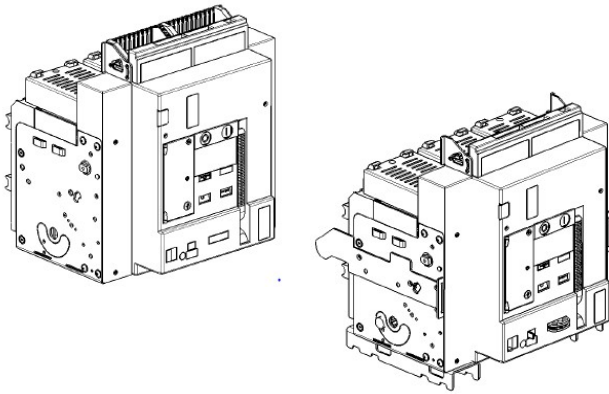


DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97



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1. USE

DMX-SP air circuit breakers offer optimal solutions to answer to protection requirements on the origin of the low voltage electrical installation (IEC/EN 60364-1) up to 4000A. Their electric and mechanical robustness, in addition to breaking capacity and chances of accessorizing, are perfectly suited for these requirements. DMX-SP offer a series of air switch-disconnector ("I" series) also, with high performances of insulation, robustness, closing and withstand capability. Both series are furthermore developed for increase continuity service looking at the plant energy efficiency and in respect of "green aspects" (see item 7-Conformity).

2. RANGE

DMX-SP 4000 circuit breakers				
Fixed version				
	50kA		65kA	
I_n (A)	3P	4P	3P	4P
3200	6 696 30	6 696 32	6 696 34	6 696 36
4000	6 696 31	6 696 33	6 696 35	6 696 37
Draw-out version (*)				
	50kA		65kA	
I_n (A)	3P	4P	3P	4P
3200	6 696 40	6 696 42	6 696 44	6 696 46
4000	6 696 41	6 696 43	6 696 45	6 696 47

DMX-SP-I 4000 switch disconnectors				
	Fixed version		Draw-out version (*)	
I_n (A)	3P	4P	3P	4P
3200	6 695 90	6 695 92	6 695 94	6 695 96
4000	6 695 91	6 695 93	6 695 95	6 695 97

(*) Draw-out references represent only the mobile part. To get complete device in draw-out version, it is necessary to combine mobile parts AND fixed base references:

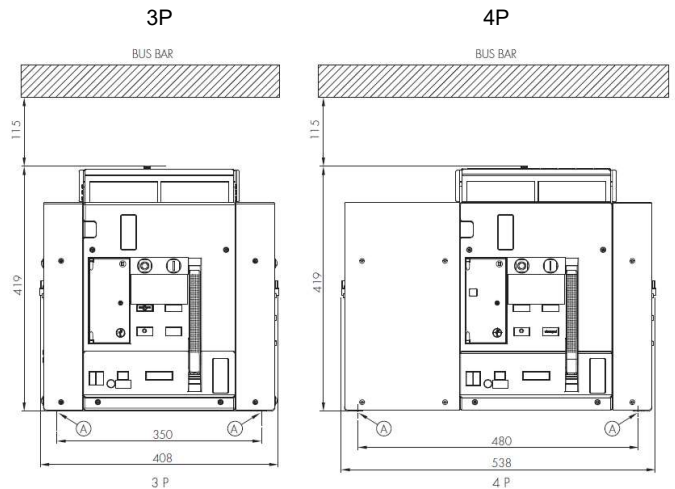
- ref. 6 696 12 (draw-out base for 3P versions)
- ref. 6 696 13 (draw-out base for 4P versions)

Full technical sheet LE11404AA

3. DIMENSIONS

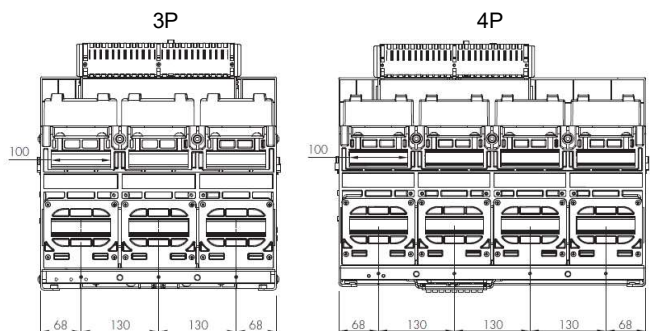
3.1 Fixed version

Frontal view



A = fixing point on plate of enclosure

Rear view

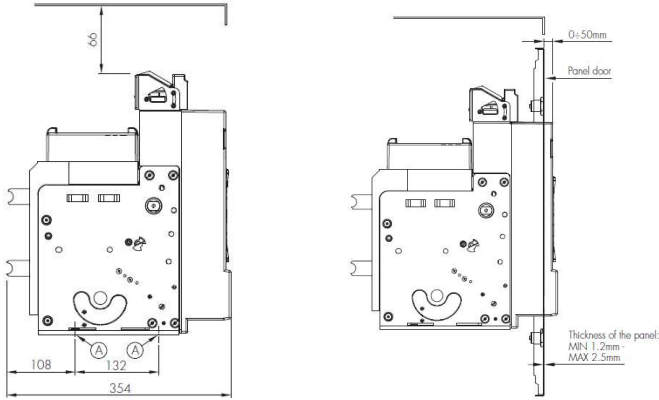


DMX-SP 4000 circuit breakers DMX-SP-I 4000 trip free switch disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
/ 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

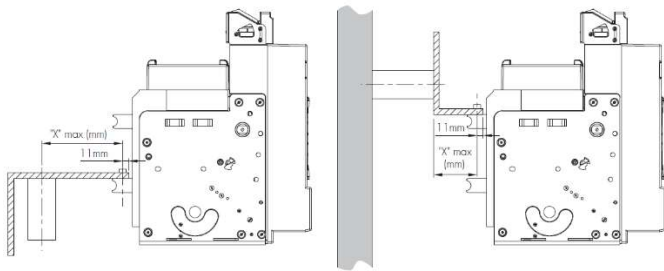
Lateral view

3P - 4P



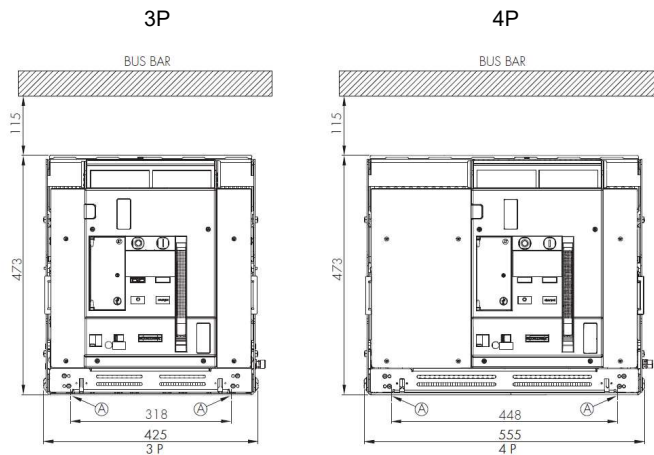
A = fixing point on plate of enclosure

Icc (kA)	≤ 50	≤ 65
"X" max (mm)	300	250



3.2 Draw-out version

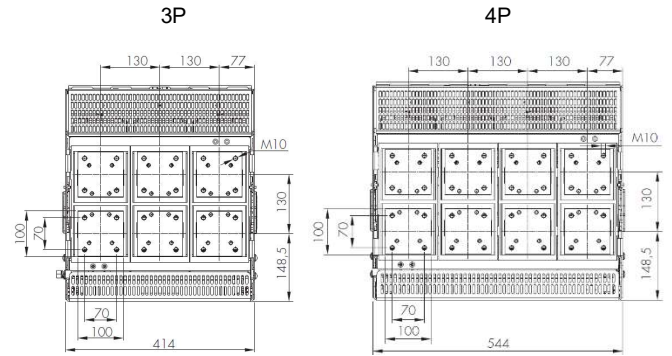
Frontal view



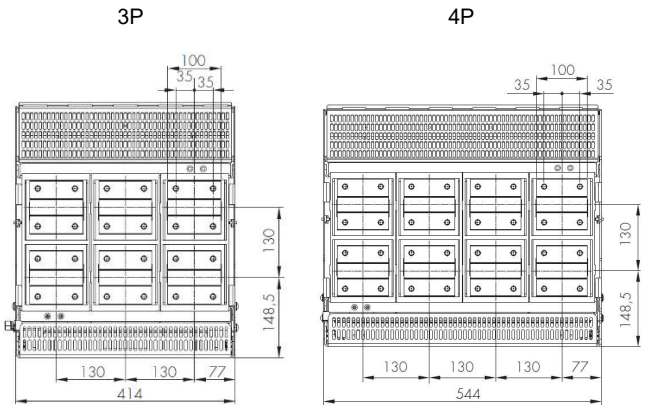
A = fixing point on plate of enclosure

Rear view

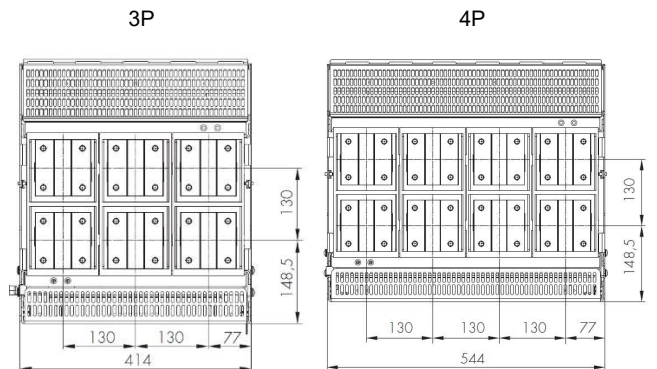
- Flat terminals



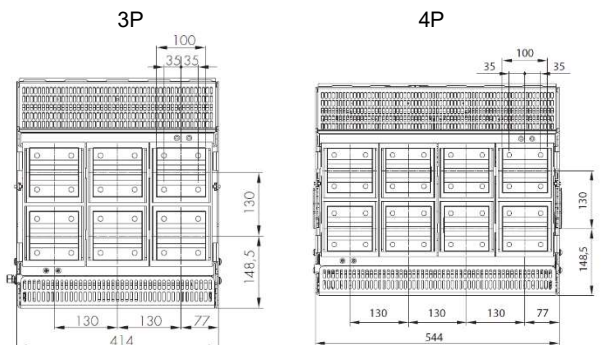
- Horizontal terminals



- Vertical terminals



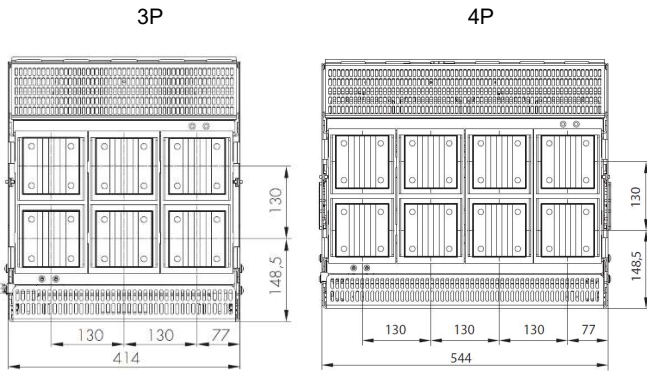
- Horizontal COMB terminals



DMX-SP 4000 circuit breakers DMX-SP-I 4000 trip free switch disconnectors

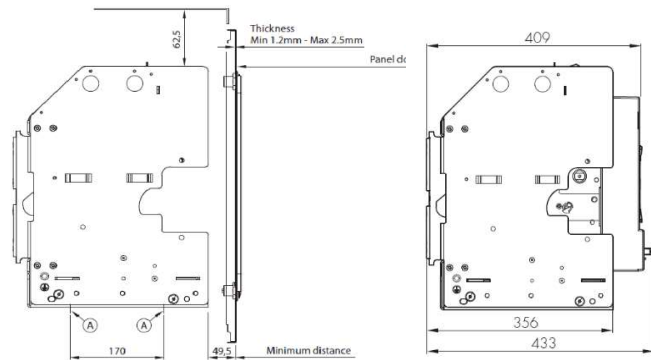
References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
/ 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

- Vertical COMB terminals

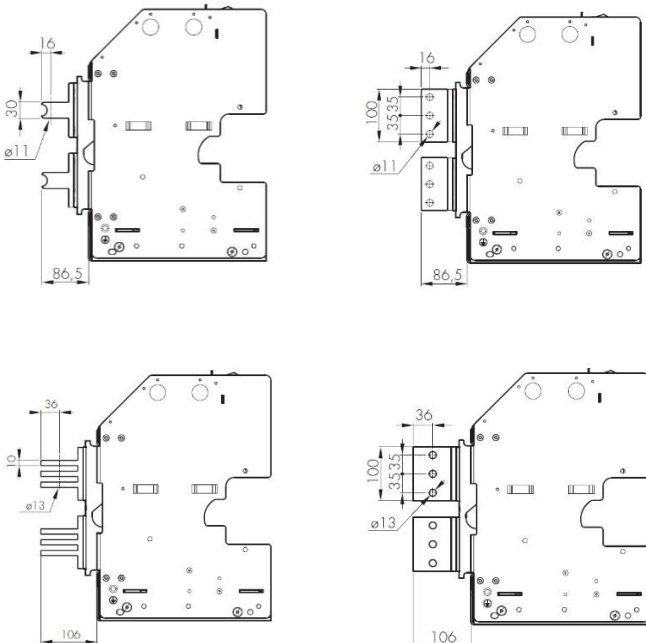


Lateral views

3P - 4P

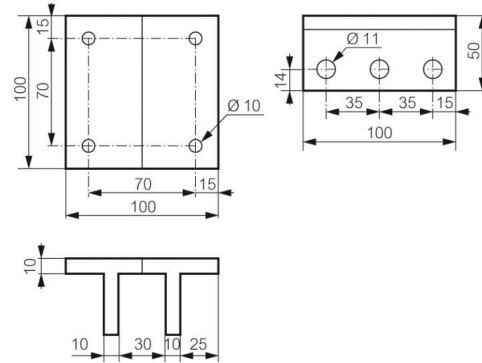
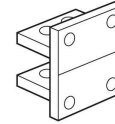


A = fixing point on plate of enclosure

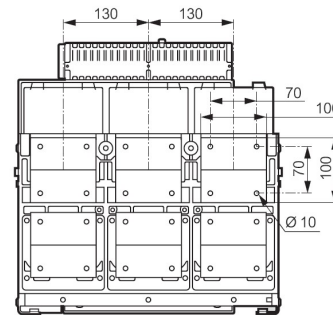


3.3 Rear terminals for fixed version – Flat connection

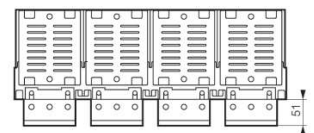
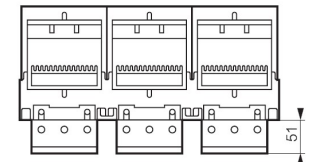
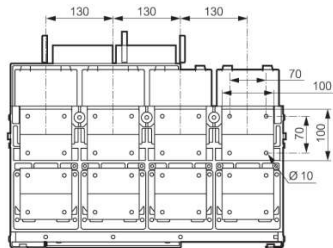
References	
3P	4P
6 696 14	6 696 15



3P



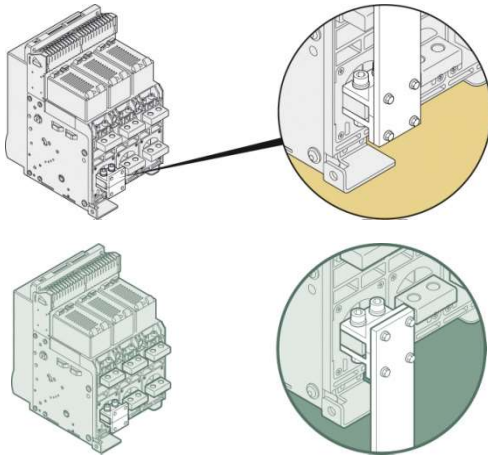
4P



DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

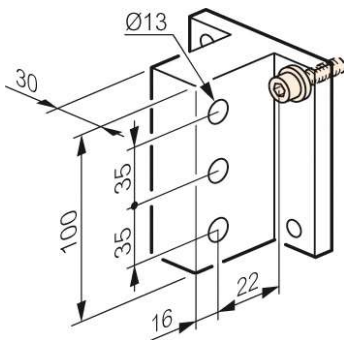
References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

Mounting examples:

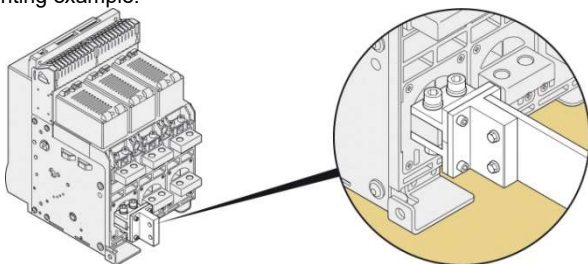


3.4 Rear terminals for fixed version – Vertical connection

References	
3P	4P
0 288 94	0 288 95

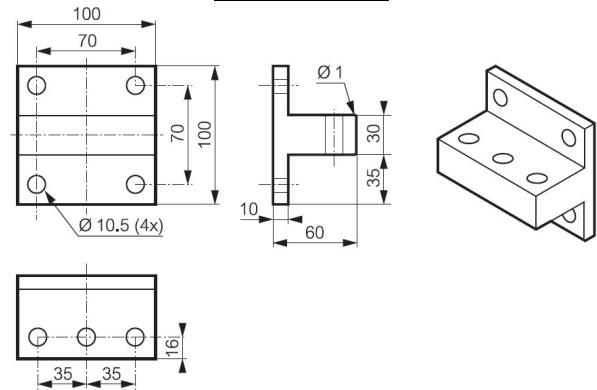


Mounting example:

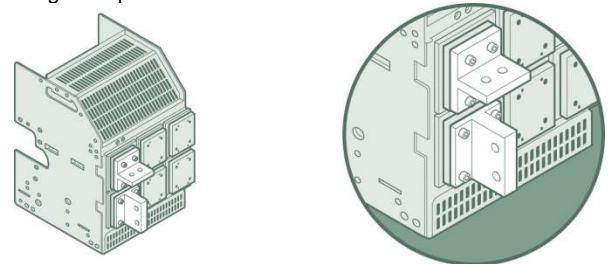


3.5 Rear terminals for Draw-out version – Flat/vertical connection

References	
3P	4P
0 288 94	0 288 95

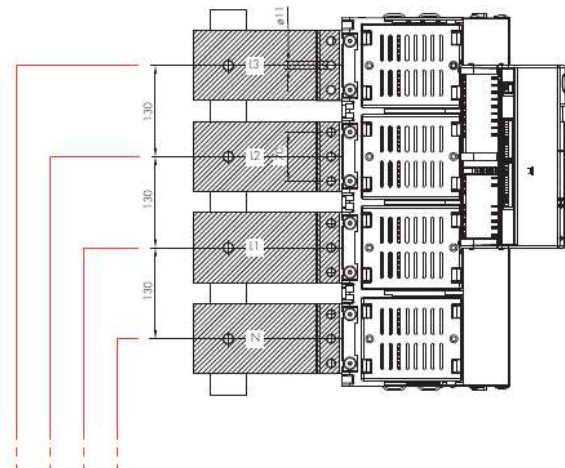
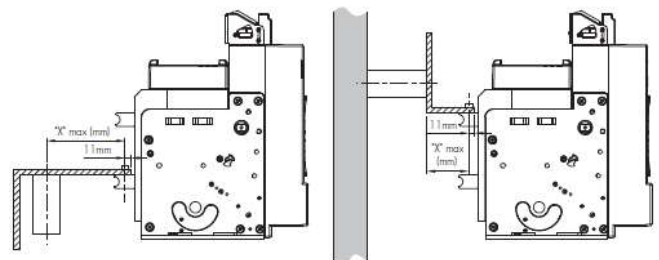


Mounting example:



3.6 Terminations support distances – Fixed version

Icc (kA)	≤ 50	≤ 65
X max (mm)	300	250



DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

4. OVERVIEW

4.1 Supplied with

ACBs are equipped with auxiliary contacts (1 NO/NC, expandable up to 10); besides:

- Fixed version: equipped with rear terminals for horizontal connections with bars.
- Draw-out version (only mobile part): to complete with the base, to get the complete draw-out version.
- Base for draw-out version: equipped with flat terminals, for connection with bars.

5. ELECTRICAL CONNECTIONS

Use only as a general guideline to select products. Due to extensive variety of switchgear installation shapes and conditions of use, the solution used must always be verified. If inter-poles air distance is less than 20mm, it's recommended use of phase insulators or insulated bars.

Minimum cross section of COPPER busbars per pole

. DMX-SP and DMX-SP-I fixed and draw-out versions

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
3200	3 bars 100 x 10	4 bars 80 x 10
4000	4 bars 100 x 10	5 bars 100 x 10

Minimum cross section of ALUMINIUM busbars per pole

. DMX-SP and DMX-SP-I fixed and draw-out versions

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
3200	4 bars 150 x 10	5 bars 150 x 10
4000	5 bars 150 x 10	6 bars 150x10

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit breaker

Electrical data refers to IEC/EN 60947-2 standard

		DMX-SP 4000	
		50 kA	65 kA
Frame current (A)		4000	
Number of poles		3P - 4P	
Rated current I _n (A)		3200 / 4000	
Release type		electronic	
Rated insulation voltage U _i (V)		1000	
Rated impulse withstand voltage U _{imp} (kV)		12	
Rated operational voltage (50/60Hz) U _e (V)		690	
Utilization Category		B	
Rated ultimate short-circuit breaking capacity I _{cu} (kA)	220 / 240 V AC	50	65
	380 / 415 V AC	50	65
	440 / 460 V AC	50	65
	480 / 500 V AC	50	65
	600 V AC	42	50
690 V AC	42	50	
Rated service short-circuit breaking capacity I _{cs} (% I _{cu})		100%	
Rated short-circuit making capacity I _{cm} (kA)	220 / 240 V AC	105	143
	380 / 415 V AC	105	143
	440 / 460 V AC	105	143
	480 / 500 V AC	105	143
	600 V AC	88	105
690 V AC	88	105	
Rated short time withstand current I _{sw} (kA) for t = 1s	220 / 240 V AC	50	65
	380 / 415 V AC	50	65
	440 / 460 V AC	50	65
	480 / 500 V AC	50	65
	600 V AC	42	50
690 V AC	42	50	
Rated short time withstand current I _{sw} (kA) for t = 3s	220 / 240 V AC	36	40
	380 / 415 V AC	36	40
	440 / 460 V AC	36	40
	480 / 500 V AC	36	40
	600 V AC	36	40
690 V AC	36	40	
Individual pole short-circuit current I _{1T} (kA)	220 / 240 V AC	1.2 times the maximum setting of the definite time delay release tripping current (I _{sd}) ⁽¹⁾	
	380 / 415 V AC		
	440 / 460 V AC		
	480 / 500 V AC		
	600 V AC		
690 V AC			
Suitable for isolation		Yes	
Neutral protection (% I _n)		0 - 50 - 100	
Endurance (cycles)	mechanical	5000 (w/o maintenance); 10000 (with maintenance)	
	electrical	3000 (w/o maintenance)	
Weight (Kg)	3P - Fixed	59	
	3P - Drawout ⁽²⁾	108	
	4P - Fixed	76	
	4P - Drawout ⁽²⁾	137	
Height (mm)	3P - Fixed	419	
	3P - Drawout	465	
	4P - Fixed	419	
	4P - Drawout	465	
Depth (mm)	3P - Fixed	354	
	3P - Drawout	433	
	4P - Fixed	354	
	4P - Drawout	433	
Width (mm)	3P - Fixed	408	
	3P - Drawout	425	
	4P - Fixed	538	
	4P - Drawout	555	
Temperature	operation	-25°C to +70°C	
	storage ^(*)	-25°C to +85°C	
Maintenance		Yes (see specific guide)	

⁽¹⁾ For more details, please consult Legrand

⁽²⁾ Weights for draw-out devices are to be intended with base

^(*) Storage temperature may be considered -40°C to +85°C, only if using MP2 protection unit type (without LCD screen visualization)

DMX-SP 4000 circuit breakers

DMX-SP-I 4000 trip free switch disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

Switch disconnector

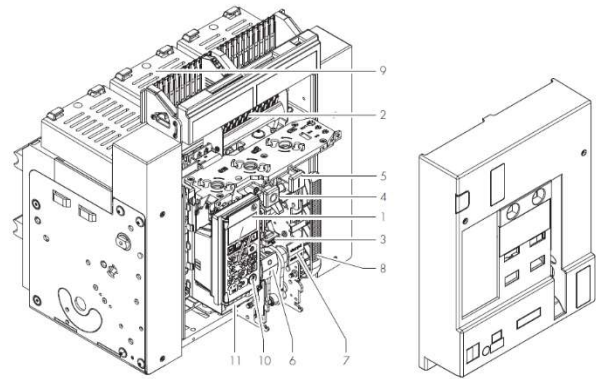
Electrical data refers to IEC/EN 60947-3 standard

		DMX-SP-I 4000
Frame current (A)		4000
Number of poles		3P - 4P
Rated current I _e (A)		3200 / 4000
Rated insulation voltage U _i (V)		1000
Rated impulse withstand voltage U _{imp} (kV)		12
Rated operational voltage (50/60Hz) U _e (V)		690
Category of use		AC23A
Rated short circuit making capacity I _{cm} (kA)	220 / 240 V AC	143
	380 / 415 V AC	143
	440 / 460 V AC	143
	480 / 500 V AC	143
	480 / 550 V AC	105
	600 V AC	105
Rated short time withstand current I _{cw} (kA) for t = 1s	220 / 240 V AC	65
	380 / 415 V AC	65
	440 / 460 V AC	65
	480 / 500 V AC	65
	480 / 550 V AC	50
	600 V AC	50
Rated short time withstand current I _{cw} (kA) for t = 3s	220 / 240 V AC	40
	380 / 415 V AC	40
	440 / 460 V AC	40
	480 / 500 V AC	40
	480 / 550 V AC	40
	600 V AC	40
Suitable for isolation		Yes
Endurance (cycles)	mechanical	5000 (w/o maint.); 10000 (with maint.)
	electrical	3000 (w/o maint.)
Weight (Kg)	3P - Fixed	59
	3P - Drawout ⁽¹⁾	108
	4P - Fixed	76
	4P - Drawout ⁽¹⁾	137
Height (mm)	3P - Fixed	419
	3P - Drawout	465
	4P - Fixed	419
Depth (mm)	3P - Fixed	354
	3P - Drawout	433
	4P - Fixed	354
Width (mm)	3P - Drawout	433
	3P - Fixed	408
	4P - Fixed	425
Temperature	operation	-25°C to +70°C
	storage	-25°C to +85°C
Maintenance		Yes (see specific guide)

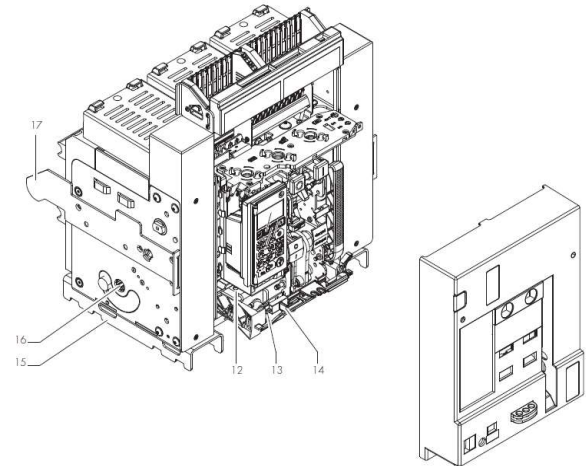
⁽¹⁾ Weights for draw-out devices are to be intended with base

6.1 Main parts constituting the circuit breaker

Fixed version



Draw-out version

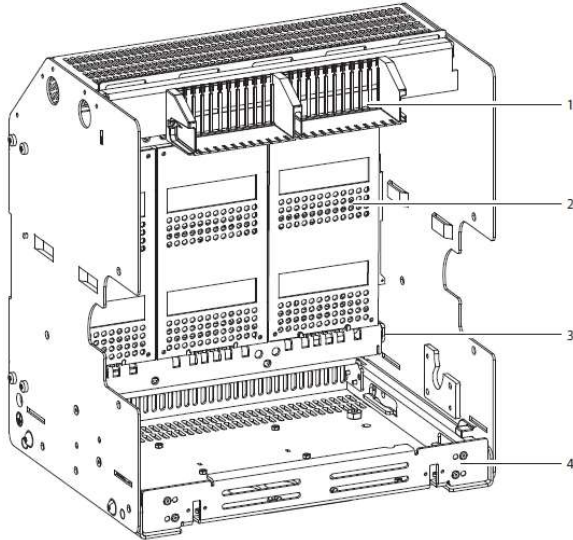


1. Protection Unit
2. Auxiliary Contacts
3. Reset button
4. OFF button
5. ON button
6. ON-OFF Indication
7. Spring Status Indication
8. Charging handle
9. Dejon cell
10. Mini USB cover
11. Battery cover
12. Draw-out mechanism
13. Draw-out bar insertion
14. Racking shutter
15. Support to place the breaker in draw-out cassette
16. Draw-out main shaft
17. Insertion guide

DMX-SP 4000 circuit breakers DMX-SP-I 4000 trip free switch disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
/ 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

Draw-out base



1. Aux terminal block
2. Safety shutter
3. Earth terminal
4. Removable cassette

6.2 Regulated ranges

I_n (A)	Phases			
	I_r		I_{sd}	
	$0.4 \times I_n$	$1 \times I_n$	$1.5 \times I_r \text{ min}$	$10 \times I_r \text{ max}$
3200	1280	3200	1920	32000
4000	1600	4000	2400	40000

* For neutral adjustment, as explained in technical sheet, please consider the values ratios 0%, 50% and 100% on set currents.

6.3 Power losses per pole at I_n / I_e

Power Losses (W) DMX-SP 4000 and DMX-SP-I 4000			
Version		Fixed	Draw-out
Rated current (A)	3200	109.6	215.0
	4000	172.2	336.0

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-2 (Annex G) for circuit-breakers and IEC 60947-1 for switches. Values in the table are referred to a single phase.

6.4 Deratings

6.4.1 Temperature

Rated current and his adjustment must be considered relating to a rise or fall of ambient temperature and to a different version or installation conditions. The table below indicates the maximum long-time (LT) protection setting depending on the ambient temperature.

Temperature deratings for DMX-SP and DMX-SP-I fixed version - horizontal terminals

Temperature	DMX-SP 4000 and DMX-SP-I 4000 (fixed version)									
	up to 40°C		50°C		60°C		70°C			
	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n		
Ratings	3200	1	3200	1	3104	0.97	2944	0.92	2880	0.90
	4000	1	3600	0.90	3400	0.85	3200	0.80	3000	0.75

Temperature deratings for DMX-SP and DMX-SP-I draw-out versions - horizontal terminals

Temperature	DMX-SP 4000 and DMX-SP-I 4000 (draw-out version)									
	up to 40°C		50°C		60°C		70°C			
	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n	I_{max} (A)	I_r / I_n		
Ratings	3200	1	3200	1	3104	0.97	2880	0.90	2720	0.85
	4000	1	3600	0.90	3320	0.83	3080	0.77	2800	0.70

6.4.2 Specific conditions use

Climatic conditions

according to IEC/EN 60947-1 Annex Q, Cat. F subject to temperature, humidity, vibration, shock and salt mist.

Electromagnetic disturbances (EMC)

according to IEC/EN 60947-2 Annex F.

6.4.3 Altitude

Altitude derating for DMX-SP and DMX-SP-I

Altitude (m)	< 2000	3000	4000	5000
Rated current (A)	I_n	$0.98 \times I_n$	$0.94 \times I_n$	$0.9 \times I_n$
Rated voltage U_e (V)	690	600	500	440
Rated insulation voltage U_i (V)	1000	900	750	600
Dielectric withstand (V)	3500	3200	2500	2000

DMX-SP 4000 circuit breakers

DMX-SP-I 4000 trip free switch

disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

6.5 Electronic protection unit

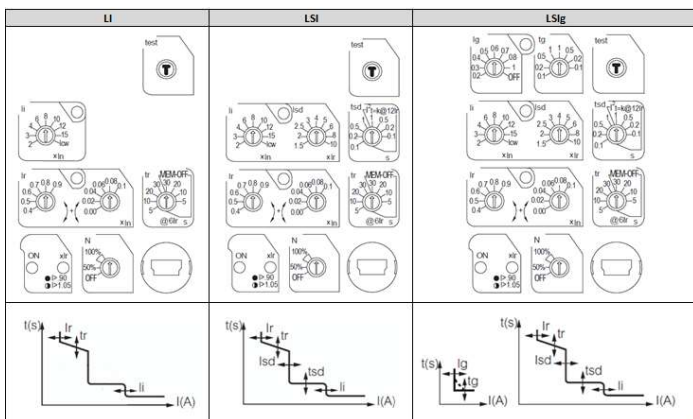
All DMX-SP 4000 can be equipped by an MP2 or MP4 electronic protection unit which main characteristics are:
 -Adjustments accomplished by selector switches
 -Long delay (I_r) threshold based on true RMS value of the current
 -Integrated LCD screen display electrical values, settings and logs (only for MP4 release)
 All protection units have on board a mini USB type "B" socket for diagnostic purposes.

6.5.1 Protection unit types

Protection unit are available in MP2 and MP4 type as following:

Type	Function	Data		Reference
		visualization	adjustment	
MP2	LI	-	knob	6 682 90
	LSI	-	knob	6 682 91
	LSIg	-	knob	6 682 92
MP4	LI	on LCD screen	knob	0 288 00
	LSI	on LCD screen	knob	0 288 01
	LSIg	on LCD screen	knob	0 288 02

MP2/MP4 detail



Protective functions

- I_r : against overloads with long inverse time delay trip
- t_r : long inverse time delay trip
- I_{sd} : against short-circuits
- t_{sd} : independent time delay ($t=k$)
: inverse short time delay ($I^2t=k$)
- I_i : against short-circuits with adjustable threshold
- I_{ov} : against short-circuit with fixed threshold (factory imposed)
- I_g : against earth fault
- t_g : independent time delay ($t=k$) or inverse short time delay ($I^2t=k$)

6.5.2 Trip threshold (and maximum setting range)

MP2/P4 protection unit

	LI	LSI	LSIg	Maximum possible range of setting	Tolerance
	I_r	$0.4 \div 1 \times I_n$	$0.4 \div 1 \times I_n$	$0.4 \div 1 \times I_n$	1 st selector $0.4 \div 0.9 \times I_n$ (step 0.1) 2 nd selector $0.00 \div 0.1 \times I_n$ (step 0.02)
t_r	$5 \div 30s$	$5 \div 30s$	$5 \div 30s$	at $6 \times I_r$, MEM ON (5-10-20-30s)	-
	$5 \div 30s$	$5 \div 30s$	$5 \div 30s$	at $6 \times I_r$, MEM OFF (5-10-20-30s)	
I_{sd}	$10 \times I_r$	$1.5 \div 10 \times I_r$	$1.5 \div 10 \times I_r$	$1.5-2-2.5-3-4-5-6-8-10 \times I_r$	$\pm 20\%$
t_{sd}	$1s^{(*)}$	$0.1 \div 1s$	$0.1 \div 1s$	$t = k$ (0.1-0.2-0.5-1s) $I^2t = k$ (0.3-0.2-0.1-0.01s)	-
I_i	$2 \div 15 \times I_n$	$2 \div 15 \times I_n$	$2 \div 15 \times I_n$	$2-3-4-6-8-10-12-15 \times I_n$	$\pm 10\%$
I_{ov}	I_{cw}/U_e	I_{cw}/U_e	I_{cw}/U_e	override instantaneous fixed threshold	$\pm 10\%$
I_g	N/A	N/A	$0.2 \div 1 \times I_n$	$0.2-0.3-0.4-0.5-0.6-0.7-0.8-1$	$\pm 20\%$
t_g	N/A	N/A	$0.1 \div 1s$	$t = k$ (0.1-0.2-0.5-1s) $I^2t = k$ (0.1-0.2-0.5-1s)	-

(*) t_{sd} for LI version is 1 s only for $t = k$

6.5.3 Batteries for protection units (only for MP4 type)

All protection units are equipped with batteries for powering in case of mains fault or when the breaker is open or not connected. All settings, stored parameters and logs are kept saved on protection unit's memory also if batteries are removed to be replaced. The protection unit must be equipped with four CR2 Lithium batteries (voltage 3V).

6.6 Common accessories for protection units

• External auxiliary power supply	ref. 0 288 06
Input supply	24 V DC or AC @50-60Hz
Output current	250 mA
Operating temperature (°C)	-10 ÷ +55
Input power supply (W / VA)	≥ 5
Dimension	35mm Din rail: 2 modules
• Communication option for MP4 protection unit	ref. 0 288 05
• External neutral for DMX-SP 4000	ref. 0 288 11
• Programmable output module	ref. 0 288 12
Input supply	24 V DC or AC @50-60Hz
Contact rated current (A)	AC: 250V 8A DC: 30V 8A; 110V 0.3A; 230V 0.12A
Operating temperature (°C)	-10 ÷ +55
Dimension	35mm Din rail: 6 modules

DMX-SP 4000 circuit breakers

DMX-SP-I 4000 trip free switch disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

• Motor operators

To connect to a release coil (UVR or trip on energising) and a closing coil

24 V AC and DC	ref. 0 288 34
48 V AC and DC	ref. 0 288 35
110 ÷ 130 V AC and DC	ref. 0 288 36
220 ÷ 250 V AC and DC	ref. 0 288 37
415 ÷ 440 V AC	ref. 0 288 38
480 V AC and DC	ref. 0 288 40

Rated operating voltage (U_c)	AC: 24V;48V;110V ÷ 130V;220V÷250V;415V ÷ 440V;480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V
Voltage range (%U_c)	85 ÷ 110
Maximum Power consumption (W / VA)	180/180
Maximum peak current for 80ms	(2 ÷ 3) x I _n
Charging time (s)	5
Operating frequency (n° / min)	2

• Closing coils

To enable remote closing of the circuit breaker if the closing spring is charged

24 V AC and DC	ref. 0 288 41
48 V AC and DC	ref. 0 288 42
110 ÷ 130 V AC and DC	ref. 0 288 43
220 ÷ 250 V AC and DC	ref. 0 288 44
415 ÷ 480 V AC	ref. 0 288 45

Rated operating voltage (U_c)	AC: 24V;48V;110V ÷ 130V;220V ÷ 250V;415V/440V/480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V
Voltage range (%V_n)	85 ÷ 110
Pick-up consumption (W / VA)	500 / 500
Pick-up time (ms)	180
Hold consumption (W / VA)	5 / 5
Maximum closing time (ms)	50
Insulation voltage (kV)	2.5

8.2 Signalling auxiliaries

• Signalling contact for draw-out version

Inserted / test / draw-out signalling contact

3 changeover contacts per position ref. 0 288 13

Rated operating voltage (U_c)	DC	250V 0.3A 125V 0.6A
	AC	250V 16A 125V 16A

• Contact "ready to close" with charged springs ref. 0 288 14

Rated operating voltage (U_c)	AC	250V 16A 125V 16A
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• Additional signalling contact ref. 0 288 15

Rated operating voltage (U_c)	DC	250V 0.3A 125V 0.6A
	AC	250V 16A 125V 16A

• Signalling contact for auxiliaries (ST, CC and UVR) ref. 0 288 16

Rated operating voltage (U_c)	DC	250V 0.3A 125V 0.6A
	AC	250V 16A 125V 16A

• Trip contact (CRT) (factory assembled)

ref. 6 696 16

Rated operating voltage (U_c)	AC	250V 6A
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8.3 Locking

• Key locking in "open" position

1 lock + 1 Profalux star type flat key	ref. 0 288 30
1 lock + 1 Ronis type flat key (random)	ref. 0 288 31
1 lock + 1 Ronis type EL43363 (fixed map)	ref. 0 289 06
1 lock + 1 Ronis type EL43525 (fixed map)	ref. 0 288 71
2 holes support frame for locks	ref. 0 288 28
Set of 5 key barrels with Ronis type flat key	ref. 0 288 29

• Key locking in "draw-out" position

Mounting of the lock on the base	
Lock and key Profalux type star key	ref. 0 288 32
Lock and key Ronis type flat key	ref. 0 281 33

• Door locking

Prevents opening of the door with the circuit breaker closed	
Left-hand and right-hand side mounting	ref. 0 288 20

• Padlocks in "open" position

Padlocking system for ACB (padlock not supplied)	ref. 0 288 21
Padlock for buttons	ref. 0 288 24
Padlocking system for shutters (padlock not supplied)	ref. 0 288 26

8.4 Accessories

• Mechanical operations counter: to count total number of operation cycles of device ref. 0 288 23

• Rating mis-insertion device: to prevent the insertion of a draw-out circuit breaker into an incompatible base ref. 0 288 25

• Lifting plate ref. 0 288 79

8.5 Fixing devices for DMX-SP and DMX-SP-I 4000

Specific instruction sheets are provide to integrate DMX-SP and DMX-SP-I 4000 into XL³ enclosures ranges (fixing plates, metal faceplates for circuit breakers and cable sleeves, etc...).

8.6 Draw-out base

• Bases for draw-out device

For DMX-SP / DMX-SP-I 4000 frame 3P	ref. 6 696 12
For DMX-SP / DMX-SP-I 4000 frame 4P	ref. 6 696 13

8.7 Equipment for interlocking

The mechanical interlock is set up using cables and can interlock 2 or 3 devices (all DMX-SP 4000) in a vertical or horizontal configuration. The interlock unit is mounted on the right-hand side of the device. Interlock cables to be ordered separately.

• Interlock for DMX-SP 4000 ref. 0 288 65

DMX-SP 4000 circuit breakers DMX-SP-I 4000 trip free switch disconnectors

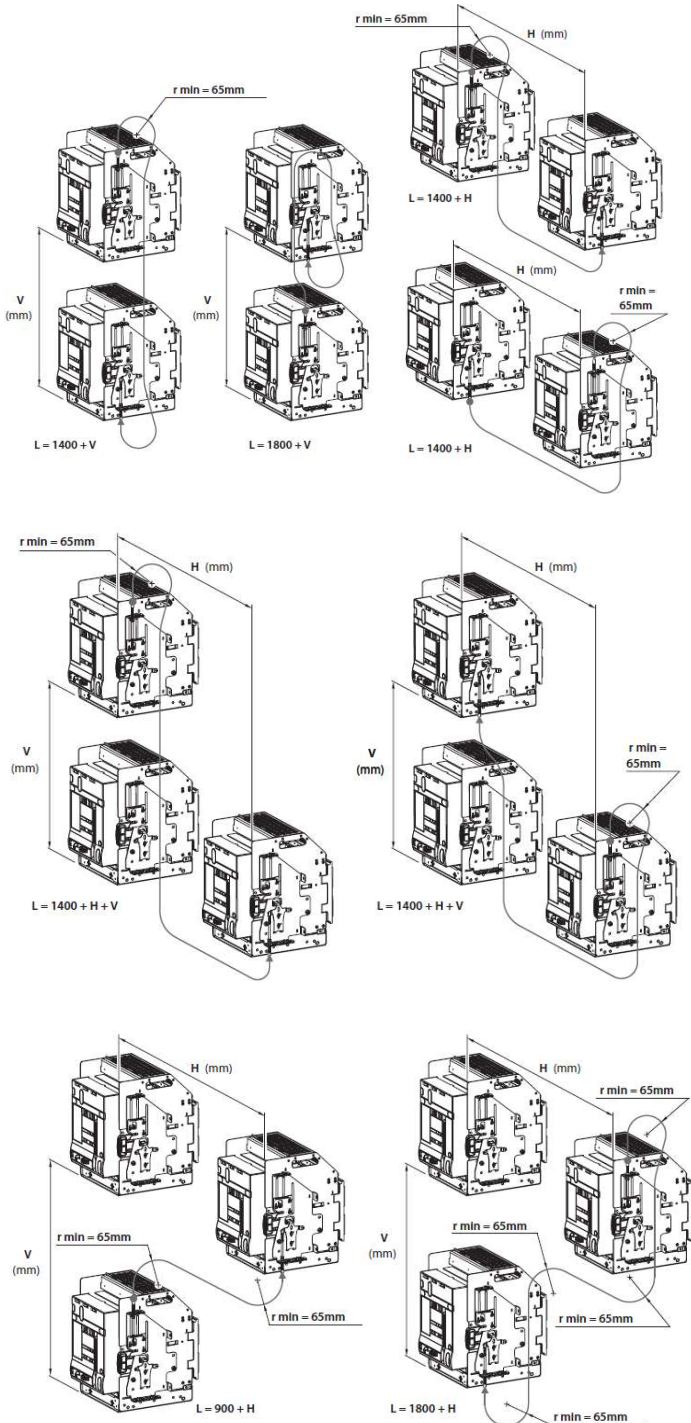
References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
/ 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

8.8 Interlock cables

(in common with DMX-SP 2500)

- 1000 mm ref. 0 289 17
- 1500 mm ref. 0 289 18
- 2600 mm ref. 0 289 20
- 3000 mm ref. 0 289 21
- 3600 mm ref. 0 289 22
- 4000 mm ref. 0 289 23
- 4600 mm ref. 0 289 24
- 5600 mm ref. 0 289 25

Choice of interlock cable



8.9 Rear terminals

- For fixed version
 - For flat connections with bars, 3P ref. 6 696 14
 - For flat connections with bars, 4P ref. 6 696 15
 - For vertical connections with bars, 3P ref. 0 288 94
 - For vertical connections with bars, 4P ref. 0 288 95

Note 1: refs. 6 696 14/15 to be fixed onto horizontal rear terminals of the circuit breaker
Note 2: refs. 0 288 94/95 to be used to transform a flat connection into a vertical one. To be fixed onto refs. 6 696 14/15 according to the number of poles.

- For draw-out version
 - For vertical or horizontal connections with bars, 3P ref. 0 288 94
 - For vertical or horizontal connections with bars, 4P ref. 0 288 95
- Note: to be fixed directly onto plate rear terminals of the circuit breaker*

8.10 Insulating shields

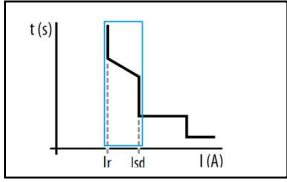
- Fixed version 3P ref. 0 288 98
- Fixed version 4P ref. 0 288 99
- Draw-out version 3P ref. 0 288 18
- Draw-out version 4P ref. 0 288 19

DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

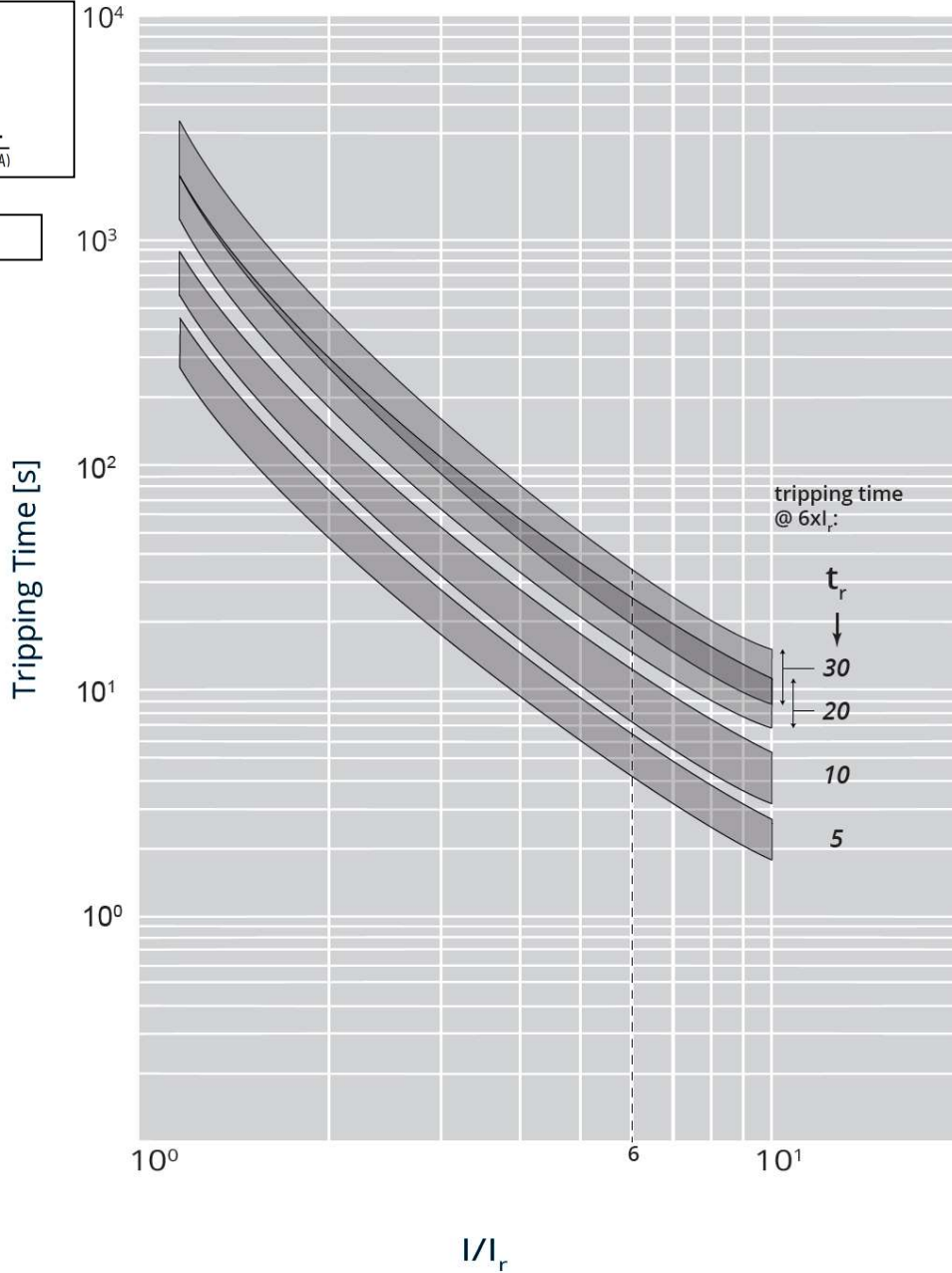
References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

9. CURVES

9.1.1 TRIPPING CURVE FOR DMX-SP 4000 protection units: long time protection detail



Update: 27/03/2018

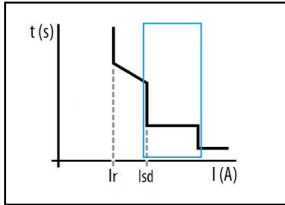


Value	Description
I	current
I_r	long time setting current
t_r	long time delay

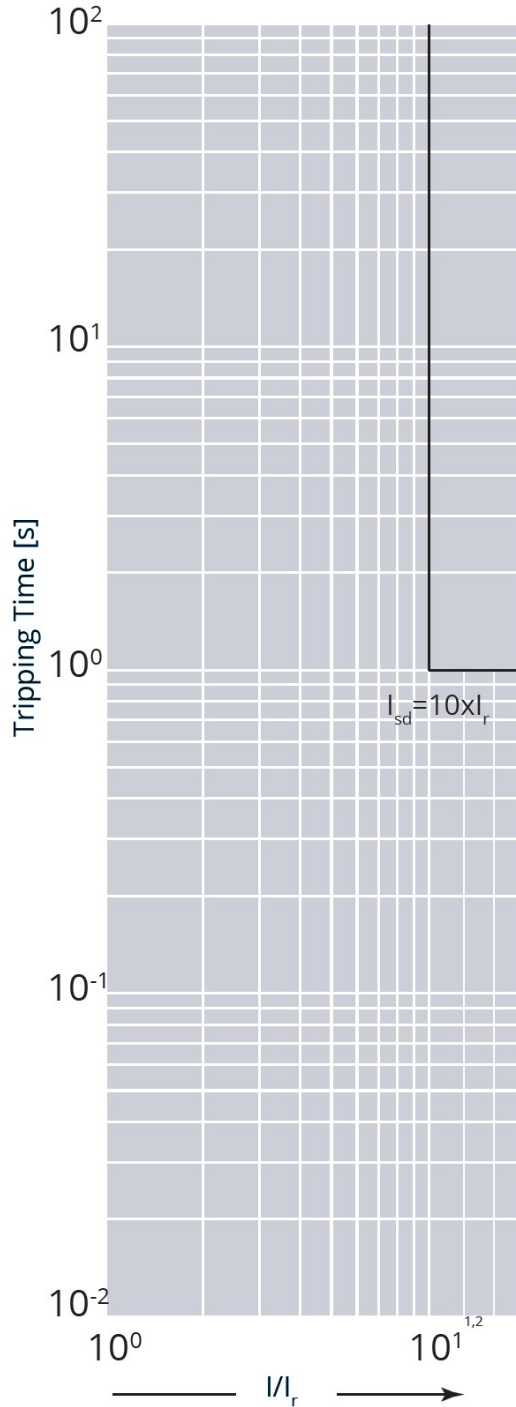
DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

9.1.2 TRIPPING CURVE FOR DMX-SP 4000: short time trip protection detail (only LI)



Update: 27/04/2018



Value	Description
I	current
I_{sd}	short time setting current
t_{sd}	short time delay

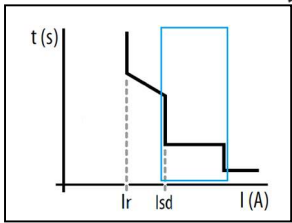
DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

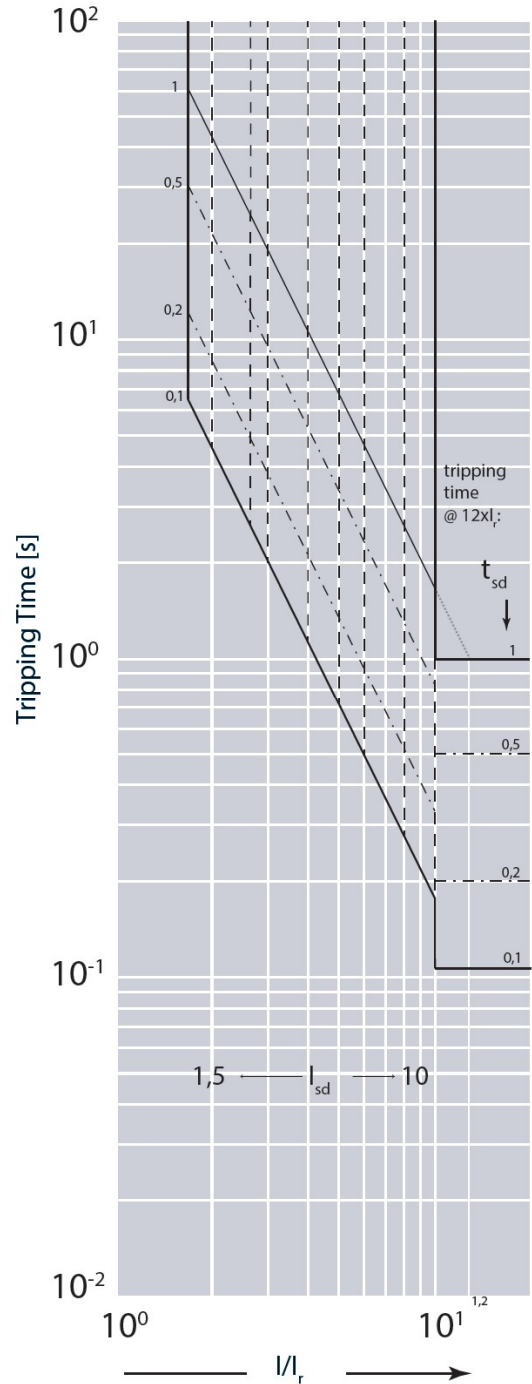
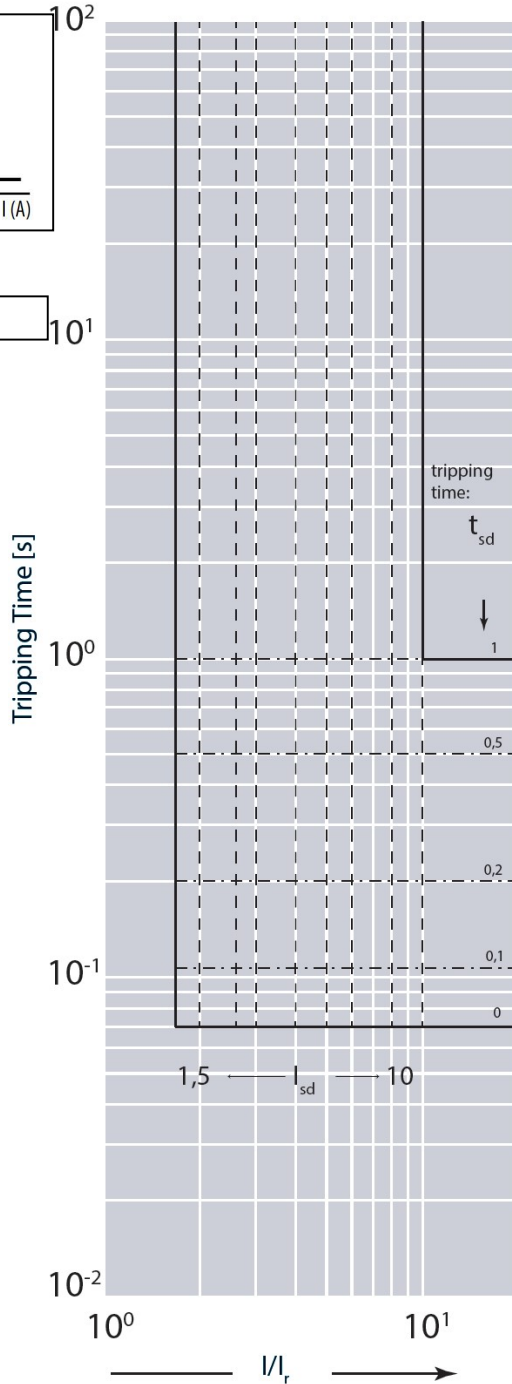
9.1.3 TRIPPING CURVE FOR DMX-SP 4000: short time trip protection detail (only LSI and LSIg)

$$t_{sd} = k$$

$$I^2 t_{sd} = k$$



Update: 25/02/2020

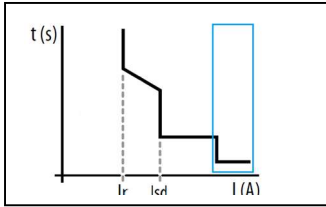


Value	Description
I	current
I _{sd}	short time setting current
t _{sd}	short time delay

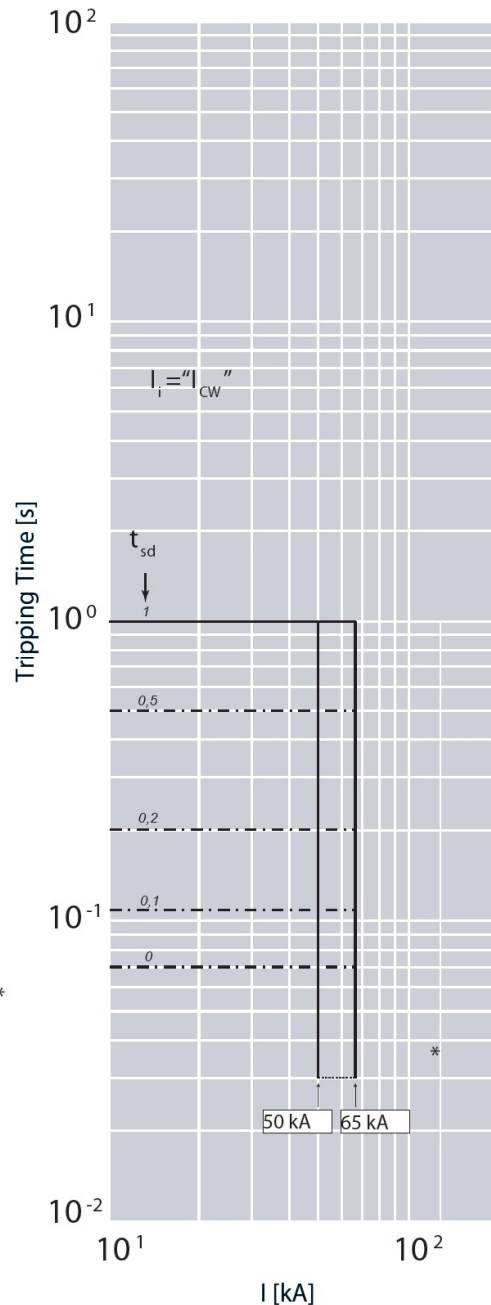
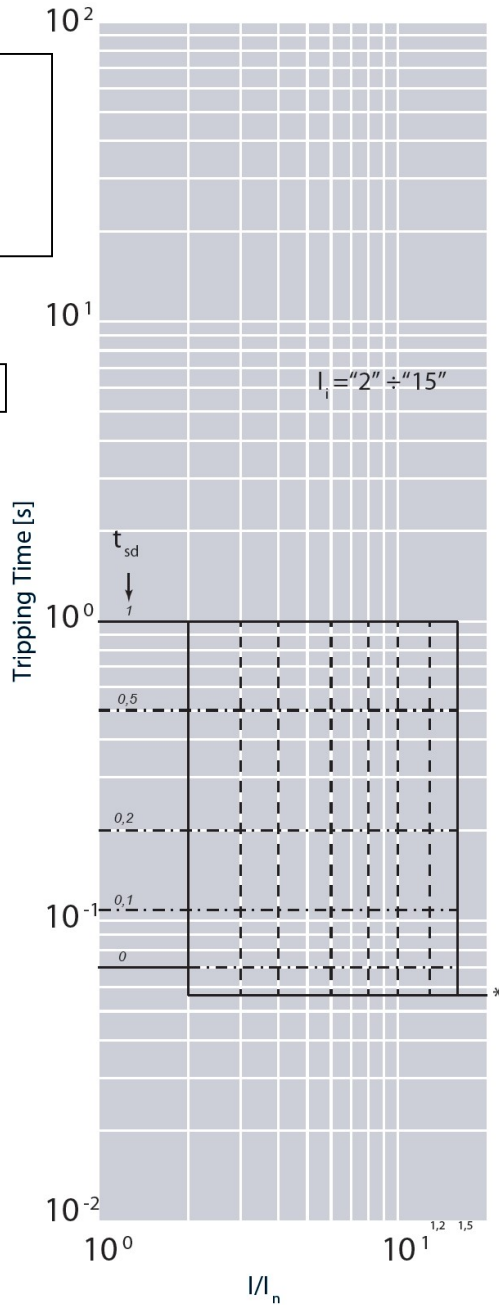
DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

9.1.4 TRIPPING CURVE FOR DMX-SP 4000: instantaneous trip protection detail (only LI)



Update: 30/07/2019



* Fixed Instantaneous override – I_{ov} →

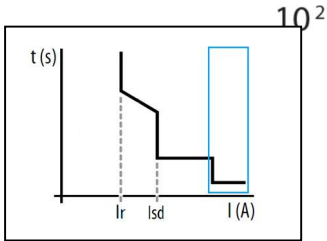
Value	Description
I	current
I_n	rated current
t_{sd}	short time delay
I_i	Instantaneous release
I_{cw}	Rated short time withstand current

I_{cu}	Values for I_{ov}
50kA	50kA
65kA	65kA

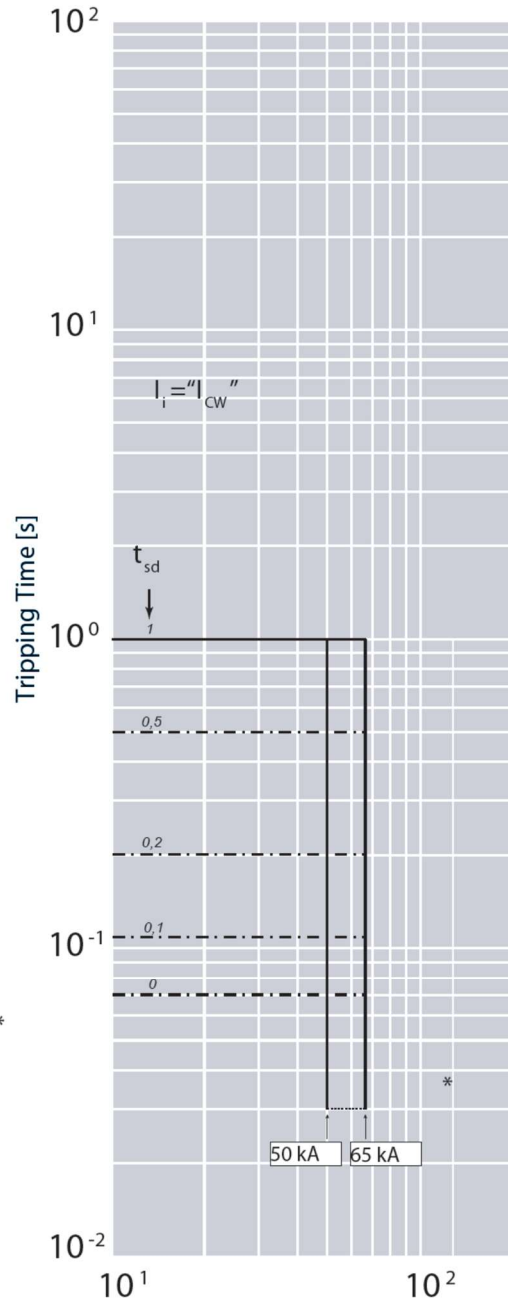
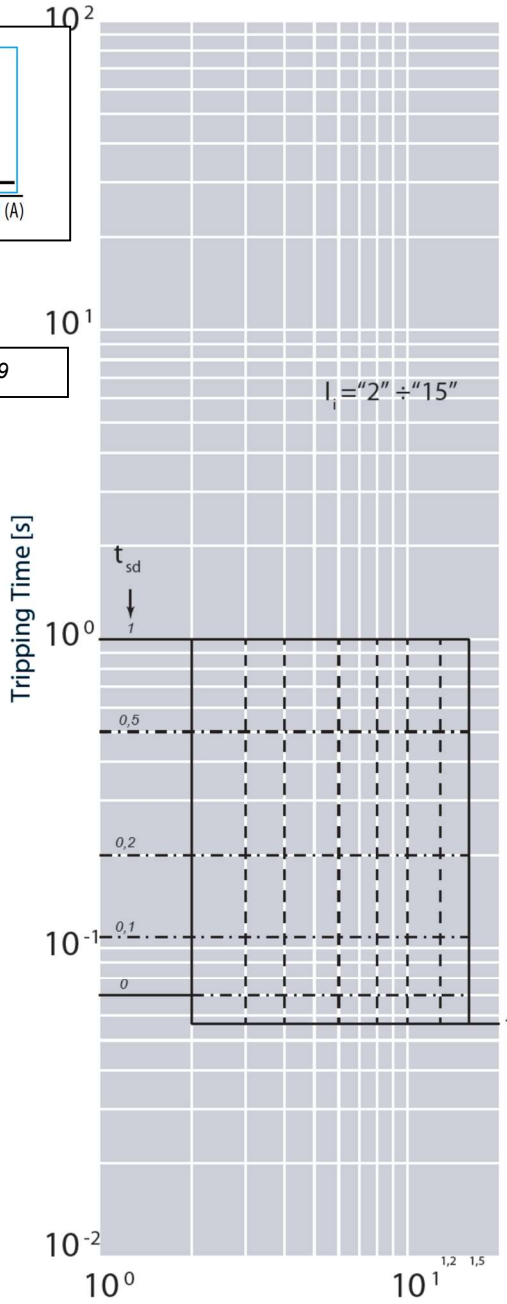
DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

9.1.5 TRIPPING CURVE FOR DMX-SP 4000 instantaneous trip protection detail (only LSI and LSIg)



Update: 30/07/2019



* Fixed Instantaneous override – I_{ov}

I_{cu}	Values for I_{ov}
50kA	50kA
65kA	65kA

Value	Description
I	current
I_n	rated current
t_{sd}	short time delay
I_i	Instantaneous release
I_{cw}	Rated short time withstand current

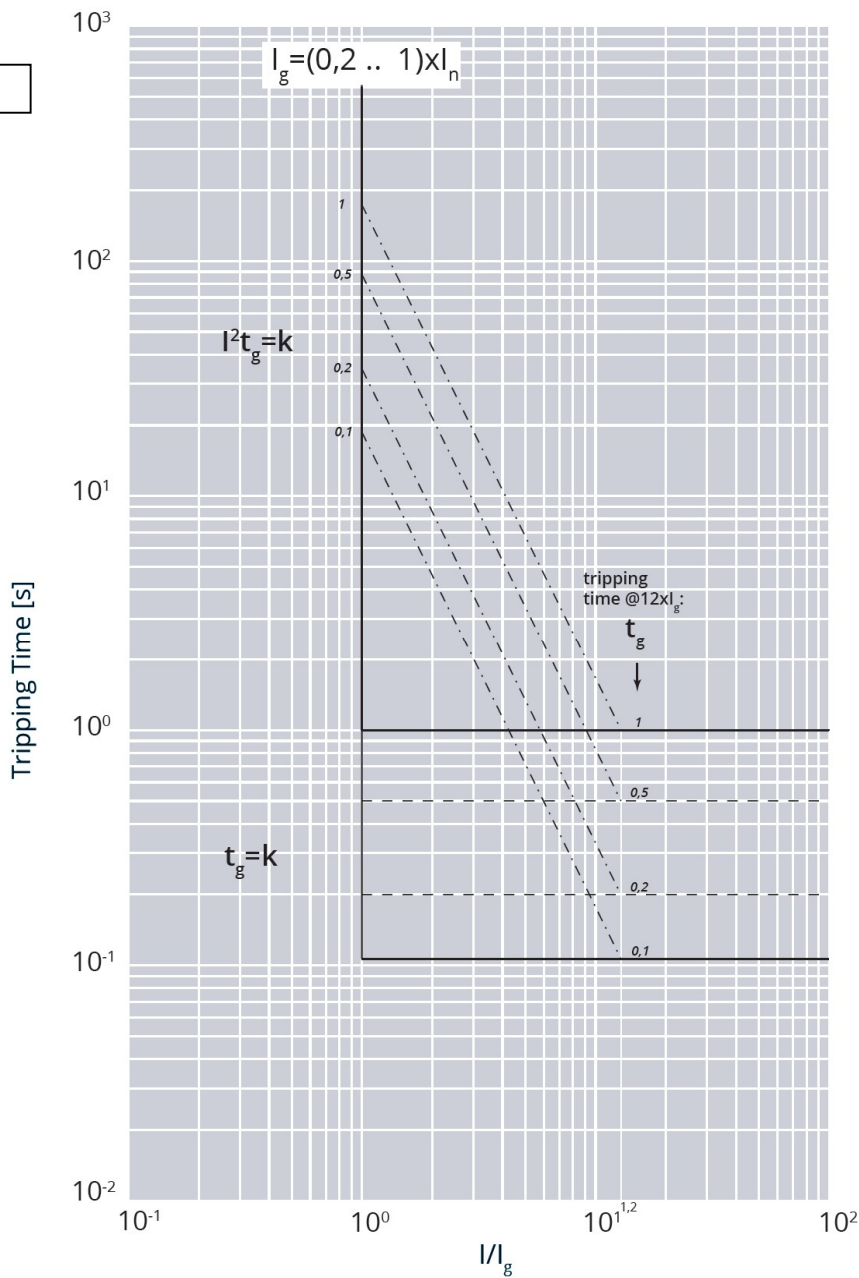
DMX-SP 4000 circuit breakers
DMX-SP-I 4000 trip free switch
disconnectors

References: 6 696 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 40 / 41 / 42
 / 43 / 44 / 45 / 46 / 47 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97

9.1.6 Ground fault curve

Only LSig releases

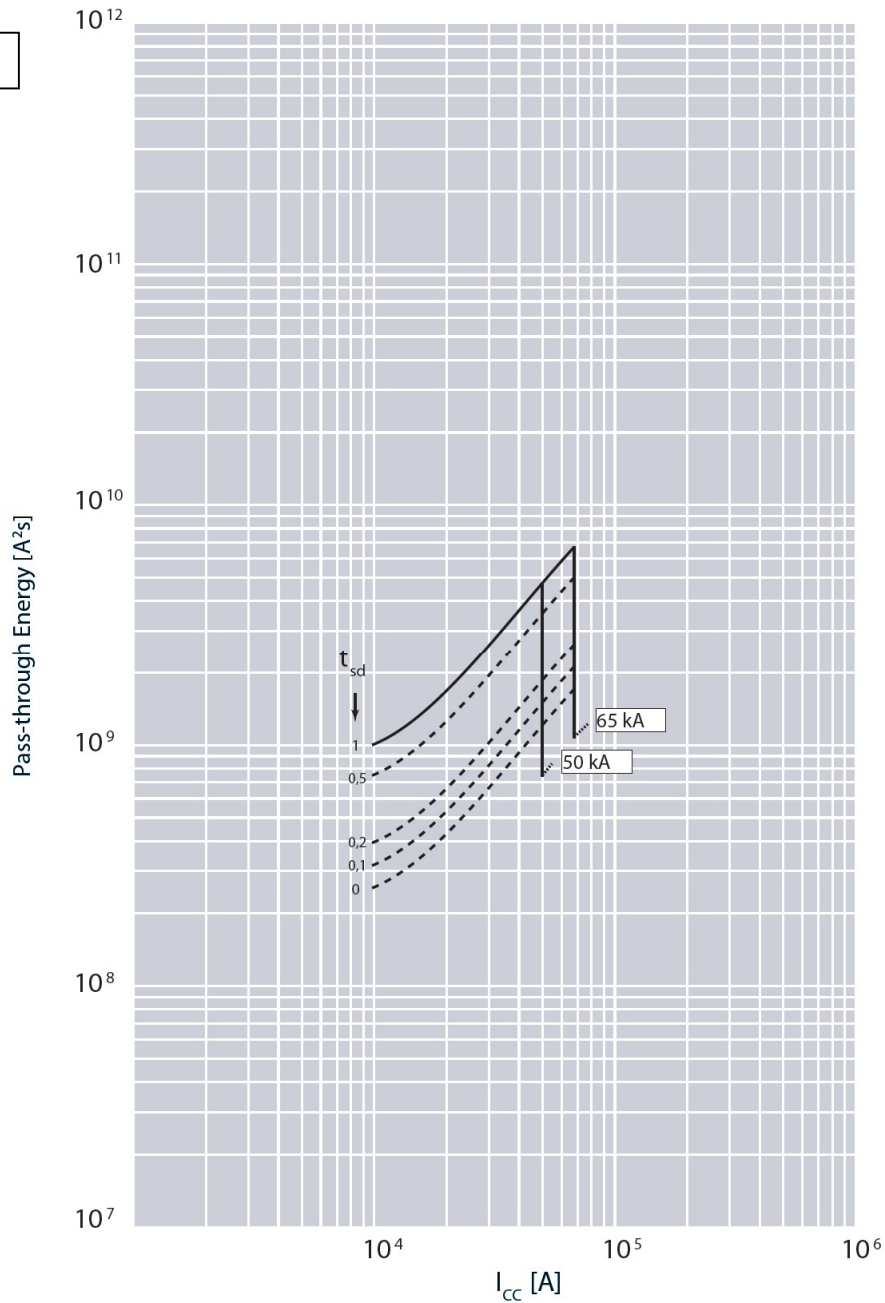
Update: 07/11/2019



Value	Description
I	current
I _n	rated current
I _g	Ground fault current
t _{sd}	short time delay
t _{sd} = k	Constant tripping time setting
I ² t _{sd} = k	Constant pass-through energy setting

9.2 PASS-THROUGH SPECIFIC ENERGY CURVE (at 415V)

Update: 31/07/2019



Value	Description
I	current
I_n	rated current
I_g	Ground fault current
t_{sd}	short time delay
$t_{sd} = k$	Constant tripping time setting
$I^2 t_{sd} = k$	Constant pass-through energy setting