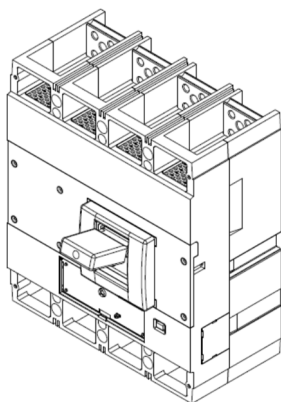


DPX³ 1600
Only magnetic

Reference(s) : **422 604/05/06/07/12/13/14/15**



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1. USE

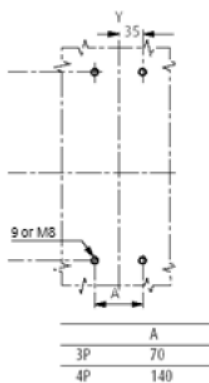
DPX³ "moulded case" circuit breaker offers optimal solutions to answer to protection requirements of tertiary and industrial installations.

2. RANGE

I _n (A)	50 kA		70 kA	
	3P	4P	3P	4P
800	422604	422612	422606	422614
1000	422605	422613	422607	422615

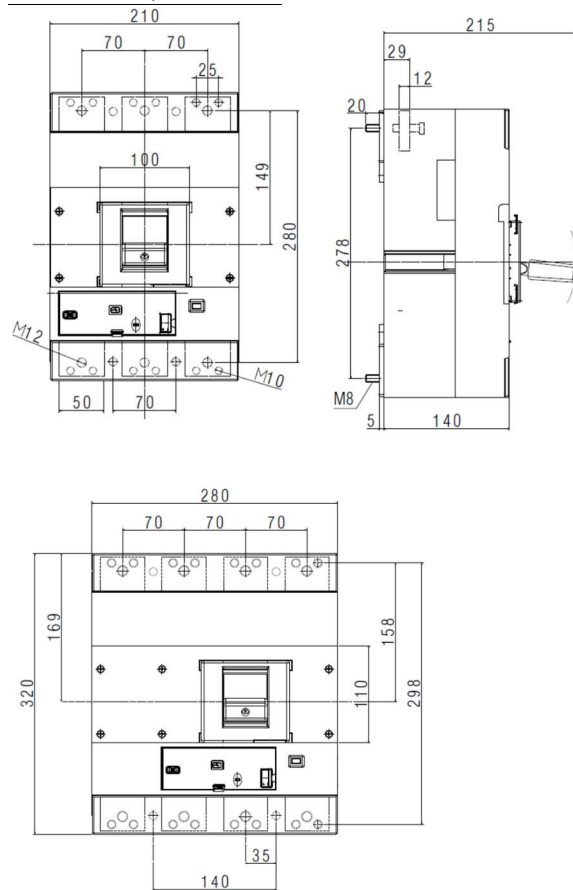
3. DIMENSIONS

Implantation



3. DIMENSIONS

Front terminals, fixed version

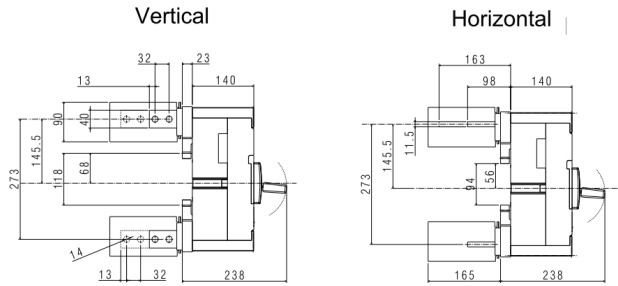


DPX³ 1600

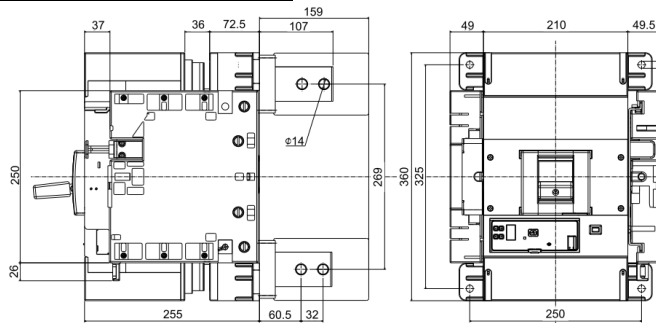
Only magnetic

Reference(s) 422 604/05/06/07/12/13/14/15

3. DIMENSIONS (NEXT)



Draw-out version, rear terminals



4. OVERVIEW

4.1 Supplied

Supplied with

- fixing screws
- connection plates for bars (width 50mm max)
- phase insulators
- sealable terminal shields

4.2 Mounting possibilities

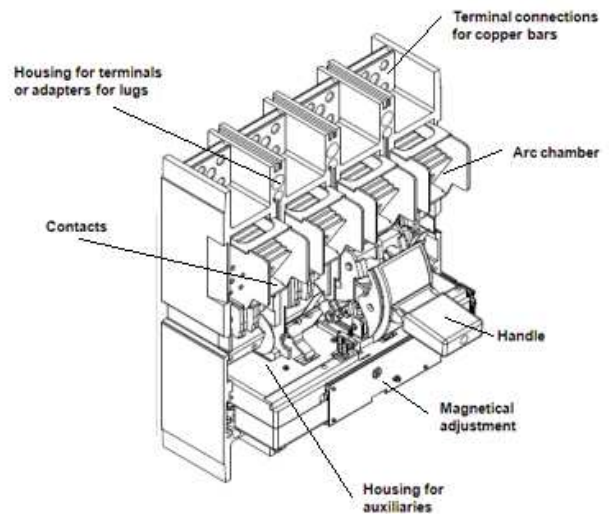
On plate:

- Vertical
- Horizontal
- Supply inverter type

5. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit Breaker	DPX ³ 1600 N/H (50kA, 70kA)
Nominal current (A)	800 - 1000
Poles	3 - 4
Rated insulation voltage U_i (V)	1000
Rated operating voltage (50/60Hz) U_e (V)	690
Rated impulse withstand current U_{imp} (kV)	8
Nominal frequency (Hz)	50 - 60
Functioning temperature (°C)	40 ÷ 50
Operating temperature (°C)	-25 ÷ 70
Mechanical endurance (cycles)	10000
Mechanical endurance with motor control (cycles)	5000
Electrical endurance at I_n (cycles)	4000
Electrical endurance at 0.5 I_n (cycles)	8000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Magnetic
Magnetic adjustment	$(5 \div 10) \times I_n$
Neutral protection for 4P version (% I_{tn})	$(0 - 0.5 - 1) \times I_n$
Dimensions (W x H x D) (mm)	280(4P) x 320 x 140

5.1 Main parts constituting the circuit breaker



DPX³ 1600

Only magnetic

Reference(s) 422 604/05/06/07/12/13/14/15

5.2 Breaking capacity (kA)

	Breaking capacity (kA) and I_{cs}	
	3P-4P	3P-4P
U_e/I_{cu}	N	H
240 V AC	100	120
415 V AC	50	70
500 V AC	35	45
690 V AC	20	22
250 V DC	35	35
$I_{cs}(\% I_{cu})$	100	100
Rated making capacity under short circuit I_{cm}		
I_{cm} (kA) at 400V	105	154

5.3 Nominal current (I_n) at 40°C / 50°C

I_n (A)	Assigned current trip	
	magnetic	
	L1 - L2 - L3	N
800	4000 ÷ 8000	4000 ÷ 8000
1000	5000 ÷ 10000	5000 ÷ 10000

5.4 Power losses per pole under I_n

	Power losses per pole (W)	
	I_n (A)	
	800	1000
Front terminals, fixed version	46.2	53.7
Rear terminals, fixed version	44.8	53.0
Front terminals, D/O version	78.1	92.0
Rear terminals, D/O version	57.6	68.0

Total power losses has calculated as the sum of losses of every accessory installed

5.5 Functioning in particular conditions

5.5.1 Temperature

I_n (A)	Temperature T_a (°C)						
	10	20	30	40	50	60	70
800	944	896	848	800	800	704	656
1000	1180	1120	1060	1000	1000	880	820

For derating temperature with other configurations, see table A.

5.5.2 Altitude

Altitude (m)	2000	3000	4000	5000
U_e (V)	690	590	520	460
I_n (A) ($T_a = 40^\circ\text{C}/50^\circ\text{C}$)	I_n	$0.98 \times I_n$	$0.93 \times I_n$	$0.9 \times I_n$

5.5.3 Use in DC

See table B page 10.

6. CONFORMITY

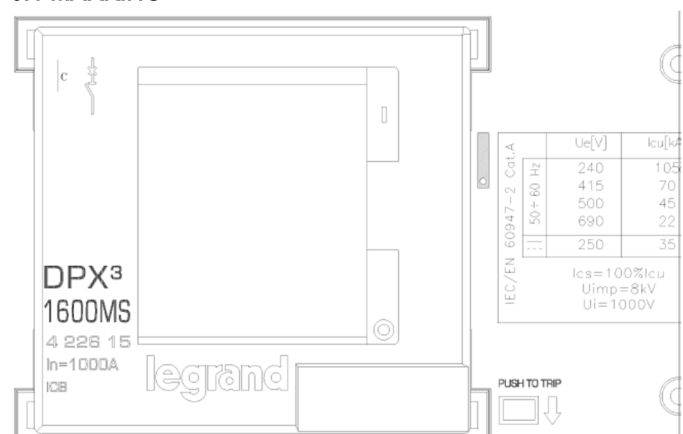
DPX³ range of product concerning circuit-breakers are in full compliance with the EN/IEC standard 60947-2.

The certificate are issued by LOVAG and/or by IECEE CB-scheme certification scheme.

All the product range are CE, CCC, EAC, ANCE marked.

DPX³ are full in compliance with the Shipping Register of Lloyds, RINA, Bureau Veritas, Germanische Lloyds, Norske Veritas and ABS.

6.1 MARKING



" Tropical climate " :

- execution II (all climates) according to guide UTE C63100

7. EQUIPMENTS AND ACCESSORIES

7.1 Releases

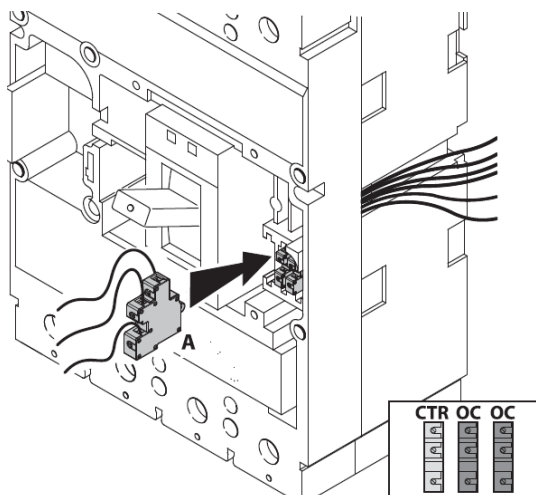
- shunt releases (Power consumption= 300 VA) with voltage
 - 24 V AC and DC ref. 4 222 39
 - 48 V AC and DC ref. 4 222 40
 - 110 V AC and DC ref. 4 222 41
 - 230 V AC and DC ref. 4 222 42
 - 400 V AC and DC ref. 4 222 43
- undervoltage releases (Power consumption = 5 VA) with voltage
 - 24 V DC ref. 4 222 44
 - 24 V AC ref. 4 222 45
 - 48 V DC ref. 4 222 46
 - 110 V AC ref. 4 222 47
 - 230 V AC ref. 4 222 48
 - 400 V AC ref. 4 222 49
- time-lag undervoltage releases (800 ms)
 Time-lag modules with voltage
 - 24 V AC and DC ref. 0 261 92
 - 230 V AC ref. 0 261 90
 - 400 V AC ref. 0 261 91
 - Universal Release ref. 4 226 23

7.2 Auxiliary contact

- Changeover switch 3A – 250 V AC ref. 4 210 11
- To show the state of the contacts or opening of the DPX³ on a fault:
 Auxiliary contact (standard) **C**
 Fault signal **S**

Auxiliary contact		
Nominal voltage (V _n)	V (AC or DC)	24 to 250
Intensity (A)	24 V DC	5
	48 V DC	1.7
	110 V DC	0.5
	230 V DC	0.25
	110 V AC	4
	230/250 V AC	3

3 auxiliary contact + 1 fault signal (max) + 1 release



7.3 Rotary handles

- Direct on DPX³
 - Standard (black) ref. 0 262 61
- Vari-depth handle IP55
 - Standard (black) ref. 0 262 83
 - For emergency use (red / yellow) ref. 0 262 84
- Adapting on standard handle ref. 0 262 84
- Locking accessories (for vary-depth handle with auxiliary option)
 - Key barrel and flat key (cod. ABA90GEL6149) ref. 0 262 93
 - Key barrel and star key (cod. HBA90GPS6149) ref. 0 262 94
 - Key barrel and flat key fixed (cod. EL43525) ref. 4 228 04
 - Key barrel and flat key fixed (cod. EL43363) ref. 4 228 05

7.4 Motor-driven handles

- Factory assembled
- Front operated
 - Voltage 24 V AC-DC ref. 0 261 50
 - Voltage 48 V AC-DC ref. 0 261 51
 - Voltage 230 V AC ref. 0 261 54
- Customer assembled
- Front operated (I_n ≤ 1250A)
 - Voltage 24 V AC and DC ref. 0 261 24
 - Voltage 48 V AC and DC ref. 0 261 25
 - Voltage 110 V AC ref. 0 261 26
 - Voltage 230 V AC for rating up to 1250A ref. 0 261 23

- Front operated (I_n=1600A)
 - Voltage 24 V AC and DC ref. 0 261 19
 - Voltage 48 V AC and DC ref. 0 261 28
 - Voltage 110 V AC ref. 0 261 29
 - Voltage 230 V AC ref. 0 261 27

- Locking accessories
 - Ronis type flat key (cod. ABA90GEL6149) ref. 0 261 59
 - Profalux type star key (cod. HBA90GPS6149) ref. 0 261 58

7.5 Mechanical accessories

- Phase insulators
 - Set of 3 ref. 0 262 66
- Sealable terminal shields
 - Set of 2 3P ref. 0 262 64
 - Set of 2 4P ref. 0 262 65
- Padlock
 - Accessories to lock in open position ref. 0 262 60
- Terminal covers to guarantee IP20
 - Set of 2 3P ref. 4 225 90
 - Set of 2 4P ref. 4 225 91
 - External neutral ref. 4 225 92

DPX³ 1600

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7.6 Connection accessories

Cage terminals

- Set of 4 terminals for cables 2x240mm² max (rigid) or 2x185mm² max (flexible) (Cu/Al) ref. 0 262 69
- Set of 4 terminals for cables 4x240mm² max (rigid) or 4x185mm² max (flexible) (Cu/Al) ref. 0 262 70

Extended front terminals

- Short terminals for 500 - 1250A (2 bars max. per pole) ref. 0 262 67

Spreaders

- Set of 3 (incoming or outgoing 3P) ref. 0 262 73
- Set of 4 (incoming or outgoing 4P) ref. 0 262 74

Rear terminals

(use to connect with front terminals into fixed version with rear terminal)

- Set of swivel terminals, incoming or outgoing
 - 3P ref. 0 263 80
 - 4P ref. 0 263 82
- Set of flat rear terminals, incoming or outgoing
 - 3P ref. 0 263 81
 - 4P ref. 0 263 83

7.7 Draw-out version

(A DPX³ draw-out version is a plug-in DPX³ fitted with a "Débro-lift" mechanism which can be used to withdraw the DPX³ while keeping it on its base)

Draw-out base

Base for DPX³ 1600 supplied not with "Débro-lift" assembled a rigid slide and handle for drawing-out

- Front terminals
 - 3P ref. 4 225 86
 - 4P ref. 4 225 87
- Rear terminals
 - 3P ref. 4 225 88
 - 4P ref. 4 225 89

"Débro-lift" mechanism

Suitable for turning a fixed circuit-breaker into the moving part of a withdrawable circuit breaker

- Mobile part for draw-out version
 - 3P ref. 4 225 93
 - 4P ref. 4 225 94

Key lock for "Débro-lift" mechanism

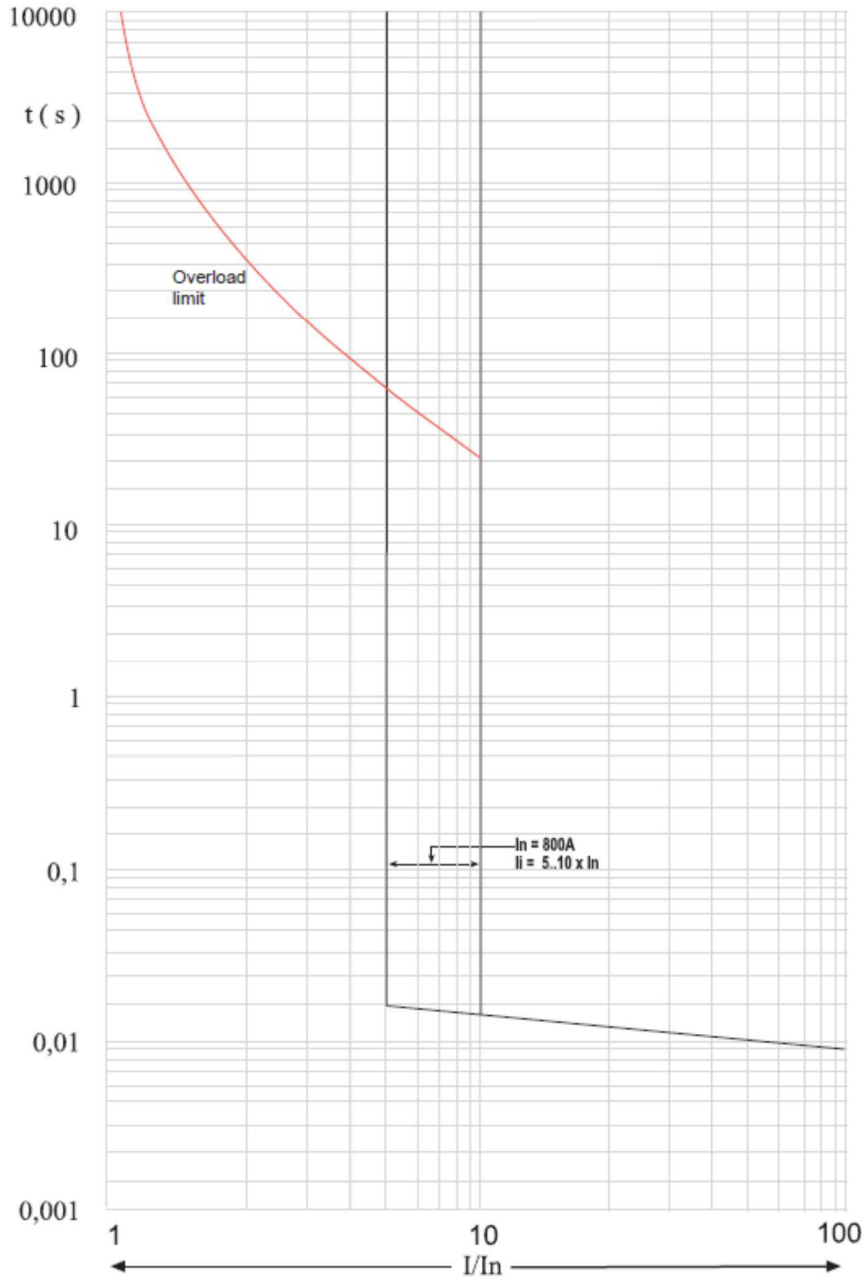
- One key for DPX³ only
 - Ronis type (cod.ABA90GEL6149) ref 0 265 76
 - Profalux type (cod.HBA90GPS6149) ref 0 263 48
- Two keys (one key supplied) for motorized DPX³ or with rotary handle
 - Ronis type (cod.ABA90GEL6149) ref 0 265 80
 - Profalux type (cod.HBA90GPS6149) ref 0 265 79

Accessories for "Débro-lift" mechanism

- Isolated handle for drawing-out ref 0 265 75
- Signal contact (plugged-in / drawn-out) ref 0 265 74
- Set of connectors (8 contacts) ref 0 263 99
- Set of connectors (6 contacts) ref 0 263 19
- Support plate for draw-out version ref 4 225 95

8. CURVES

8.1 TRIPPING CURVE (up to 800A)

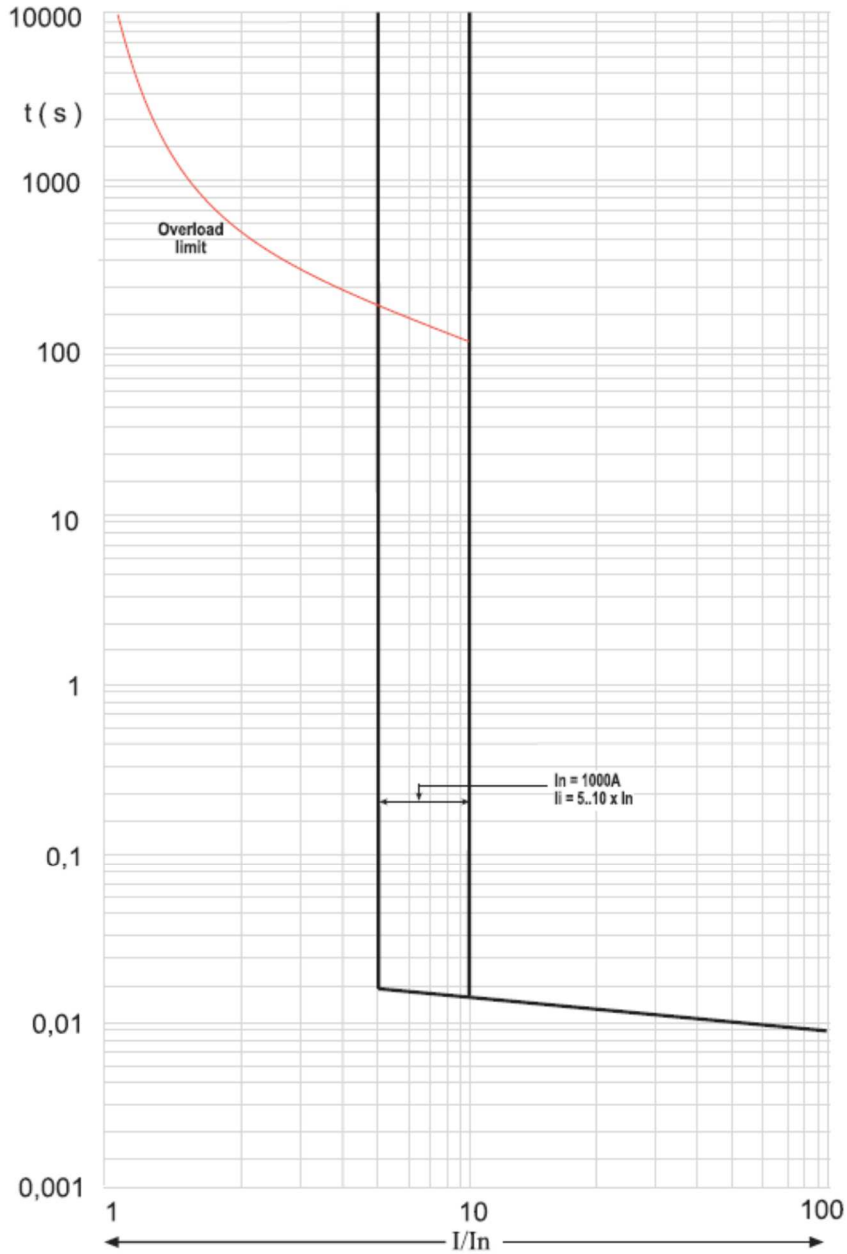


$I_{cu} = 50-70 \text{ kA}$ $I_{max} = 800A$ 3-4 P $U_o = 415Vac$

Value	Description
t	time
I	current
I_n	rated current

(*) please, for magnetic current value I_i consider a normative tolerance of $\pm 20\%$

8.1 TRIPPING CURVE (up to 1000A)

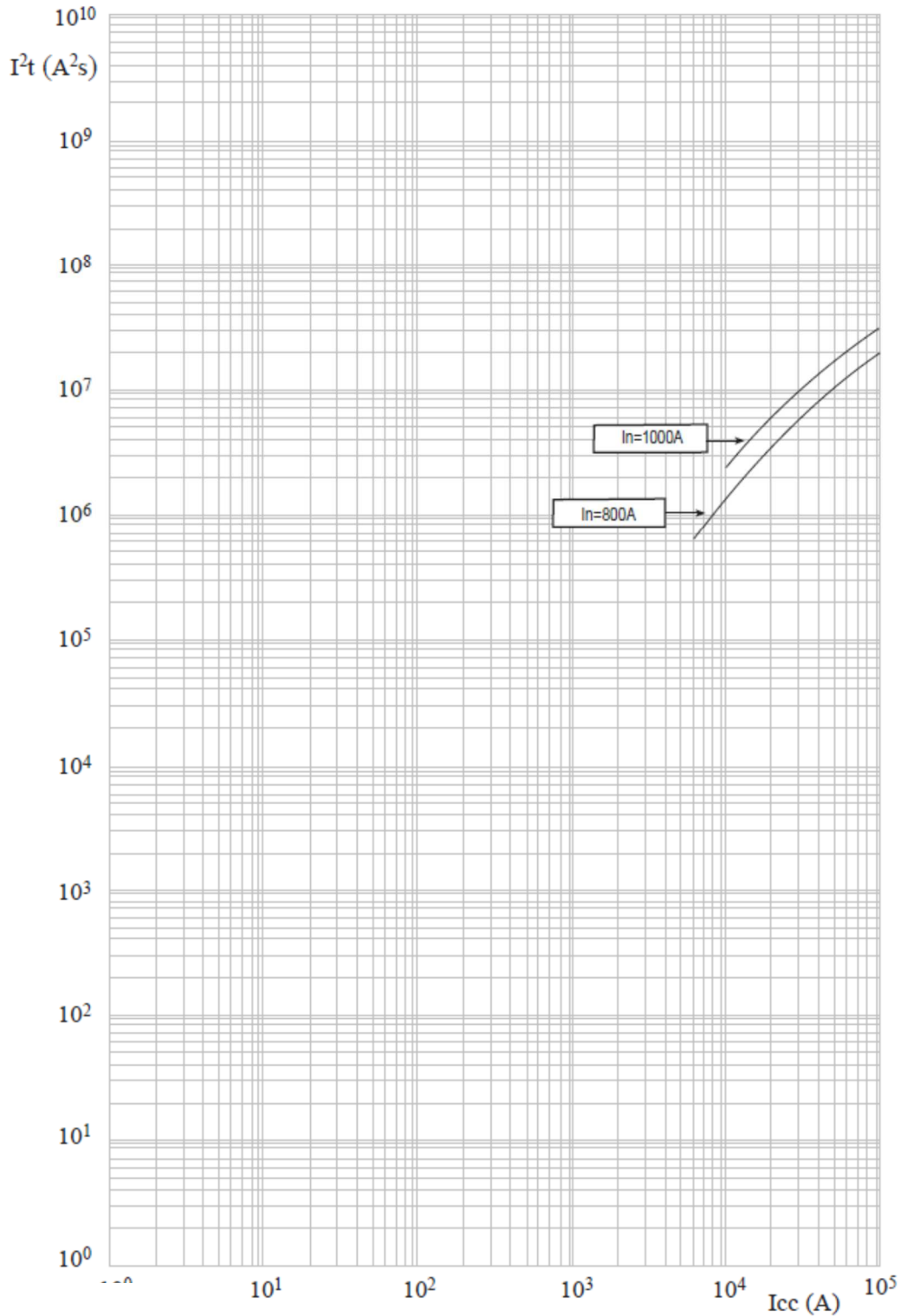


$I_{cu} = 50-70 \text{ kA}$ $I_{max} = 1000A$ 3-4 P $U_e = 415Vac$

Value	Description
t	time
I	current
I_n	rated current

(*) please, for magnetic current value I, consider a normative tolerance of $\pm 20\%$

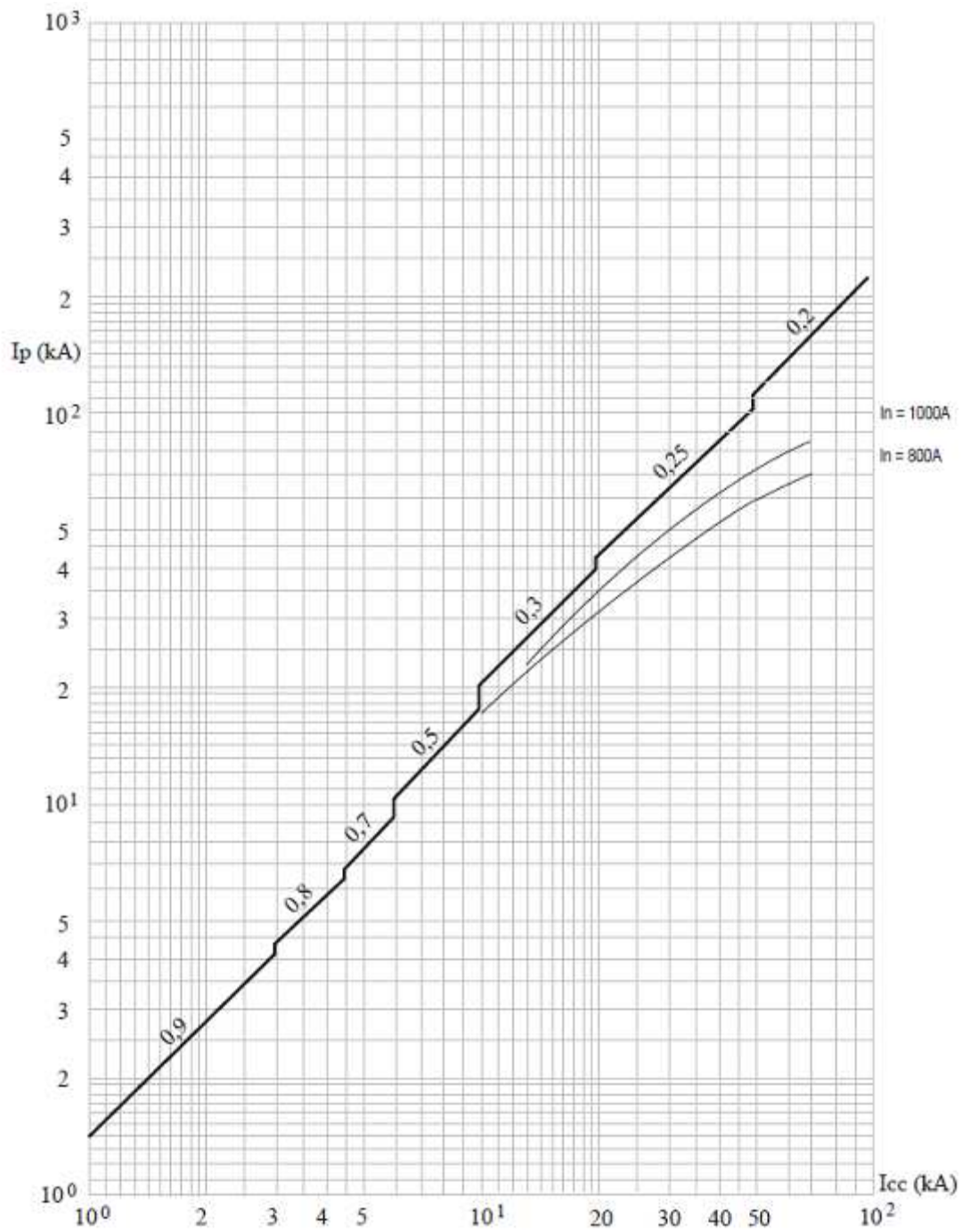
8.2 RESTRICTED CURVE IN THERMAL CONSTRAINT



$I_{cu} = 50-70 \text{ kA}$ $I_{max} = 1000A$ 3-4 P $U_0 = 415Vac$

Value	Description
I_{cc}	short circuit current
I^2t	pass-through specific energy

8.3 RESTRICTED CURRENT CURVE



$I_{cu} = 50-70$ kA $I_{max} = 1000A$ 3-4 P $U_o = 415Vac$

Value	Description
I_{cc}	short circuit current
I_p	peak current

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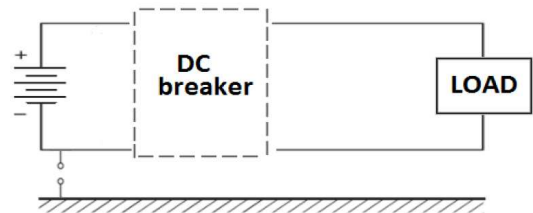
A) Derating Temperature and configurations

		Ambient temperature									
		30 °C		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	I_{max} (A)	I_r / I_n
Fixed version - 800A	Cage terminals, flexible cable	800	1	800	1	800	1	800	1	800	1
	Cage terminals, flexible cable + sealable terminal shields	800	1	800	1	800	1	800	1	800	1
	Lugs, rigid cable	800	1	800	1	800	1	800	1	800	1
	Spreaders, flexible cable	800	1	800	1	800	1	800	1	800	1
	Spreaders, bars 2x50x10 Cu	800	1	800	1	800	1	800	1	800	1
	Rear flat terminals, bars 2x80x5 Cu, vertical	800	1	800	1	800	1	800	1	800	1
	Rear flat staggered terminals, bars 2x80x5 Cu, vertical	800	1	800	1	800	1	800	1	800	1
	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	I_{max} (A)	I_r / I_n	
Fixed version - 1000A	Cage terminals, flexible cable	1000	1	1000	1	1000	1	950	0.95	900	0.9
	Cage terminals, flexible cable + sealable terminal shields	1000	1	1000	1	1000	1	950	0.95	900	0.9
	Lugs, rigid cable	1000	1	1000	1	1000	1	950	0.95	900	0.9
	Spreaders, flexible cable	1000	1	1000	1	1000	1	1000	1	900	0.9
	Spreaders, bars 2x50x10 Cu	1000	1	1000	1	1000	1	1000	1	900	0.9
	Rear flat terminals, bars 2x80x5 Cu, vertical	1000	1	1000	1	1000	1	1000	1	900	0.9
	Rear flat staggered terminals, bars 2x80x5 Cu, vertical	1000	1	1000	1	1000	1	1000	1	900	0.9

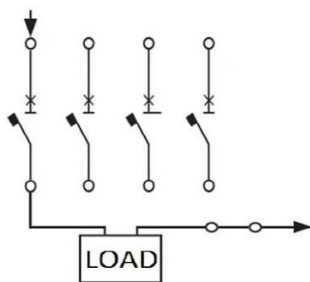
B) Breaking capacity in DC (kA)

I_{cu} (kA)	I_n (A)	1 pole *				2 poles in series *			3 poles in series *		
		60 V	60 V	110 V	250 V	110 V	250 V	500 V	110 V	250 V	500 V
50	800 ÷ 1000	35	50	35	35	50	35	35	50	35	35
70	800 ÷ 1000	35	50	35	35	50	35	35	50	35	35

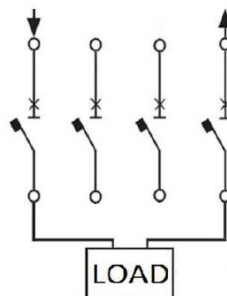
These values are applied to DC networks insulated from the ground (*this diagram applies to both 3P and 4P circuit breakers*):



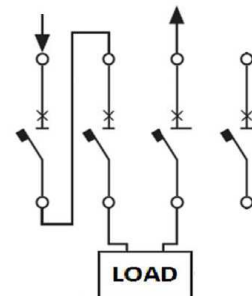
* Connection modality of the DC breaker:



1 pole



2 poles in series



3 poles in series