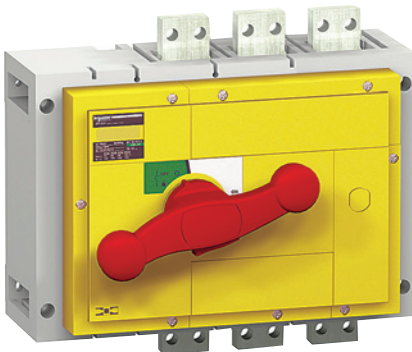
Interpact INS630b to 2500

PB100016b-65_SE.eps



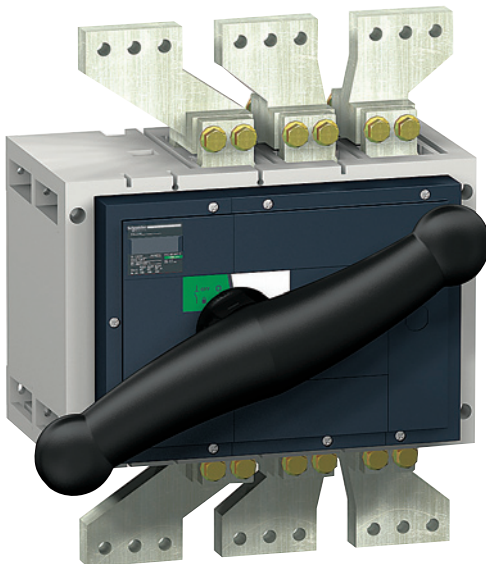
Interpact INS630b...1600 switch-disconnector.

PB100016b-65_SE.eps



Interpact INS630b...1600 emergency-off switch-disconnector.

PB100020b-65_SE.eps



Interpact INS2000...2500 switch-disconnector.

Interpact INS switch-disconnectors

Number of poles

Electrical characteristics as defined by IEC 60947-1 / 60947-3 and EN 60947-1 / 60947-3

Conventional thermal current (A)	I_{th}	at 60 °C
Conventional thermal current in enclosure	I_{the}	at 60 °C
Rated insulation level (V)	U_i	AC 50/60 Hz
Impulse-withstand voltage (kV)	U_{imp}	
Rated operational voltage (V)	U_e	AC 50/60 Hz DC
Rated operational voltage AC20 and DC20 (V)		AC 50/60 Hz
Rated operational current (A)	I_e	Electrical AC 50/60 Hz

220-240 V

380-415 V

440-480 V⁽¹⁾

500-525 V

660-690 V

Electrical DC

125 V (2P in series)

250 V (4P in series)

Rated operational power AC23 (kW)

Electrical AC 50/60 Hz

220-240 V

380-400 V

415 V

500-525 V

660-690 V

Rated duties

Uninterrupted duty

Intermittent duty

Short-circuit making capacity (kA peak)

I_{cm}

Min. (switch-disconnector alone)

Max. (with upstream protection circuit breaker)

Short-time withstand current (kA rms)

I_{cw}

0.5 s

0.8 s

1 s

3 s

20 s

30 s

Suitability for isolation

Durability (O-C cycles)

Mechanical

Electrical AC 50/60 Hz

220-240 V

380-415 V

440-480 V⁽¹⁾

500-525 V

660-690 V

Electrical DC

125 V (2P)

250 V (4P)

Positive contact indication

Visible break

Emergency-off switch disconnector

Degree of pollution

Upstream protection

See catalogue LVPED208015EN.

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ For vertical connection busbars only. For horizontal connection busbars, see catalogue LVPED208015EN.

Switch-disconnector selection

Interpact INS630b to 2500

INS630b			INS800			INS1000			INS1250			INS1600			INS2000			INS2500		
3-4			3-4			3-4			3-4			3-4			3-4			3-4		
630			800			1000			1250			1600 ⁽²⁾			2000			2500		
630			800			1000			1250			1600 ⁽²⁾			2000			2500		
1000			1000			1000			1000			1000			1000			1000		
12			12			12			12			12			12			12		
690			690			690			690			690			690			690		
250			250			250			250			250			250			250		
800			800			800			800			800			800			800		
AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21B	AC22B	AC23A	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21B	DC22B	DC23B	DC21B	DC22B	DC23B
630/2	630/2	630/2	800/2	800/2	800/2	1000/2	1000/2	1000/2	1250/2	1250/2	1250/2	1600/2	1600/2	1600/2	2000/2	2000/2	-	2500/2	2500/2	-
630/4	630/4	630/4	800/4	800/4	800/4	1000/4	1000/4	1000/4	1250/4	1250/4	1250/4	1600/4	1600/4	1600/4	2000/4	2000/4	-	2500/4	2500/4	-
250			250			315			400			400			-			-		
400			400			560			710			710			-			-		
500			500			630			800			800			-			-		
560			560			710			900			900			-			-		
710			710			900			-			-			-			-		
■			■			■			■			■			■			■		
Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %		
75			75			75			75			75			105			105		
330			330			330			330			330			330			330		
50			50			50			50			50			50			50		
42			42			42			42			42			50			50		
35			35			35			35			35			50			50		
20			20			20			20			20			30			30		
10			10			10			10			10			13			13		
8			8			8			8			8			11			11		
■			■			■			■			■			■			■		
5000			3000			3000			3000			3000			3000			3000		
AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21B	AC22B	AC23A	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23B	DC21B	DC22B	DC23B	DC21B	DC22B	DC23B
1000	1000	1000	500	500	500	500	500	500	500	500	500	500	500	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	500	500	500	100	100	-	100	100	-
■			■			■			■			■			■			■		
-			-			-			-			-			-			-		
■			■			■			■			■			■			■		
3			3			3			3			3			3			3		
-			-			-			-			-			-			-		

Switch-disconnector selection

Interpact INS630b to 2500

Interpact INS switch-disconnectors

Installation

Fixed, front connection
 Fixed, rear connection
 On symmetrical rails
 On a backplate

Connection

By cables	To bare cable connectors
By cables with lugs	Directly to terminals
	To spreaders
	To vertical-connection adapters via cable-lug adapters
Flat-facing bars	Directly to terminals
	To spreaders
Edgewise bars	To vertical-connection adapters

Indication and measurement auxiliaries

Auxiliary contacts
 Voltage-presence indicator
 Current-transformer module
 Ammeter module

Control, locking and interlocking

Control	Direct front rotary handle
	Extended front rotary handle
	Direct lateral rotary handle
	Extended lateral rotary handle
Locking	By keylock
	By padlocks
Interlocking	By keylock
	Mechanical

Complete source-changeover assembly

Operating torque (Nm) (typical value for 3-4 poles with front handle)

Installation and connection accessories

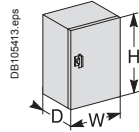
Bare cable connectors
 Rear connectors
 Terminal extensions
 Spreader
 One-piece spreader
 Terminal shrouds
 Terminal shields
 Interphase-barrier
 Front panel escutcheons
 Coupling accessories
 Tightening torque for electrical connections (Nm)

Dimensions and weights

Overall dimensions H x W x D (mm)	3 poles
	4 poles
Approximate weight (kg)	3 poles
	4 poles

Enclosure dimensions for the

H x W x D (mm)



Switch-disconnector selection

Interpact INS630b to 2500

	INS630b	INS800	INS1000	INS1250	INS1600	INS2000	INS2500
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	-	-	-	-	-	-	-
	■	■	■	■	■	■	■
	-	-	-	-	-	-	-
	-	-	-	-	-	■	■
	-	-	-	-	-	-	-
	■	■	■	■	■	-	-
	■	■	■	■	■	■	■
	■	■	■	■	■	-	-
	■	■	■	■	■	-	-
	■	■	■	■	■	-	-
	■	■	■	■	■	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	30	30	30	30	30	60	60
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	-	-	-	-	-	-	-
	50	50	50	50	50	50	50
	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	440 x 347.5 x 227.5	440 x 347.5 x 227.5
	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	440 x 462.5 x 227.5	440 x 462.5 x 227.5
	14	14	14	14	14	35	35
	18	18	18	18	18	45	45
	-	-	-	-	-	-	-

Switch-disconnector selection

Interpact INV100 to 630

056850_L41_SE.eps



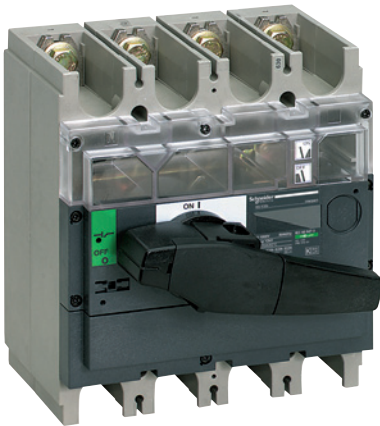
Interpact INV250 switch-disconnector.

056854_L41_SE.eps



Interpact INV250 emergency-off switch-disconnector.

056491_L54_SE.eps



Interpact INV400 Std.

056493_L52_SE.eps



Interpact INV400 emergency-off switch-disconnector.

Interpact INV switch-disconnectors

Number of poles

Electrical characteristics as defined by IEC 60947-1 / 60947-3 and EN 60947-1 / 60947-3

Conventional thermal current (A)	I_{th}	at 60 °C
Conventional thermal current in enclosure	I_{the}	at 60 °C
Rated insulation level (V)	Ui	AC 50/60 Hz
Impulse-withstand voltage (kV)	U_{imp}	
Rated operational voltage (V)	U_e	AC 50/60 Hz DC
Rated operational voltage AC20 and DC20 (V)		AC 50/60 Hz
Rated operational current (A)	I_e	Electrical AC 50/60 Hz

220-240 V
380-415 V
440-480 V ⁽¹⁾
500-525 V
660-690 V

Electrical DC

125 V (2P in series)
250 V (4P in series)

Rated operational power AC23 (kW)	Electrical AC 50/60 Hz
	220-240 V 230 V (NEMA) 380-415 V 440 V 480 V (NEMA) 500-525 V 660-690 V

Rated duties	Uninterrupted duty Intermittent duty
Short-circuit making capacity (kA peak)	I_{cm} Min. (switch-disconnector alone) Max. (with upstream protection circuit breaker)
Short-time withstand current (A rms)	I_{cw} 1 s 3 s 20 s 30 s

Suitability for isolation	Mechanical
Durability (O-C cycles)	Electrical AC 50/60 Hz 440 V 500 V 690 V
	Electrical DC 250 V

Positive contact indication
Visible break
Emergency-off switch disconnector
Degree of pollution

Upstream protection

See catalogue LVPED208015EN.

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ 550 A (DC).

Switch-disconnector selection

Interpact INV100 to 630

INV100			INV160			INV200			INV250			INV320			INV400			INV500			INV630					
3-4			3-4			3-4			3-4			3-4			3-4			3-4			3-4					
100			160			200			250			320			400			500			630					
100			160			200			250			320			400			500			630 ⁽²⁾					
750			750			750			750			750			750			750			750					
8			8			8			8			8			8			8			8					
690			690			690			690			690			690			690			690					
250			250			250			250			250			250			250			250					
750			750			750			750			750			750			750			750					
AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A/AC23B
100	100	100	160	160	160	200	200	200	250	250	250	320	320	320	400	400	400	500	500	500	630	630	630	630	630	630/630
100	100	100	160	160	160	200	200	200	250	250	250	320	320	320	400	400	400	500	500	500	630	630	630	630	630	630/630
100	100	100	160	160	160	200	200	200	250	250	200	320	320	320	400	400	400	500	500	500	630	630	630	630	630	500/630
100	100	100	160	160	160	200	200	200	250	250	200	320	320	320	400	400	400	500	500	500	630	630	630	630	550	500/630
DC21A	DC22A	DC23B	DC21A	DC22A	DC23B	DC21A	DC22A	DC23B	DC21A	DC22A	DC23B	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A/DC23B
100	100	100	160	160	160	200	200	200	250	250	200	320	320	320	400	400	400	500	500	500	550	550	550	550	550	550/630
100	100	100	160	160	160	200	200	200	250	250	200	320	320	320	400	400	400	500	500	500	550	550	550	550	550	550/630
22			45			55			75			90			110			132			200					
22			45			55			75			90			110			150			200					
45			75			90			132			160			200			250			315					
55			90			110			150			185			220			250			400					
55			50			110			150			185			220			250			375					
55			110			132			132			220			250			355			400					
55			90			160			160			250			400			500			560					
■			■			■			■			■			■			■			■			■		
Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %		
30			30			30			30			50			50			50			50			50		
330			330			330			330			330			330			330			330			330		
8500			8500			8500			8500			20000			20000			20000			20000			20000		
4900			4900			4900			4900			11500			11500			11500			11500			11500		
2200			2200			2200			2200			4900			4900			4900			4900			4900		
1800			1800			1800			1800			4000			4000			4000			4000			4000		
■			■			■			■			■			■			■			■			■		
15000			15000			15000			15000			10000			10000			10000			10000			10000		
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A/AC23B		
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000/200		
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A/DC23B		
1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000/200		
■			■			■			■			■			■			■			■			■		
■			■			■			■			■			■			■			■			■		
■			■			■			■			■			■			■			■			■		
3			3			3			3			3			3			3			3			3		
-			-			-			-			-			-			-			-			-		

Switch-disconnector selection

Interpact INV100 to 630

Interpact INV switch-disconnectors

Installation

Fixed, front connection

Fixed, rear connection

On symmetrical rails

On a backplate

Connection

By cables To bare cable connectors

By cables with lugs Directly to terminals

To spreaders

To vertical-connection adapters via cable-lug adapters

Flat-facing bars Directly to terminals

To spreaders

Edgewise bars To vertical-connection adapters

Indication and measurement auxiliaries

Auxiliary contacts

Voltage-presence indicator

Current-transformer module

Ammeter module

Control, locking and interlocking

Control Direct front rotary handle

Extended front rotary handle

Direct lateral rotary handle

Extended lateral rotary handle

Locking By keylock

By padlocks

Interlocking By keylock

Mechanical

Complete source-changeover assembly

Operating torque (Nm) (typical value for 3-4 poles with front handle)

Installation and connection accessories

Bare cable connectors

Rear connectors

Terminal extensions

Spreaders

One-piece spreader

Terminal shrouds

Terminal shields

Interphase-barrier

Front panel escutcheons

Coupling accessories

Tightening torque for electrical connections (Nm)

Dimensions and weights

Overall dimensions H x W x D (mm) 3 poles

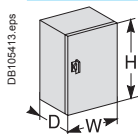
4 poles

Approximate weight (kg) 3 poles

4 poles

Enclosure dimensions for lthe

H x W x D (mm)



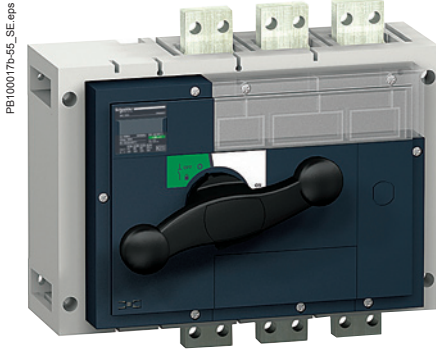
Switch-disconnector selection

Interpact INV100 to 630

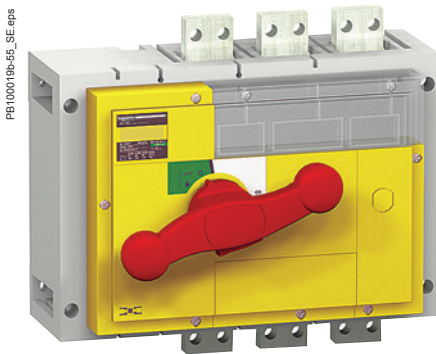
	INV100	INV160	INV200	INV250	INV320	INV400	INV500	INV630
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
-	-	-	-	-	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-
5 < Nm < 6.2	5 < Nm < 6.2	5 < Nm < 6.2	5 < Nm < 6.2	5 < Nm < 6.2	13.5 < Nm < 16.5	13.5 < Nm < 16.5	13.5 < Nm < 16.5	13.5 < Nm < 16.5
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	-	-	-	-
■	■	■	■	■	-	-	-	-
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-
15	15	15	15	15	50	50	50	50
136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130
136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	136 x 140 x 96	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130	205 x 185 x 130
2	2	2	2	2	4.6	4.6	4.6	4.6
2.2	2.2	2.2	2.2	2.2	4.9	4.9	4.9	4.9
400 x 300 x 200	400 x 300 x 200	400 x 300 x 200	400 x 300 x 200	400 x 300 x 200	600 x 400 x 200	600 x 400 x 200	600 x 400 x 200	600 x 400 x 200

Switch-disconnector selection

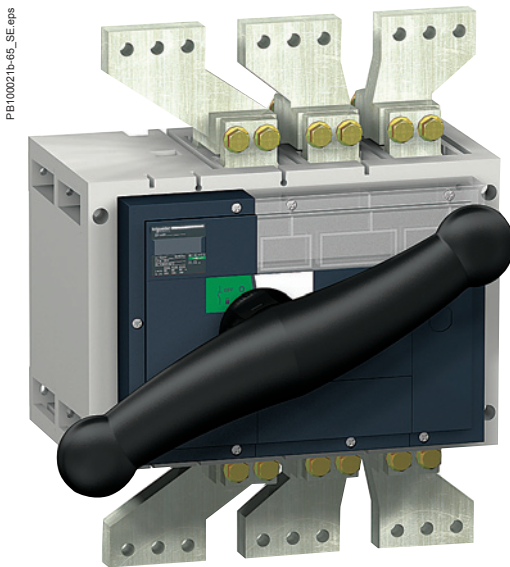
Interpact INV630b to 2500



Interpact INS250 switch-disconnector.



Interpact INS250 emergency-off switch-disconnector.



Interpact INS400 switch-disconnector.

Interpact INV switch-disconnectors

Number of poles

Electrical characteristics as defined by IEC 60947-1 / 60947-3 and EN 60947-1 / 60947-3

Conventional thermal current (A)	I_{th}	at 60 °C
Conventional thermal current in enclosure	I_{the}	at 60 °C
Rated insulation level (V)	Ui	AC 50/60 Hz
Impulse-withstand voltage (kV)	U_{imp}	
Rated operational voltage (V)	U_e	AC 50/60 Hz DC
Rated operational voltage AC20 and DC20 (V)		AC 50/60 Hz
Rated operational current (A)	I_e	Electrical AC 50/60 Hz

220-240 V

380-415 V

440-480 V⁽¹⁾

500-525 V

660-690 V

Electrical DC

125 V (2P in series)

250 V (4P in series)

Rated operational power AC23 (kW)

Electrical AC 50/60 Hz

220-240 V

380-400 V

415 V

500-525 V

660-690 V

Rated duties

Uninterrupted duty

Intermittent duty

Short-circuit making capacity (kA peak)

I_{cm}

Min. (switch-disconnector alone)

Max. (with upstream protection circuit breaker)

Short-time withstand current (kA rms)

I_{cw}

0.5 s

0.8 s

1 s

3 s

20 s

30 s

Suitability for isolation

Durability (O-C cycles)

Mechanical

Electrical AC 50/60 Hz

220-240 V

380-415 V

440-480 V⁽¹⁾

500-525 V

660-690 V

Electrical DC

125 V (2P)

250 V (4P)

Positive contact indication

Visible break

Emergency-off switch disconnector

Degree of pollution

Upstream protection

See catalogue LVPED208015EN.

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ For vertical connection busbars only. For horizontal connection busbars, see

Switch-disconnector selection

Interpact INV630b to 2500

INV630b			INV800			INV1000			INV1250			INV1600			INV2000			INV2500		
3-4			3-4			3-4			3-4			3-4			3-4			3-4		
630			800			1000			1250			1600 ⁽²⁾			2000			2500		
630			800			1000			1250			1600 ⁽²⁾			2000			2500		
1000			1000			1000			1000			1000			1000			1000		
12			12			12			12			12			12			12		
690			690			690			690			690			690			690		
250			250			250			250			250			250			250		
800			800			800			800			800			800			800		
AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21B	AC22B	AC23A	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
630	630	630	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1250	2000	2000	-	2500	2500	-
DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21B	DC22B	DC23B	DC21B	DC22B	DC23B
630/2	630/2	630/2	800/2	800/2	800/2	1000/2	1000/2	1000/2	1250/2	1250/2	1250/2	1600/2	1600/2	1600/2	2000/2	2000/2	-	2500/2	2500/2	-
630/4	630/4	630/4	800/4	800/4	800/4	1000/4	1000/4	1000/4	1250/4	1250/4	1250/4	1600/4	1600/4	1600/4	2000/4	2000/4	-	2500/4	2500/4	-
250			250			315			400			400			-			-		
400			400			560			710			710			-			-		
500			500			630			800			800			-			-		
560			560			710			900			900			-			-		
710			710			900			-			-			-			-		
■			■			■			■			■			■			■		
Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %			Class 120 - 60 %		
75			75			75			75			75			105			105		
330			330			330			330			330			330			330		
50			50			50			50			50			50			50		
42			42			42			42			42			50			50		
35			35			35			35			35			50			50		
20			20			20			20			20			30			30		
10			10			10			10			10			13			13		
8			8			8			8			8			11			11		
■			■			■			■			■			■			■		
5000			3000			3000			3000			3000			3000			3000		
AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21A	AC22A	AC23A	AC21B	AC22B	AC23A	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	100	100	500	100	100	-	100	100	-
DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23A	DC21A	DC22A	DC23B	DC21B	DC22B	DC23B	DC21B	DC22B	DC23B
1000	1000	1000	500	500	500	500	500	500	500	500	500	500	500	500	100	100	-	100	100	-
1000	1000	1000	500	500	500	500	500	500	500	500	500	500	500	500	100	100	-	100	100	-
■			■			■			■			■			■			■		
■			■			■			■			■			■			■		
■			■			■			■			■			■			■		
3			3			3			3			3			3			3		
-			-			-			-			-			-			-		

Switch-disconnector selection

Interpact INV630b to 2500

Interpact INV switch-disconnectors

Installation

Fixed, front connection
 Fixed, rear connection
 On symmetrical rails
 On a backplate

Connection

By cables	To bare cable connectors
By cables with lugs	Directly to terminals
	To spreaders
	To vertical-connection adapters via cable-lug adapters
Flat-facing bars	Directly to terminals
	To spreaders
Edgewise bars	To vertical-connection adapters

Indication and measurement auxiliaries

Auxiliary contacts
 Voltage-presence indicator
 Current-transformer module
 Ammeter module

Control, locking and interlocking

Control	Direct front rotary handle
	Extended front rotary handle
	Direct lateral rotary handle
	Extended lateral rotary handle
Locking	By keylock
	By padlocks
Interlocking	By keylock
	Mechanical

Complete source-changeover assembly

Operating torque (Nm) (typical value for 3-4 poles with front handle)

Installation and connection accessories

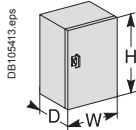
Bare cable connectors
 Rear connectors
 Terminal extensions
 Spreader
 One-piece spreader
 Terminal shrouds
 Terminal shields
 Interphase-barrier
 Front panel escutcheons
 Coupling accessories
 Tightening torque for electrical connections (Nm)

Dimensions and weights

Overall dimensions H x W x D (mm)	3 poles
	4 poles
Approximate weight (kg)	3 poles
	4 poles

Enclosure dimensions for the

H x W x D (mm)



Switch-disconnector selection

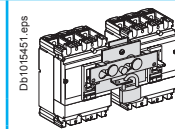
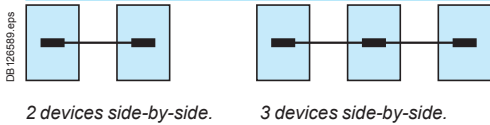
Interpact INV630b to 2500

	INV630b	INV800	INV1000	INV1250	INV1600	INV2000	INV2500
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
-	-	-	-	-	-	■	■
-	-	-	-	-	-	-	-
■	■	■	■	■	■	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	-	-
■	■	■	■	■	■	-	-
■	■	■	■	■	■	-	-
■	■	■	■	■	■	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
30	30	30	30	30	30	60	60
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-
50	50	50	50	50	50	50	50
300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	300 x 340 x 146.5	440 x 347.5 x 227.5	440 x 347.5 x 227.5
300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	300 x 410 x 146.5	440 x 462.5 x 227.5	440 x 462.5 x 227.5
14	14	14	14	14	14	35	35
18	18	18	18	18	18	45	45
-	-	-	-	-	-	-	-

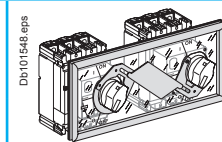
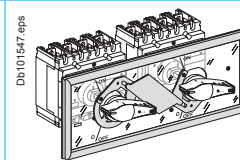
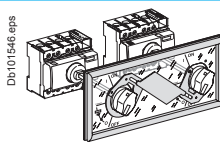
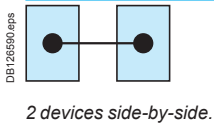
Range	Interpact		Compact
Models	INS40 to INS80 INS100 to INS160	INS250 to INS630 INV250 to INV630	NSX100 to NSX250 NSX400 to NSX630
Rating (A)	40 to 160	100 to 630	100 to 630
Type of device	Switch-disconnectors with extended handles	Switch-disconnectors	N/H/L circuit breakers NA switch-disconnectors

Manual source-changeover systems

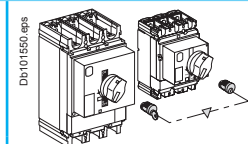
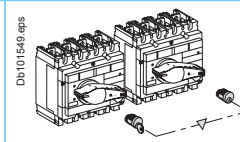
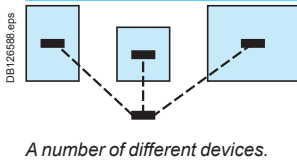
Interlocking via toggles



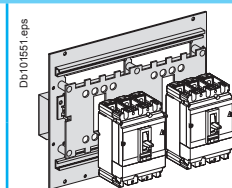
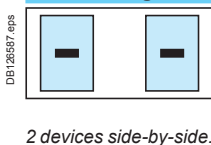
Interlocking via rotary handles



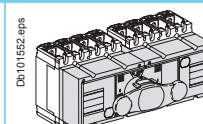
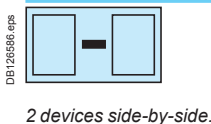
Interlocking via keylocks with captive keys



Interlocking on a base plate



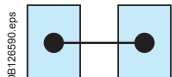
Complete source-changeover assemblies



Range	Compact	Masterpact	
Models	NS630b to NS1600	NT06 to NT16	NW08 to NW63
Rating (A)	630 to 1600	630 to 1600	800 to 6300
Type of device	N/H/L circuit breakers NA switch-disconnectors	H1/L1 circuit breakers HA switch-disconnectors	N1/H1/H2/H3/L1 circuit breakers NA/HA/HF switch-disconnectors

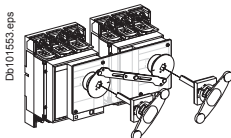
Manual source-changeover systems

Interlocking via extended rotary handles



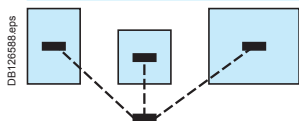
DB126590.eps

2 devices side-by-side.



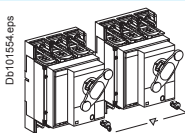
Dh101553.eps

Interlocking via keylocks with captive keys

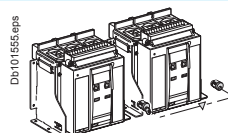


DB126598.eps

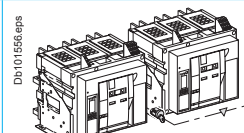
A number of different devices.



Dh101554.eps

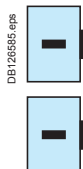


Dh101555.eps



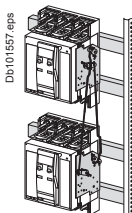
Dh101556.eps

Mechanical interlocking using connecting rods



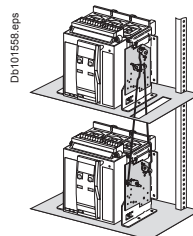
DB126585.eps

2 devices one above the other.

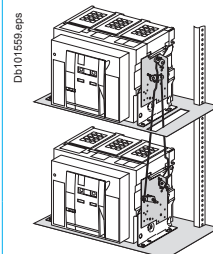


Dh101557.eps

(1)

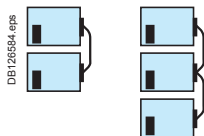


Dh101558.eps



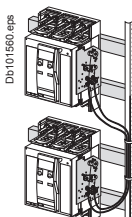
Dh101559.eps

Mechanical interlocking using cables



DB126584.eps

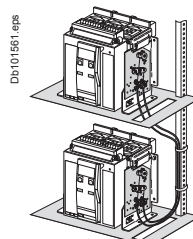
2 or 3 devices one above the other.



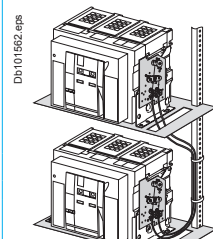
Dh101560.eps

(1)

(2)

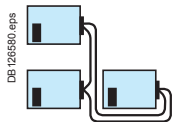


Dh101561.eps



Dh101562.eps

For this case and other cases, please consult us



DB126580.eps

(1) Implemented with NS630b to NS1600 electrically-operated devices only.

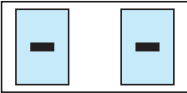
(2) For source-changeover systems using cables, always respect the installation conditions specified on catalogue LVPED211022EN.

Range	Compact	
Models	NSX100 to NSX630	NS630b to NS1600
Rating (A)	100 to 630	630 to 1600
Type of device	N/H/L circuit breakers NA switch-disconnectors	N/H/L circuit breakers NA switch-disconnectors

Remote-operated source-changeover system

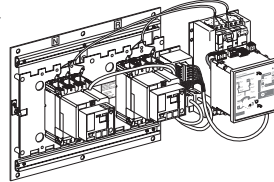
Mechanical interlocking on base plate + electrical interlocking

DB126587.eps



2 electrically-operated devices side-by-side combined with an electrical interlocking system.

DB101653.eps



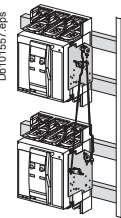
Mechanical interlocking using connecting rods + electrical interlocking

DB126585.eps



2 electrically-operated devices one above the other combined with an electrical interlocking system.

DB101657.eps



Mechanical interlocking using cables + electrical interlocking

DB126581.eps



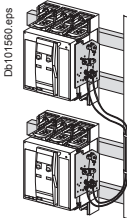
2 electrically-operated devices one above the other combined with an electrical interlocking system.

DB126582.eps



2 electrically-operated devices side-by-side combined with an electrical interlocking system.

DB101660.eps



(2)

Automatic source-changeover systems

Remote-operated source-changeover system combined with an automatic-control system

DB126581.eps



The automatic controller operates the devices depending on external parameters.

DB126582.eps

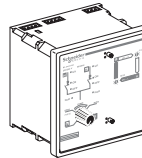


BA: Simple controller that manages the changeover function.

UA: Controller that also manages engine generator sets.

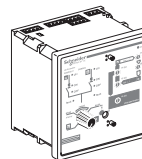
UA150: UA controller with a communication option.

DB125972.eps



BA controller

DB125963.eps



UA and UA150 controller

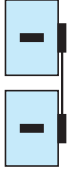
(2) For source-changeover systems using cables, always respect the installation conditions specified on catalogue LVPED211022EN.

Range	Masterpact	
Models	NT06 to NT16	NW08 to NW63
Rating (A)	630 to 1600	800 to 6300
Type of device	H1/L1 circuit breakers HA switch-disconnectors	N1/H1/H2/H3/L1 circuit breakers NA/HA/HF switch-disconnectors

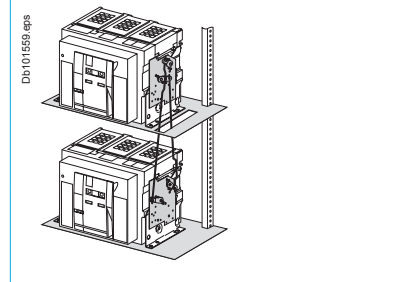
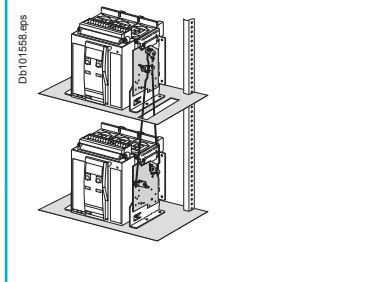
Remote-operated source-changeover system

Mechanical interlocking using connecting rods + electrical interlocking

DB126655.eps

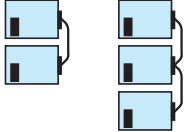


2 electrically-operated devices side-by-side combined with an electrical interlocking system.



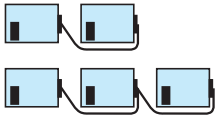
Mechanical interlocking using cables + electrical interlocking

DB126584.eps

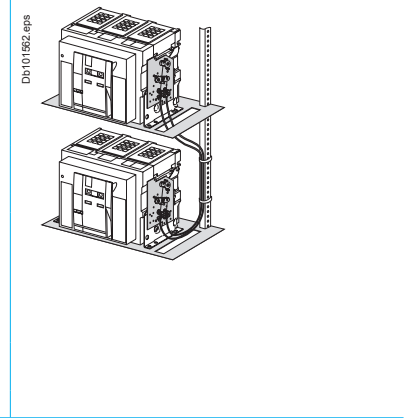
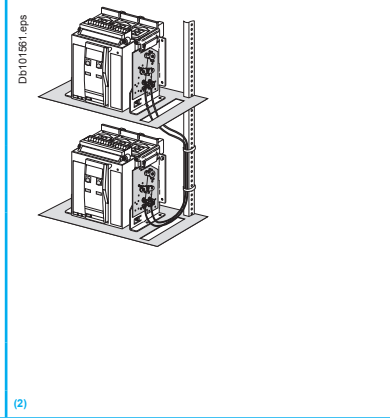


2 or 3 electrically-operated devices one above the other combined with an electrical interlocking system ⁽¹⁾.

DB126583.eps




2 or 3 electrically-operated devices side-by-side combined with an electrical interlocking system ⁽¹⁾.



Automatic source-changeover systems

Remote-operated source-changeover system combined with an automatic-control system

DB126581.eps




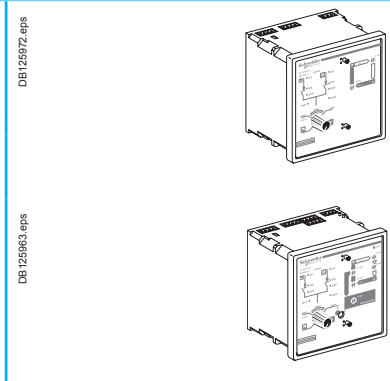
The automatic controller operates the devices depending on external parameters.

BA: Simple controller that manages the changeover function.

UA: Controller that also manages engine generator sets.

UA150: UA controller with a communication option.

DB126582.eps

(1) Three devices with Masterpact NW only.

(2) For source-changeover systems using cables, always respect the installation conditions specified on catalogue LVPED211022EN. For other cases, please consult us.

Switch-disconnector fuses selection

Fupact INF.32 to INF.160

059000a_24_eps



INF32.

PB107591_60_eps



INF63.

PB107593_60_eps



INF160.

Switch-disconnector fuses

Number of poles / type of fuse-link	3 poles / 3 fuse-links
	4 poles / 3 fuse-links + switched neutral
	4 poles / 4 fuse-links

Electrical characteristics as defined by IEC 60947-1 / IEC 60947-3 and EN 60947-1 / EN 60947-3

Conventional thermal current (A)	In free air	I_{th}	at 40 °C
	Maximum fuse power dissipation (W)		
	In enclosure	I_{the}	at 40 °C
			Maximum fuse power dissipation (W)
Rated insulation voltage (V)	U_i	AC 50/60 Hz / DC	
Rated impulse withstand voltage (kV)	U_{imp}		
Rated operational voltage (V)	U_e	AC 50/60 Hz DC	
Rated operational voltage AC20 and DC20 (V)	U_e		
Rated operational current (A)	I_e	AC 50/60 Hz	
		220/240 V	
		380/415 V	
		440/480 V ⁽¹⁾	
		500/525 V	
		660/690 V	
		DC/poles in series	
		250 V/nbr of poles	
		440 V/nbr of poles	
		750 V/nbr of poles	
Rated operational power (kW) ⁽³⁾ (motor power given for direct on-line starting)	AC	220/240 V	
		380/400 V	
		415 V	
		500/525 V	
		660/690 V	
Rated duties	Uninterrupted duty		
	Intermittent duty		
Rated short-circuit making capacity (kA peak) Switch-disconnector without fuse (refer to single-phase fuse limitation curves)	I_{cm}	415 V	
		500 V	
		690 V	
Rated short-circuit breaking capacity (kA rms) / Rated short-circuit making capacity (kA peak) ⁽⁴⁾	I_{cn} / I_{cm}	415 V (BS)	
		500 V (DIN)	
		690 V (DIN)	
Rated short-time withstand current (A rms)	I_{cw}	1 s	
		3 s	
		20 s	
		30 s	
Endurance (category A) (CO cycles)	Mechanical		
	Electrical AC	AC22A 500 V	
		AC22A 690 V	
		AC23A 500 V	
		AC23A 690 V	

Suitability for isolation

Positive contact indication

Pollution degree

Control

Direct front rotary handle

Extended front rotary handle

Extended lateral rotary handle

Locking by padlocks

Operating torque (typical for 3-pole switch-disconnector fuses) (Nm)

Indication auxiliaries

Auxiliary contacts

Blown-fuse indicator

Fuse monitor

Auxiliary contact test position

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ AC23B.

⁽³⁾ Some fuse-links limit these values. Motor starting current must be considered separately.

⁽⁴⁾ Switch-disconnector combined with fuses.

Switch-disconnector fuses selection

Fupact INF.32 to INF.160

INF.32		INF.40		INF.63		INF.100		INF.125		INF.160	
NFC-BS		DIN		NFC-DIN-BS		BS		NFC		DIN-BS	
NFC-BS		DIN		NFC-DIN-BS		BS		NFC		DIN-BS	
NFC		DIN		NFC-DIN		-		NFC		DIN	
32		40		63		100		125		160	
3.5		7.5		7.5		12		12		12	
32		40		63		100		125		160	135
3.5		7.5		7.5		12		12		10	12
1000		1000		1000		1000		1000		1000	
12		12		12		12		12		12	
690		690		690		690		690		690	
250		440		440		440		440		440	
690		1000		1000		1000		1000		1000	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
32	32	40	40	63	63	100	100	125	125	160	160
32	32	40	40	63	63	100	100	125	125	160	160
32	32	40	40	63	63	100	100	125	125	160	160
32	32	40	40	63	63	100	100	125	125	160	160
32	32	40	40	63	63 ⁽²⁾	100	100 ⁽²⁾	125	125 ⁽²⁾	160	160 ⁽²⁾
DC22A	DC23A	DC21B	DC23B	DC21B	DC23B	DC21B	DC23B	DC21B	DC23B	DC21B	DC23B
32/2	32/2	40/2	40/2	63/2	63/2	100/2	100/2	125/2	125/2	125/2	125/2
32/4	32/4	40/4	-	50/4	-	100/4	-	125/2	-	125/2	-
-	-	-	-	-	-	-	-	-	-	-	-
8		18.5		18.5		30		37		45	
14		30		30		55		55		75	
15		30		30		55		55		75	
18		37		37		55		55		90	
25		55		55		90		90		132	
■		■		■		■		■		■	
class 120-60 %		class 120-60 %		class 120-60 %		class 120-60 %		class 120-60 %		class 120-60 %	
9		17		17		23		29		29	
7.5		17		17		22		22		22	
6		13		13		16		16		16	
80/176		80/176		80/176		80/176		80/176		80/176	
100/220		100/220		100/220		100/220		100/220		100/220	
50/105		50/105		50/105		50/105		50/105		50/105	
1000		2500		2500		5000		5000		5000	
570		1440		1440		2900		2900		2900	
220		560		560		1150		1150		1150	
180		460		460		950		950		950	
10000		10000		10000		10000		10000		10000	
1500		1500		1500		1500		1500		1500	
1500		1500		1500		1500		1500		1500	
1500		1500		1500		1500		1500		1500	
■		■		■		■		■		■	
■		yes		yes		yes		yes		yes	
3		3		3		3		3		3	
■		■		■		■		■		■	
■		■		■		■		■		■	
■		■		■		■		■		■	
■		■		■		■		■		■	
3		5		5		7		7		7	
■		■		■		■		■		■	
■		■		■		■		■		■	
■		■		■		■		■		■	
■		■		■		■		■		■	

Switch-disconnector fuses selection

Fupact INF.32 to INF.160

055000a_24_eps



INF32.

PB107591_00_eps



INF63

PB107593_00_eps



INF160

Switch-disconnector fuses

Type of fuse-link

NFC	10 x 38
	14 x 51
	22 x 58
DIN (NH)	NH000
	NH00
BS (fixing centres in mm) ⁽²⁾	A1 (44.5)
	F1
	A2 (73.0)
	A3 (73.0)
	A4 (93.7)

Installation and connection

Fixed front connection
Terminal tightening torque (Nm)
Fuse-link bolt tightening torque (Nm)

Installation and connection accessories

Bare cable connectors
Terminals
Neutral link
Terminal shields

Dimensions and weight

Overall dimensions H x W x D (mm)	3P
Front DIN/NFC version	4P
Overall dimensions H x W x D (mm)	3P
Lateral DIN/NFC version	4P
Overall dimensions H x W x D (mm)	3P
Front BS version	4P
Overall dimensions H x W x D (mm)	3P
Lateral BS version	4P
Approximate weight without fuse and without accessory (kg)	3P
	4P

Enclosure dimensions for lthe

H x W x D (mm)

Temperature derating⁽³⁾⁽⁴⁾

"Vertical mounting" fuse-links in vertical position	lth (A)	40 °C
		45 °C
		50 °C
		55 °C
		60 °C
		65 °C
		70 °C
"Horizontal mounting" fuse-links in horizontal position	lthe (A)	35 °C
		40 °C
		45 °C
		50 °C
		55 °C
		60 °C
		65 °C
		70 °C

(1) Maximum fuse body diameter: Ø32 mm.

(2) A: fuse-link with centre bolted tags.

(3) Derating data is based on:

- the maximum rating for fuse-links intended for the device,
- maximum power dissipation.

(4) For installation on a ceiling, derate an additional 10 %.

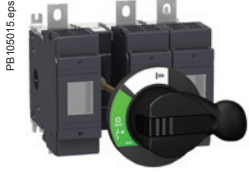
Switch-disconnector fuses selection

Fupact INF.32 to INF.160

INF.32	INF.40	INF.63	INF.100	INF.125	INF.160
■	-	-	-	-	-
■	-	■ (50 A)	-	-	-
-	-	-	-	■	■ (63 A)
-	■	■	-	-	■
-	-	■	-	-	■
■	-	-	-	-	-
■	-	-	-	-	-
■	-	■	■	-	■
-	-	■	■	-	■
-	-	-	■ ⁽¹⁾	-	■ ⁽¹⁾
■	■	■	■	■	■
2	4	4	M8 x 25	M8 x 25	M8 x 25
2	3.5	3.5	M5: 3.5 M8: 5	M5: 3.5 M8: 5	M5: 3.5 M8: 5
■ (standard)	■ (standard)	■ (standard)	■ (optional)	■ (optional)	■ (optional)
-	-	-	■	■	■
■	■	■	■	■	■
-	■	■	■	■	■
97 x 106 x 105	100 x 114.5 x 120.5	100 x 114.5 x 120.5	140 x 148 x 130	140 x 148 x 130	140 x 148 x 130
97 x 142 x 105	100 x 138 x 120.5	100 x 138 x 120.5	140 x 183 x 130	140 x 183 x 130	140 x 183 x 130
97 x 129 x 105	100 x 146.5 x 132.5	100 x 146.5 x 132.5	140 x 181.5 x 142	140 x 181.5 x 142	140 x 181.5 x 142
97 x 165 x 105	100 x 170 x 132.5	100 x 170 x 132.5	140 x 216.5 x 142	140 x 216.5 x 142	140 x 216.5 x 142
97 x 106 x 105	100 x 114.5 x 105.5	100 x 114.5 x 105.5	140 x 148 x 114.5	140 x 148 x 114.5	140 x 148 x 114.5
97 x 142 x 105	100 x 138 x 105.5	100 x 138 x 105.5	140 x 183 x 114.5	140 x 183 x 114.5	140 x 183 x 114.5
97 x 129 x 105	100 x 146.5 x 120.5	100 x 146.5 x 120.5	140 x 181.5 x 126.5	140 x 181.5 x 126.5	140 x 181.5 x 126.5
97 x 165 x 105	100 x 170 x 120.5	100 x 170 x 120.5	140 x 216.5 x 126.5	140 x 216.5 x 126.5	140 x 216.5 x 126.5
0.7	1.1	1.1	1.4	1.4	1.4
0.9	1.3	1.3	1.8	1.8	1.8
300 x 350 x 200					
NFC-BS	DIN	NFC-DIN-BS	BS	NFC	DIN-BS
32	63	63	100	125	160
30.4	58	58	93	116	148
28.8	56	56	89	111	142
27.2	53	53	85	106	135
25.6	51	51	80	100	128
25	48	48	76	95	121
24.4	45	45	71	88	113
31	63	63	100	125	160
29.5	61	61	96	120	154
28	58	58	93	116	148
26.5	56	56	89	111	142
25	53	53	85	106	135
23.5	51	51	80	100	128
22	48	48	76	94	121
20.5	45	45	71	88	113

Switch-disconnector fuses selection

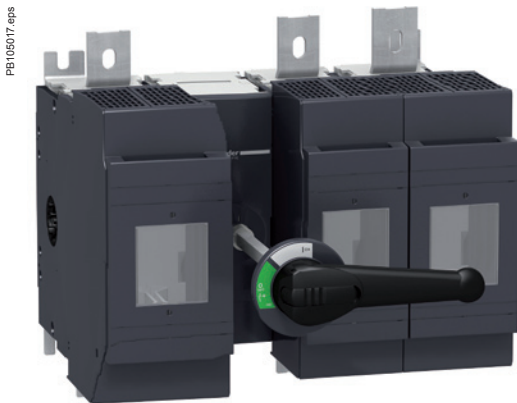
Fupact INF.200 to INF.800



INF200.



INF400.



INF800.

Switch-disconnector fuses

Number of poles / type of fuse-link	3 poles / 3 fuse-links
	4 poles / 3 fuse-links + switched neutral
	4 poles / 4 fuse-links

Electrical characteristics as defined by IEC 60947-1 / IEC 60947-3 and EN 60947-1 / EN 60947-3

Conventional thermal current (A)	In free air	I_{th}	at 40 °C
			Maximum fuse power dissipation (W)
	In enclosure	I_{the}	at 40 °C
			Maximum fuse power dissipation (W)
Rated insulation voltage (V)		U_i	AC 50/60 Hz / DC
Rated impulse withstand voltage (kV)		U_{imp}	
Rated operational voltage (V)		U_e	AC 50/60 Hz
			DC
Rated operational voltage AC20 and DC20 (V)		U_e	
Rated operational current (A)		I_e	AC 50/60 Hz
			220/240 V
			380/415 V
			440/480 V ⁽¹⁾
			500/525 V
			660/690 V
Rated operational power (kW) ⁽²⁾ (motor power given for direct on-line starting)	AC		220/240 V
			380/400 V
			415 V
			500/525 V
			660/690 V
Rated duties			Uninterrupted duty
			Intermittent duty
Rated short-circuit making capacity (kA peak) Switch-disconnector without fuse (refer to single-phase fuse limitation curves)	I_{cm}		415 V
			500 V
			690 V
Rated short-circuit breaking capacity (kA rms) / Rated short-circuit making capacity (kA peak) ⁽³⁾	I_{cn} / I_{cm}		415 V (BS)
			500 V (DIN)
			690 V (DIN)
Rated short-time withstand current (A rms)	I_{cw}		1 s
			3 s
			20 s
			30 s
Endurance (category A) (CO cycles)			Mechanical
			Electrical AC
			AC22A 500 V
			AC22A 690 V
			AC23A 500 V
			AC23A 690 V

Suitability for isolation

Positive contact indication

Pollution degree

Control

Direct front rotary handle

Extended front rotary handle

Extended lateral rotary handle

Locking by padlocks

Operating torque (typical for 3-pole switch-disconnector fuses) (Nm)

Indication auxiliaries

Auxiliary contacts

Blown-fuse indicator

Fuse monitor

Auxiliary contact test position

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ Some fuse-links limit these values.

Motor starting current must be considered separately.

⁽³⁾ Switch-disconnector combined with fuses.

⁽⁴⁾ Category B.

⁽⁵⁾ Only for DIN fuse-links.

Switch-disconnector fuses selection

Fupact INF.200 to INF.800

INF.200		INF.250		INF.400		INF.630		INF.800	
DIN-BS		DIN-BS		DIN-BS		DIN-BS		DIN-BS	
DIN		DIN		DIN		DIN		DIN	
200		250		400		630		800	
17		23		45		60		65	
200	180	250	230	400	360	570		720	
15	18	20	27	30	37	50		55	
1000		1000		1000		1000		1000	
12		12		12		12		12	
690		690		690		690		690	
750		750		750		750		750	
1000		1000		1000		1000		1000	
AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A	AC22A	AC23A
200	200	250	250	400	400	630	630	800	800
200	200	250	250	400	400	630	630	800	800
200	200	250	250	400	400	630	630	800	800
200	200	250	250	400	400	630	630	800	800
200	200	250	250	400	400	630	630	800	800
DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A	DC22A	DC23A
200/1	200/1	250/1	250/1	400/2	400/2	630/1	630/1	800/1	800/1
200/2	200/2	250/2	250/2	400/3	400/3	630/2 ⁽⁴⁾	630/2 ⁽⁴⁾	800/2 ⁽⁴⁾	800/2 ⁽⁴⁾
200/3	200/3	250/3	250/3	400/4 ⁽⁴⁾	400/4 ⁽⁴⁾	630/3 ⁽⁴⁾	630/3 ⁽⁴⁾	720/3 ⁽⁴⁾	720/3 ⁽⁴⁾
180/4	180/4	230/4	230/4	400/4 ⁽⁴⁾	400/4 ⁽⁴⁾	630/4 ⁽⁴⁾	630/4 ⁽⁴⁾	720/4 ⁽⁴⁾	720/4 ⁽⁴⁾
60		75		132		200		250	
110		140		220		355		450	
110		145		230		355		450	
132		170		280		450		560	
200		250		400		630		710	
■		■		■		■		■	
class 120-60 %		class 120-60 %		class 120-60 %		class 120-60 %		class 120-60 %	
35		40.5		59		77		77	
37.5		37.5		63.5		83		83	
28		28		48		55		55	
80/176		80/176		80/176		80/176		80/176	
100/220		100/220		100/220		100/220		100/220	
80/176		80/176		80/176		80/176		80/176	
8000		8000		14000		18000		18000	
4620		4620		8080		10400		10400	
1790		1790		3130		4000		4000	
1460		1460		2550		3300		3300	
10000		10000		8000		5000		5000	
1000		1000		1000		1000		500	
1000		1000		1000		1000		500	
1000		1000		1000		1000		500	
1000		1000		1000		1000		500	
■		■		■		■		■	
■		■		■		■		■	
3		3		3		3		3	
■		■		■		■		■	
■		■		■		■		■	
-		-		-		-		-	
■		■		■		■		■	
7		7		19		38		38	
■		■		■		■		■	
■ ⁽⁵⁾		■ ⁽⁵⁾		■ ⁽⁵⁾		■ ⁽⁵⁾		■ ⁽⁵⁾	
■		■		■		■		■	
■		■		■		■		■	

Switch-disconnector fuses selection

Fupact INF.200 to INF.800



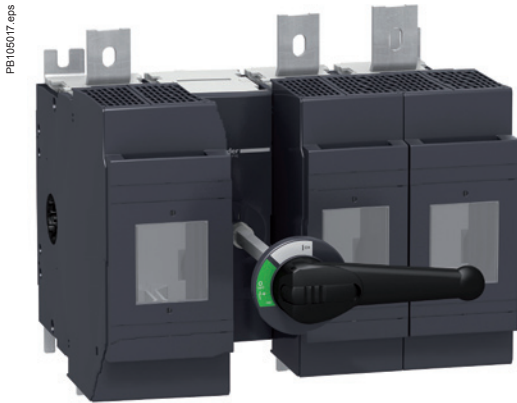
PE105015.eps

INF200.



PE105016.eps

INF400.



PE105017.eps

INF800.

Switch-disconnector fuses

Type of fuse-link

DIN (NH)	NH (0)
	NH (0, 1)
	NH (0, 1, 2)
	NH (3)
BS (fixing centres in mm) ⁽¹⁾	B1 (111)
	B2 (111)
	B3 (111)
	B4 (111)
	C1 (133)
	C2 (133)
	C3 (133)

Installation and connection

Fixed front connection
Terminal tightening torque (Nm)
Fuse-link bolt tightening torque (Nm)

Installation and connection accessories

Bare cable connectors
Terminals
Neutral link
Terminal shields

Dimensions and weight

Overall dimensions H x W x D (mm)	3P (DIN)
	3P (BS)
	4P (DIN)
	4P (BS)
Approximate weight without fuses (kg)	3P
	4P

Enclosure dimensions for lthe

H x W x D (mm)

Temperature derating⁽²⁾⁽³⁾

"Vertical mounting" fuse-links in vertical position	lth (A)	40 °C
		45 °C
"Horizontal mounting" fuse-links in horizontal position	lth (A)	50 °C
		55 °C
		60 °C
		65 °C
		70 °C

(1) B: fuse-link with offset bolted tags.

(2) Derating data is based on:
- the maximum rating for fuse-links intended for the device,
- maximum power dissipation.

(3) For installation on a ceiling, derate an additional 10 %.

(4) Maximum fuse body diameter: Ø52 mm.

(5) Maximum fuse body diameter: Ø62 mm.

Switch-disconnector fuses selection

Fupact INF.200 to INF.800

	INF.200	INF.250	INF.400	INF.630	INF.800
■	-	-	-	-	-
-	■	-	-	-	-
-	-	-	■	-	-
-	-	-	-	■	■
■	■	■	■	-	-
■	■	■	■	-	-
-	■ ⁽⁴⁾	■	■	-	-
-	-	■ ⁽⁵⁾	-	-	-
-	-	-	-	■	■
-	-	-	-	■	■
-	-	-	-	-	■
■	■	■	■	■	■
15-22	30-44	30-44	50-75	50-75	
4	5	20	M10 : 30 M12 : 40	M10 : 30 M12 : 40	
■ (optional)	■ (optional)	■ (optional)	■ (optional)	■ (optional)	■ (optional)
■	■	■	■	■	■
■	■	■	■	■	■
■	■	■	■	■	■
199 x 175.5 x 149	193 x 206 x 154	230 x 254 x 193	306 x 341 x 233	306 x 341 x 233	
199 x 175.5 x 130		230 x 254 x 176			
199 x 219 x 149	193 x 260 x 154	230 x 318 x 193	306 x 429 x 233	306 x 429 x 233	
199 x 219 x 130		230 x 318 x 176			
2.6	3.1	5.7	11.5	11.5	
3.6	4.1	7.7	14.4	14.4	
600 x 350 x 300	800 x 400 x 330	610 x 508 x 254	800 x 1000 x 330	800 x 1000 x 330	
DIN-BS	DIN-BS	DIN-BS	DIN-BS	DIN-BS	
200	250	400	630	800	
185	232	370	583	741	
177	222	355	558	709	
169	211	338	532	676	
160	200	321	505	641	
151	189	302	476	605	
141	177	283	446	566	
200	250	400	570	720	
193	241	385	549	694	
185	231	370	528	667	
177	222	355	505	638	
169	211	338	482	609	
160	200	321	457	577	
151	189	302	431	544	
141	177	283	403	509	

Fuse-switch disconnectors selection

Fupact ISFT100N to ISFT630

PB104311.eps



ISFT100N.

62159A_SE.eps



ISFT100.

62194A_SE.eps



ISFT160.

62165A_SE.eps



ISFT630.

Fuse-switch disconnectors

Number of poles / type of fuse-link IEC60 269-2-1 Section 1
Electrical characteristics as defined by IEC 60947-1 / IEC 60947-3 and EN 60947-1 / EN 60947-3

Conventional thermal current (A)	In free air	I_{th}	at 40 °C
	Maximum fuse power dissipation (W)		
	In enclosure	I_{the}	at 40 °C
			Maximum fuse power dissipation (W)
Rated insulation voltage (V)	U_i AC 50/60 Hz / DC		
Rated impulse withstand voltage (kV)	U_{imp}		
Rated operational voltage (V)	U_e AC 50/60 Hz		
	DC		
Rated operational voltage AC20 and DC20 (V)	U_e		
Rated operational current (A)	I_e AC 50/60 Hz		
	220/240 V		
	380/415 V		
	440/480 V ⁽²⁾		
	500 V		
	660/690 V		
			DC/poles in series
			125 V /nbr of poles
			220 V /nbr of poles
			440 V /nbr of poles
Rated duties	Uninterrupted duty		
Rated short-circuit breaking capacity (kA rms)/Rated short-circuit making capacity (kA peak)/Fuse-link I _n (A) ⁽³⁾	I_{cn}/I_{cm}/I_n		415 V
			500 V
			690 V
Endurance (category B) (CO cycles)	Mechanical		
	Electrical AC		AC22B 415 V
			AC23B 415 V
		AC21B 690 V	

Suitability for isolation
 Positive contact indication
 Pollution degree

Control

Direct front rotary handle (operator-dependent opening and closing)
 Locking Padlocks
 Lead seal

Indication auxiliaries

Auxiliary contacts
 Fuse monitor
 Blown-fuse indicator

Installation and connection accessories

Possible mounting positions Horizontal
 Vertical
 Bare cable connectors
 Other connectors For bare Cu/Al cables
 For flexible bars

Distribution connectors
 Lugs for copper cables
 Insulated comb busbar covers
 Insulated comb covers
 Incoming connector for comb busbars
 Terminal shields

Dimensions and weight

Overall dimensions H x W x D (mm) 3P
 Approximate weight without fuse-links (kg) 3P

⁽¹⁾ With 95 mm² connector.
⁽²⁾ Suitable for 480 V NEMA.
⁽³⁾ Fuse-switch disconnectors with fuse-links.
⁽⁴⁾ AC23B: 100 A.

Fuse-switch disconnectors selection

Fupact ISFT100N to ISFT630

ISFT100N		ISFT100		ISFT160		ISFT250		ISFT400		ISFT630	
3P/DIN (NH)		3P/DIN (NH)		3P/DIN (NH)		3P/DIN (NH)		3P/DIN (NH)		3P/DIN (NH)	
100		100/160 ⁽¹⁾		160		250		400		630	
7.5		9		12		23		34		48	
100		100/160 ⁽¹⁾		160		250		400		630	
7.5		9		12		23		34		48	
800		690		800		800		800		800	
8		6		8		8		8		8	
690		690		690		690		690		690	
440		440		440		440		440		440	
690		690		800		800		800		800	
AC21B	AC22B	AC21B	AC22B	AC21B	AC22B	AC21B	AC22B	AC21B	AC22B	AC21B	AC22B
100	100 ⁽⁴⁾	160	160	160	160	250	250	400	400	630	630
100	100 ⁽⁴⁾	160	160	160	160	250	250	400	400	630	630
100	100	100	-	160	-	250	-	400	-	630	-
100	100	100	-	160	-	250	-	400	-	630	-
100	-	100	-	100	-	250	-	400	-	630	-
DC21B	DC22B	DC21B	DC22B	DC21B	DC22B	DC21B	DC22B	DC21B	DC22B	DC21B	DC22B
100/3	100/3	100/1	-	160/1	-	250/1	-	400/1	-	630/1	-
100/3	100/3	100/1	-	160/1	-	250/1	-	400/1	-	630/1	-
100/3	100/3	100/1	-	160/2	-	250/2	-	400/2	-	630/2	-
■	■	■	■	■	■	■	■	■	■	■	■
80 / 176 / 100		80 / 176 / 100		50 / 105 / 160		50 / 105 / 250		50 / 105 / 400		50 / 105 / 630	
50 / 105 / 100		50 / 105 / 100		50 / 105 / 160		50 / 105 / 250		50 / 105 / 400		50 / 105 / 630	
50 / 105 / 100		50 / 105 / 100		50 / 105 / 100		50 / 105 / 200		50 / 105 / 315		50 / 105 / 500	
2000		2000		1600		1600		1000		1000	
300		300		200		200		200		200	
300		-		-		-		-		-	
300		300		200		200		200		200	
■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■
3		3		3		3		3		3	
■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-	-	-	-
■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
216 x 53 x 82		141 x 89 x 71		163 x 107 x 80		246 x 186 x 110		271 x 210 x 127		271 x 250 x 132	
0.54		0.46		0.64		2.06		2.96		4.00	

Fuse-switch disconnectors selection

Fupact ISFT100N to ISFT630

PB104311.eps



ISFT100N.

62183A_SE.eps



ISFT100.

62194A_SE.eps



ISFT160.

62195A_SE.eps



ISFT630.

Fuse-switch disconnectors

Type of fuse-link

- DIN NH000
- DIN NH00
- DIN NH1
- DIN NH2
- DIN NH3

Installation and connection

- Symmetrical rail
- Direct connection on backplate
- Push-on connection to 60 mm busbars
- Hook-on connection to 60 mm busbars
- Hook-on connection to 100 mm busbars
- Tightening torque (Nm)

Temperature derating (with gG fuse-link) ^{(1) (2)}

"Vertical mounting" fuse-links in vertical position	Ith (A)	40 °C
		45 °C
		50 °C
		55 °C
		60 °C
		65 °C
"Horizontal mounting" fuse-links in horizontal position	Ith (A)	70 °C
		40 °C
		45 °C
		50 °C
		55 °C
		60 °C
		65 °C
		70 °C

(1) Derating data is based on:

- the maximum rating for fuse-links intended for the device,
- maximum power dissipation.

(2) For installation on a ceiling, derate an additional 10 %.

(3) With 100/160 A fuse-link.

Fuse-switch disconnectors selection

Fupact ISFT100N to ISFT630

	ISFT100N	ISFT100	ISFT160	ISFT250	ISFT400	ISFT630
	■	■	■	-	-	-
	-	-	■	-	-	-
	-	-	-	■	-	-
	-	-	-	-	■	-
	-	-	-	-	-	■
	■	■	-	-	-	-
	■	■	■	■	■	■
	-	-	■	■	-	-
	■	-	■	■	■	■
	-	-	-	■	■	■
	see catalogue LVPED208014EN					
	100	100/160 ⁽³⁾	160	250	400	630
	95	95/152	152	238	380	599
	90	90/144	144	225	360	567
	85	85/136	136	213	340	536
	80	80/128	128	200	320	504
	75	75/120	120	188	300	473
	70	70/112	112	175	280	441
	100	100/160 ⁽³⁾	160	250	400	630
	95	95/152	152	238	380	599
	90	90/144	144	225	360	567
	85	85/136	136	213	340	536
	80	80/128	128	200	320	504
	75	75/120	120	188	300	473
	70	70/112	112	175	280	441

Fuse-switch disconnectors selection

Fupact ISFL160 to ISFL630

PB107274_17_eps



ISFL160.

PB107275_20_eps



ISFL250.

Fuse-switch disconnectors

Number of poles / type of fuse-link IEC60 269-2-1 Section 1

Electrical characteristics as defined by IEC 60947-1 / IEC 60947-3 and EN 60947-1 / EN 60947-3

Conventional thermal current (A)	In free air	I_{th}	at 40 °C
	Maximum fuse power dissipation (W)		
	In enclosure	I_{the}	at 40 °C
			Maximum fuse power dissipation (W)

Rated insulation voltage (V)	U_i	AC 50/60 Hz / DC
------------------------------	----------------------	------------------

Rated impulse withstand voltage (kV)	U_{imp}	
--------------------------------------	------------------------	--

Rated operational voltage (V)	U_e	AC 50/60 Hz
-------------------------------	----------------------	-------------

Rated operational voltage AC20 and DC20 (V)	U_e	
---	----------------------	--

Rated operational current (A)	I_e	AC 50/60 Hz
		220/240 V
		380/415 V
		440/480 V ⁽¹⁾
		500 V

DC/poles in series	
--------------------	--

	125 V /nbr of poles
--	---------------------

	220 V /nbr of poles
--	---------------------

	440 V /nbr of poles
--	---------------------

Rated duties	Uninterrupted duty	
--------------	--------------------	--

Rated short-circuit breaking capacity (kA rms)/Rated short-circuit making capacity (kA peak)/Fuse-link I _n (A) ⁽²⁾	I_{cn}/I_{cm}/I_n	415 V
		500 V
		690 V

Endurance (category B) (CO cycles)	Mechanical	
------------------------------------	------------	--

Electrical AC	AC23B 415 V
---------------	-------------

	AC22B 500 V
--	-------------

	AC21B 690 V
--	-------------

Suitability for isolation	
---------------------------	--

Positive contact indication	
-----------------------------	--

Pollution degree	
------------------	--

Control

Direct front rotary handle (operator-dependent opening and closing)	
---	--

Locking	Padlocks
---------	----------

Lead seal

Indication auxiliaries

Auxiliary contacts	
--------------------	--

Current transformer	
---------------------	--

Installation and connection accessories

Possible mounting position	Horizontal
----------------------------	------------

Vertical

Connector	For bare Cu/Al cables
-----------	-----------------------

For flexible bars

Lugs for Cu/Al cables	
-----------------------	--

Terminal shields	
------------------	--

Coupling accessories	
----------------------	--

Dimensions and weight

Overall dimensions H x W x D (mm)	3P
-----------------------------------	----

Approximate weight without fuse-links (kg)	3P
--	----

⁽¹⁾ Suitable for 480 V NEMA.

⁽²⁾ Fuse-switch disconnectors with fuse-links.

⁽³⁾ Only for ISF160 with direct connection to the busbars.

⁽⁴⁾ AC22B 690 V.

Fuse-switch disconnectors selection

Fupact ISFL 160 to ISFL630

ISFL160		ISFL250			ISFL400			ISFL630		
3P/DIN (NH)		3P/DIN (NH)			3P/DIN (NH)			3P/DIN (NH)		
160		250			400			630		
12		23			34			48		
160		250			400			630		
12		23			34			48		
1000		1000			1000			1000		
8		12			12			12		
690		690			690			690		
800		800			800			800		
AC22B	AC23B	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B	AC21B	AC22B	AC23B
160	160	250	250	250	400	400	400	630	630	630
160	160	250	250	250	400	400	400	630	630	630
160	-	250	250	-	400	400	-	630	630	-
160	-	250	250	-	400	400	-	630	630	-
100	-	250	-	-	400	-	-	630	-	-
DC21B	DC22B	DC21B	DC22B		DC21B	DC22B		DC21B	DC22B	
-	-	-	-		-	-		-	-	
-	-	-	-		-	-		-	-	
-	-	-	-		-	-		-	-	
■		■			■			■		
100 / 210 / 160		120 / 250 / 250			120 / 250 / 400			120 / 250 / 630		
101 / 210 / 160		120 / 250 / 250			120 / 250 / 400			120 / 250 / 630		
100 / 210 / 160		100 / 210 / 200			100 / 210 / 315			100 / 210 / 500		
1400		1400			800			800		
200		200			200			200		
200 ⁽⁴⁾		200			200			200		
200		200			200			200		
■		■			■			■		
■		■			■			■		
3		3			3			3		
■		■			■			■		
■		■			■			■		
-		-			-			-		
■		■			■			■		
■ ⁽³⁾		■			■			■		
■		-			-			-		
■		■			■			■		
■		■			■			■		
■		-			-			-		
■		-			-			-		
included		included			included			included		
■		■			■			■		
405 x 50 x 123		672 x 100 x 123			672 x 100 x 123			672 x 100 x 123		
1.30		4.70			5.00			5.60		

Fuse-switch disconnectors selection

Fupact ISFL160 to ISFL630

PB107274_17_eps



ISFL160.

PB107275_20_eps



ISFL250.

Fuse-switch disconnectors

Type of fuse-link

- DIN NH000
- DIN NH00
- DIN NH1
- DIN NH2
- DIN NH3

Installation and connection

- ISFL160 for 60 mm busbar hook-on contact mounting with multiple use terminal (screw M8)
- ISFL160 for 60 mm busbar hook-on contact mounting with box terminal 95 mm²
- ISFL160 for 100 mm busbar hook-on contact mounting with multiple use terminal (screw M8)
- ISFL160 for 100 mm busbar hook-on contact mounting with box terminal 95 mm²
- Conversion kit for 185 mm busbar direct contact mounting (for 1 or 2 x ISFL160)
- ISFL250-630 for 185 mm busbar direct contact mounting with multiple use terminal (screw M12)
- Terminal tightening torque (Nm)

Temperature derating (with gG fuse-link) ⁽¹⁾

Mounting type	Temperature (°C)	Derating factor (I _{th} / I _{th} (A))
"Vertical mounting" fuse-links in vertical position	40 °C	1.0
	45 °C	0.95
	50 °C	0.9
	55 °C	0.85
	60 °C	0.8
	65 °C	0.75
"Horizontal mounting" fuse-links in horizontal position	40 °C	1.0
	45 °C	0.95
	50 °C	0.9
	55 °C	0.85
	60 °C	0.8
	65 °C	0.75
	70 °C	0.7

⁽¹⁾ Derating data is based on:
 - the maximum rating for fuse-links intended for the device
 - maximum power dissipation.

Fuse-switch disconnectors selection

Fupact ISFL160 to ISFL630

ISFL160	ISFL250	ISFL400	ISFL630
■	-	-	-
■	-	-	-
-	■	-	-
-	-	■	-
-	-	-	■
■	-	-	-
■	-	-	-
■	-	-	-
■	-	-	-
■	-	-	-
■	■	■	■
see catalogue LVPED208014EN			
160	250	400	630
160	250	400	630
152	238	380	599
144	225	360	567
136	213	340	536
128	200	320	504
120	188	300	473
160	-	-	-
160	-	-	-
152	-	-	-
144	-	-	-
136	-	-	-
128	-	-	-
120	-	-	-

Selection guide

Protection and monitoring relays

		Protection relays ⁽²⁾		
		RH10	RH21	RH99
All Vigirex products are type A ⁽¹⁾ devices, also covering the requirements of type AC devices.				
Functions				
Protection		■	■	■
Local indications		■	■	■
Remote indications (hard-wired)		-	-	-
Remote indications (via communication)		-	-	-
Display of measurements		-	-	-
Wiring				
Optimum continuity of service		■	■	■
Optimum safety (failsafe)		■	■	■
Mounting				
DIN rail		■	■	■
Front-panel mount		■	■	■
Rated operational voltage				
1 DC voltage range from 12 to 48 V		■	■	■
1 DC voltage range from 24 to 130 V and AC 48 V		-	-	-
6 AC voltage ranges from 12 to 525 V		■	■	■
4 AC voltage ranges from 48 to 415 V		-	-	-
Thresholds				
Fault (I Δ n)		1 fixed instantaneous threshold choose from 0.03 A to 1 A	2 user-selectable thresholds 0.03 A or 0.3 A	9 user-selectable thresholds from 0.03 A to 30 A
Alarm		-	-	-
Pre-alarm		-	-	-
Time delays				
Fault		Instantaneous	1 user-selectable time delay instantaneous or 0.06 s for I Δ n = 0.3 A	Instantaneous for I Δ n = 0.03 A 9 user-selectable time delays instantaneous to 4.5 s
Alarm		-	-	-
Pre-alarm		-	-	-
Display and indications				
Voltage presence (LED and/or relay) ⁽⁶⁾		■	■	■
Threshold overrun	fault (LED)	■	■	■
	alarm (LED and relay)	-	-	-
	pre-alarm (LED and relay)	-	-	-
Leakage current (digital)		-	-	-
Settings (digital)		-	-	-
Test with or without actuation of output contacts				
Local		■	■	■
Remote (hard-wired)		■	■	■
Remote (hard-wired for several relays)		■	■	■
Remote (via communication)		-	-	-
Communication				
Suitable for supervision (internal bus)		-	-	-
Characteristics				
		See catalogue LVPED208009EN	See catalogue LVPED208009EN	See catalogue LVPED208009EN
Sensors				
Schneider Electric A, up to 630 A OA, E toroids ⁽⁷⁾		■	■	■
Schneider Electric rectangular sensors up to 3200 A		■	■	■

(1) Type A relay up to I Δ n = 5 A.

(2) Relay with output contact requiring local, manual reset after fault clearance.




(3) Relay with output contact that automatically resets after fault clearance.

(4) Mandatory with an RMH (multiplexing for the 12 toroids).

(5) Mandatory with an RM12T (multiplexing for the 12 toroids).

Selection guide

Protection and monitoring relays

			Monitoring relays ⁽³⁾		
RH197M	RH197P	RHUs or RHU	RH99	RMH	
					
PB104914-R.eps	PB100715-19_SE.eps	059463-19_SE.eps	PB100429-19_SE.eps	PB100432-19_SE.eps	059484-19_SE.eps + 059485-20_SE.eps
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	<input type="checkbox"/> except RHUs	-	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ⁽⁸⁾	<input type="checkbox"/> ⁽⁸⁾	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/> 12 measurement channels ⁽⁵⁾
-	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	-	-	<input type="checkbox"/>	-	-
-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
-	-	-	<input type="checkbox"/>	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	220 to 240 V AC
19 user-selectable thresholds from 0.03 A to 30 A	19 user-selectable thresholds from 0.03 A to 30 A	1 adjustable threshold from 0.03 A to 30 A	-	-	-
Fixed: 50 % I _{Δn} or 100 % I _{Δn}	Fixed: 50 % I _{Δn} or 100 % I _{Δn}	1 adjustable threshold from 0.015 A to 30 A	9 user-selectable thresholds from 0.03 A to 30 A	1 adjustable threshold/channel from 0.03 A to 30 A	1 adjustable threshold/channel from 0.015 A to 30 A
-	-	-	-	1 adjustable threshold/channel from 0.015 A to 30 A	-
7 user-selectable time delays instantaneous to 4.5 s	7 user-selectable time delays instantaneous to 4.5 s	1 adjustable threshold instantaneous to 4.5 s	-	-	-
instantaneous	instantaneous	1 adjustable threshold instantaneous to 4.5 s	9 user-selectable time delays instantaneous to 4.5 s	1 adjustable threshold/channel instantaneous to 5 s	1 adjustable threshold/channel instantaneous to 5 s
-	-	-	-	1 adjustable threshold/channel instantaneous to 5 s	-
<input type="checkbox"/> ⁽⁹⁾	<input type="checkbox"/> ⁽⁹⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
by bargraph	by bargraph	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ⁽¹⁰⁾	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-	-	<input type="checkbox"/> except RHUs	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	<input type="checkbox"/> except RHUs	-	<input type="checkbox"/>	<input type="checkbox"/>
See catalogue LVPED208009EN	See catalogue LVPED208009EN	See catalogue LVPED208009EN	See catalogue LVPED208009EN	See catalogue LVPED208009EN	See catalogue LVPED208009EN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

⁽⁶⁾ Depending on the type of wiring (optimum continuity of service or optimum safety).
⁽⁷⁾ See catalogue LVPED208009EN.

⁽⁸⁾ On a bargraph.
⁽⁹⁾ No voltage presence relay.
⁽¹⁰⁾ With actuation of contacts only.

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- High Density Metering
- Energy Tariff Optimization
- Power Quality Mitigation
- Local LV/MV Protection & Control
- Intelligent Power & Motor Control
- Renewable Energy Conversion
- EVlink charging solutions for electric vehicles

- Process & Machines Management Systems
- General Machines Control
- Packaging Control
- Material Handling Control
- Hoisting Control

- IT / Server Room Management Systems
- Rack Systems
- Uninterruptible Power Supply
- Cooling Control
- Surveillance

- Lighting Control
- Outdoor Lighting Control
- HVAC Control
- Room Control

- Security Management Systems
- Access Control
- Video Security
- Fire & Life Safety
- Intrusion Detection

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MEMO

Listed below the bases and printed catalogues concerning all the product ranges of the 2012 LV product characteristics.

Original source files and printed catalogues of the above documents are available on Shopping Kiosk and Pl@net area.

All modules and printed catalogues can be downloaded.

Range	Bases	Catalogues
Acti 9	Final Distribution	No printed document
NG160	556E	No printed document
Easypact	545E	LVEPD208003EN
Compact NSX	559E	LVEPD208001EN
Compact NS630b-1600	554E	LVEPD211021EN
Compact NSX - DC	220E	LVEPD208006EN
Masterpact NT/NW - AC	207E	LVEPD208008EN
Masterpact NW - DC	220E	LVEPD208006EN
Interpact	308E	LVEPD208015EN
Source-changeover System	313E	LVEPD211022EN
Fupact	306E	LVEPD208014EN
Vigirex	433E	LVEPD208009EN

