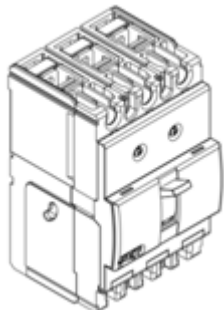


DPX³ 160

Magnetic only

Reference(s) : 4 207 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17



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1. USE

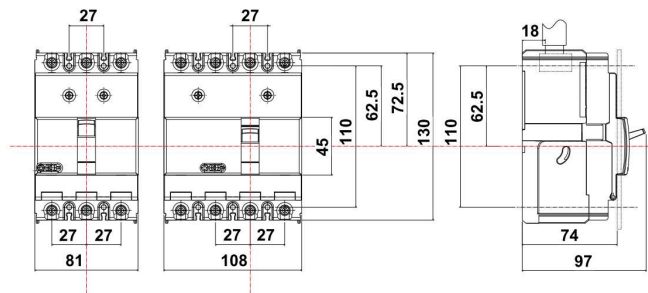
DPX³ "moulded case" circuit breaker offers optimal solutions to answer to protection requirements of tertiary and industrial installations.

2. RANGE

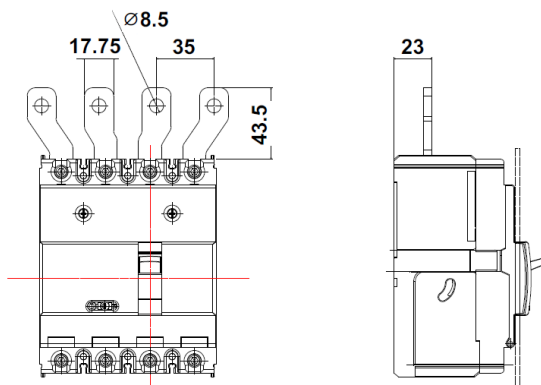
	16 kA	25 kA
I_n (A)	3P	3P
16	4 207 10	4 207 14
25	4 207 11	4 207 15
50	4 207 12	4 207 16
63	4 207 13	4 207 17

3. DIMENSIONS

Fixed version



Fixed version, front terminals



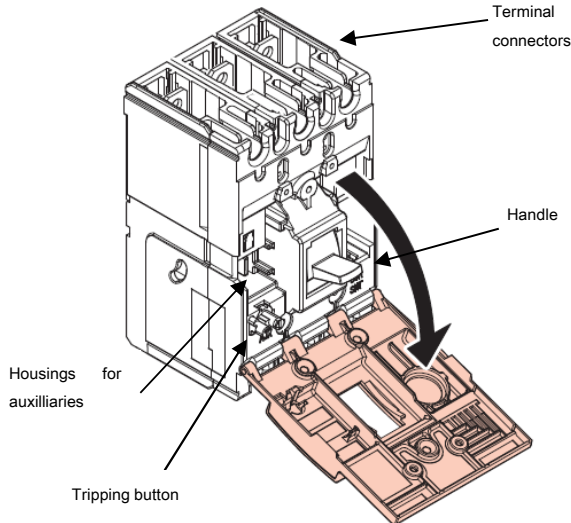
DPX³ 160

Magnetic only

Reference(s) : 4 207 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17

5. ELECTRICAL AND MECHANICAL CHARACTERISTICS

5.1 Main parts constituting the circuit breaker



Circuit Breaker	DPX ³ 160 E/B (16kA, 25kA)
Rated current (A)	16, 25, 50, 63
Poles	3
Rated insulation voltage U_i (V)	800
Rated operating voltage (50/60Hz) U_e (V)	690
Rated impulse withstand current U_{imp} (kV)	8
Rated frequency (Hz)	50 - 60
Reference ambient temperature (°C)	40 - 50
Operating temperature (°C)	-25 ÷ 70
Mechanical endurance (cycles)	25000
Mechanical endurance with motor control (cycles)	25000
Electrical endurance at I_n (cycles)	8000
Electrical endurance at 0.5 I_n (cycles)	10000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Magnetic
Magnetic adjustment	400A ($I_n=16A$); 500($I_n=25A$); 630A ($I_n=50A$); 1000($I_n=63A$);
Neutral protection for 4P version (% I_n)	100
Dimensions (W x H x D) (mm) 3P	80 x 130 x 97
Dimensions (W x H x D) (mm) 4P	110 x 130 x 97
Weight (kg)	1.2(3P) - 1.4(4P)

5.2 Breaking capacity (kA)

		Breaking capacity (kA) & I_{cs}	
		3P	3P
IEC 60947-2	U_e/I_{cu}	16kA	25kA
	240 V AC	25	35
	415 V AC	16	25
	500 V AC	8	10
	690V AC	5	5
	250 V DC	10	10
	$I_{cs}(\% I_{cu})$	100	100
Rated making capacity under short circuit I_{cm}			
	I_{cm} (kA) at 415V	32	53
NEMA AB-1	240 V AC	25	35
	500 V AC	8	10
	690V AC	5	5

5.3 Power losses per pole under I_n

Circuit breaker

	Power losses per pole (W)			
	I_n (A)			
	16	25	50	63
Cage terminals	0.2	0.4	1.4	1.8

Values in the table are referred to single phase and they are misured with cold breaker (with hot breaker, increase of 10% must be considered)

5.4 Load operations

Loads operation	
Rated current (A)	$I_n = 63A$
Opening (N)	45
Closing (N)	78
Reset (N)	75

DPX³ 160

Magnetic only

Reference(s) : 4 207 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17

5.6 Functioning in particular conditions

5.6.1 Temperature

I _n (A)	Temperature T _a (°C)											
	-25	-20	-10	-5	0	10	20	30	40	50	60	70
16	23	22	21	21	20	19	18	17	16	16	15	14
25	37	35	34	33	32	30	28	27	25	25	23	22
40	55	54	52	51	50	47	43	43	40	40	36	35
63	90	88	85	84	82	81	71	67	63	63	58	55
80	115	113	111	109	107	97	87	83	80	80	74	71
100	129	126	123	122	117	111	109	105	100	100	94	93
125	159	157	154	152	149	138	134	131	125	125	112	110
160	218	215	207	200	198	190	176	168	160	160	146	138

5.6.2 Altitude

Altitude (m)	2000	3000	4000	5000
U _e (V)	690	590	520	460
I _n (A) (T _a = 40°C/50°C)	I _n	0.98 x I _n	0.93 x I _n	0.9 x I _n

5.6.3 Use in DC

See table A.

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.

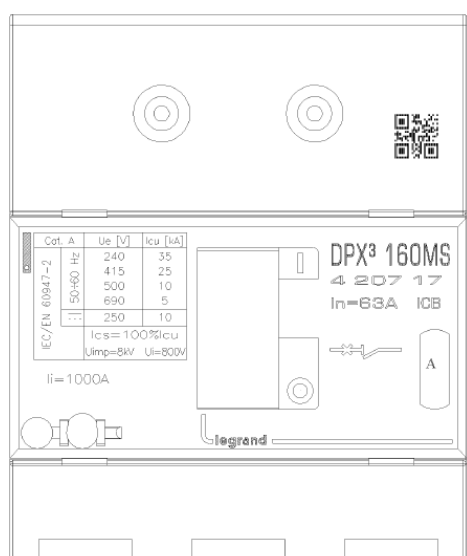
All the product range are CE, CCC, EAC, ANCE marked.

DMX³ are full in compliance with the Shipping Register of Lloyds, RINA, Bureau Veritas, Germanische Lloyds, Norske Veritas and ABS.

" Tropical climate" :

- execution II (all climates) according to IEC 60947-1 Annex Q, Cat. F.

6.1 Marking



7. EQUIPMENTS AND ACCESSORIES

7.1 Releases

- Shunt releases

12 V ac/dc	ref. 4 210 12
24 V ac/dc	ref. 4 210 13
48 V ac/dc	ref. 4 210 14
110-130 V ac	ref. 4 210 15
110-130 V dc	ref. 4 210 85
200-277 V ac	ref. 4 210 16
200-277 V dc	ref. 4 210 86
380-480 V ac	ref. 4 210 17

Maximum power = 400 VA / W

- Undervoltage releases

12 V ac/dc	ref. 4 210 18
24 V ac/dc	ref. 4 210 19
48 V ac/dc	ref. 4 210 20
110-130 V ac/dc	ref. 4 210 21
200-240 V ac	ref. 4 210 22
277 V ac	ref. 4 210 23
380-415 V ac	ref. 4 210 24
440-480 V ac	ref. 4 210 25

Maximum power = 4 VA

Circuit breaker opening time < 50 ms

- Time-lag undervoltage releases (800ms)

Time-lag modules with voltage:

230 V ac	ref. 0 261 90
400 V ac	ref. 0 261 91

Release:

To be equipped with a time-lag module ref. 4 210 98

7.2 Auxiliary contact

set of connectors for aux contacts	ref. 4 210 44
aux contacts (1NC and 1 NO) for all rotary handles	ref. 4 210 10
signalling contact plugged-in version	ref. 4 210 48
Changeover switch 3A – 250 VAC	ref. 4 210 11

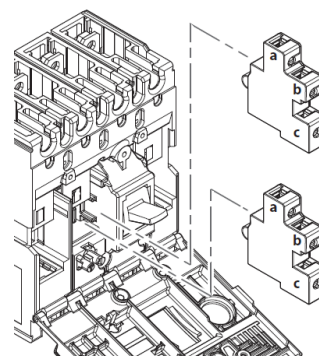
To show the state of the contacts or opening of the DPX³ on a fault:

Auxiliary contact (standard) OC
Fault signal CTR

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

Configurations:

DPX³ 160 → 1 auxiliary contact + 1 fault signal



DPX³ 160

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Reference(s) : 4 207 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17

7.3 Rotary handles

Direct

- DPX³ direct rotary handle ref. 4 210 01
- DPX³ emergency direct rotary handle ref. 4 210 02

Vari-depth handle IP55

- DPX³ vari depth rotary handle ref. 4 210 04
- DPX³ emergency vari depth rotary handle ref. 4 210 05

Locking accessories

- Ronis type flat key (cod. ABA90GEL6149) for direct rotary handle ref. 4 210 06
- Profalux type star key (cod. HBA90GPS6149) for direct rotary handle ref. 4 210 07
- Ronis type flat key (cod. ABA90GEL6149) for vari-depth handle ref. 4 210 08
- Profalux type flat key (cod. HBA90GPS6149) for vari-depth handle ref. 4 210 09

7.4 Mechanical accessories

Insulated shields (phase barriers)

- Set of 36 ref. 4 210 70

Sealable terminal shields

- sealable terminal shield for rear terminals 3P ref. 4 210 50
- sealable terminal shield for rear terminals 4P ref. 4 210 51
- sealable terminal shield for front spreaders 3P ref. 4 210 54
- sealable terminal shield for front spreaders 4P ref. 4 210 55

Padlocks

- DPX³ padlock accessory for handle ("open" position) ref. 4 210 49

Interlock

- DPX³ interlock for fixed version ref. 4 210 58
- DPX³ interlock for plug-in / draw-out version ref. 4 210 59

7.5 Connection accessories

Cage terminals

- terminals for Cu cables kit (3) - flex 1x70mm², rigid 1x95mm², bar/cable lug 14mm ref. 4 210 93
- terminals for Cu cables kit (4) - flex 1x70mm², rigid 1x95mm², bar/cable lug 14mm ref. 4 210 94
- high capacity terminals for Al or Cu cables kit (3) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 4 210 26
- high capacity terminals for Al or Cu cables kit (4) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 4 210 27
- rack screw and nut for cable lug kit (3) ref. 4 210 28
- rack screw and nut for cable lug kit (4) ref. 4 210 29

Front spreaders

- DPX³ front spreaders for 3P DPX³ 160 (set of 3) ref. 4 210 32
- DPX³ front spreaders for 4P DPX³ 160 (set of 4) ref. 4 210 33

Rear terminals

- DPX³ flat rear terminals for 3P DPX³ 160 (set of 3) ref. 4 210 36
- DPX³ flat rear terminals for 4P DPX³ 160 (set of 4) ref. 4 210 37

7.6 Plug-in version

Bases

- front/rear terminals plug-in base 3P DPX³ 160 ref. 4 210 40
- front/rear terminals plug-in base 4P (with or without earth leakage module) ref. 4 210 41

Locking accessories

- Ronis type flat key (cod. ABA90GEL6149) for plug-in base ref. 4 210 45

- Profalux type star key (cod. HBA90GPS6149) for plug-in base ref. 4 210 46
- padlock accessory for plug-in base ref. 4 210 47

7.7 Motor operator

- side motor operator 24-230 Vac/dc ref. 4 210 60
- front motor operator 24-230 Vac/dc ref. 4 210 61

Locking accessories for front motor operator

- Ronis type flat key (cod. ABA90GEL6149) for front motor operator ref. 4 210 62
- Profalux type flat key (cod. HBA90GPS6149) for front motor operator ref. 4 210 63
- padlock selector for front motor operator ref. 4 210 64

Locking accessories for side motor operator

- Ronis type flat key (cod. ABA90GEL6149) for side motor operator ref. 4 210 65
- Profalux type flat key (cod. HBA90GPS6149) for side motor operator ref. 4 210 66
- padlock selector for side motor operator ref. 4 210 67

DIN plate

- DPX³ din plate for motor operator DPX³ 160 ref. 4 210 68
- Installation kit for non-XL³ enclosures ref. 4 210 76

7.8 Mounting on rail fixing plate

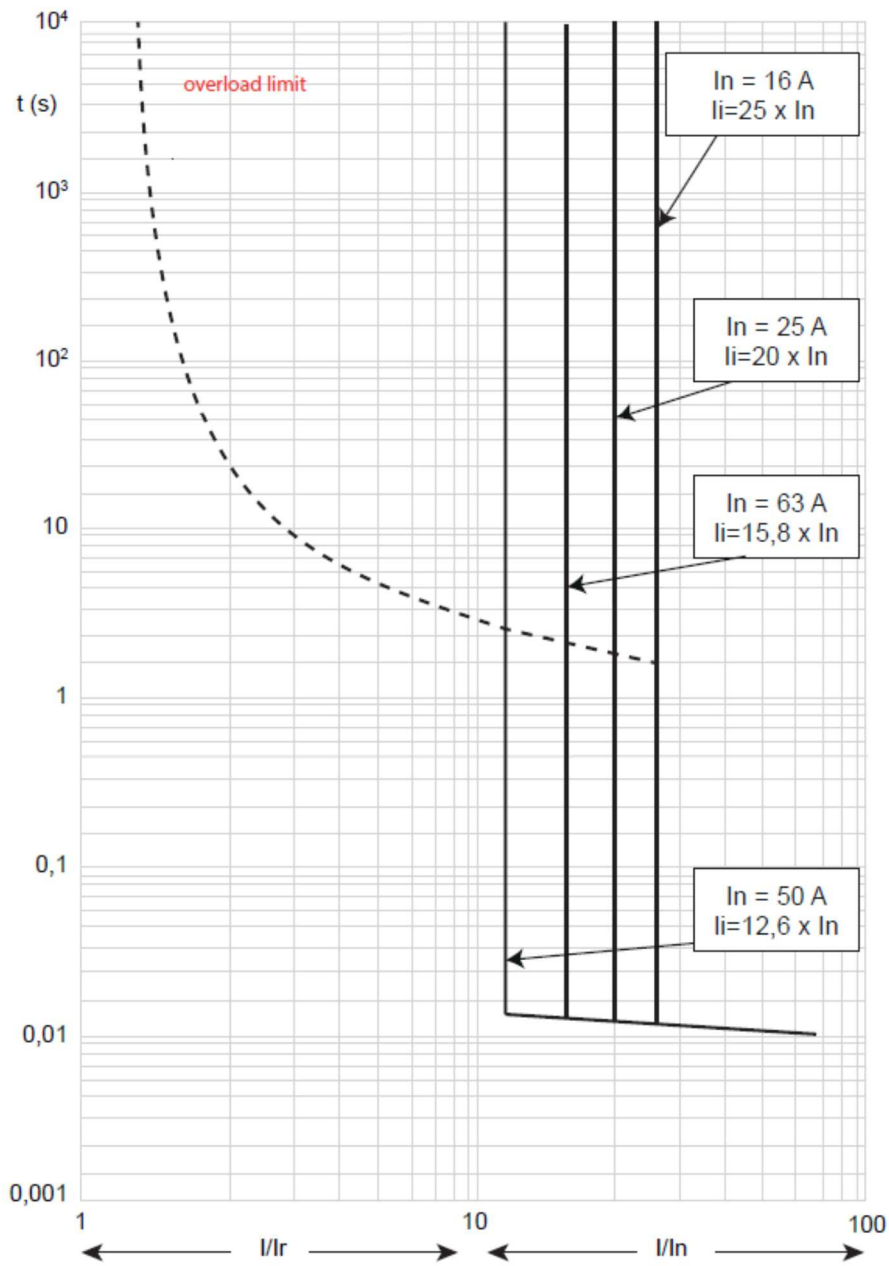
- DPX³ 160 3P/4P without earth leakage module ref. 4 210 71
- DPX³ 160 3P/4P with side mounting motor operator ref. 4 210 68

7.9 Spare parts

- Fixing screws (set of 4) for plate installation ref. 4 210 81
- Battery kit (batteries + extractor) for 1 breaker ref. 4 210 82
- Fixing screws (set of 12) for DIN installation ref. 4 210 84
- Mini USB cap (for 20 device) - light grey colour ref. 4 210 89
- Plug-in base kit (for 1 breaker 3P or 4P) ref. 4 210 90
- Compact terminal shields 4P (set of 2) ref. 4 210 96
- Generic seals kit (for 4x seal kit) ref. 4 210 95

8. CURVES

8.1 Thermal magnetic tripping curve



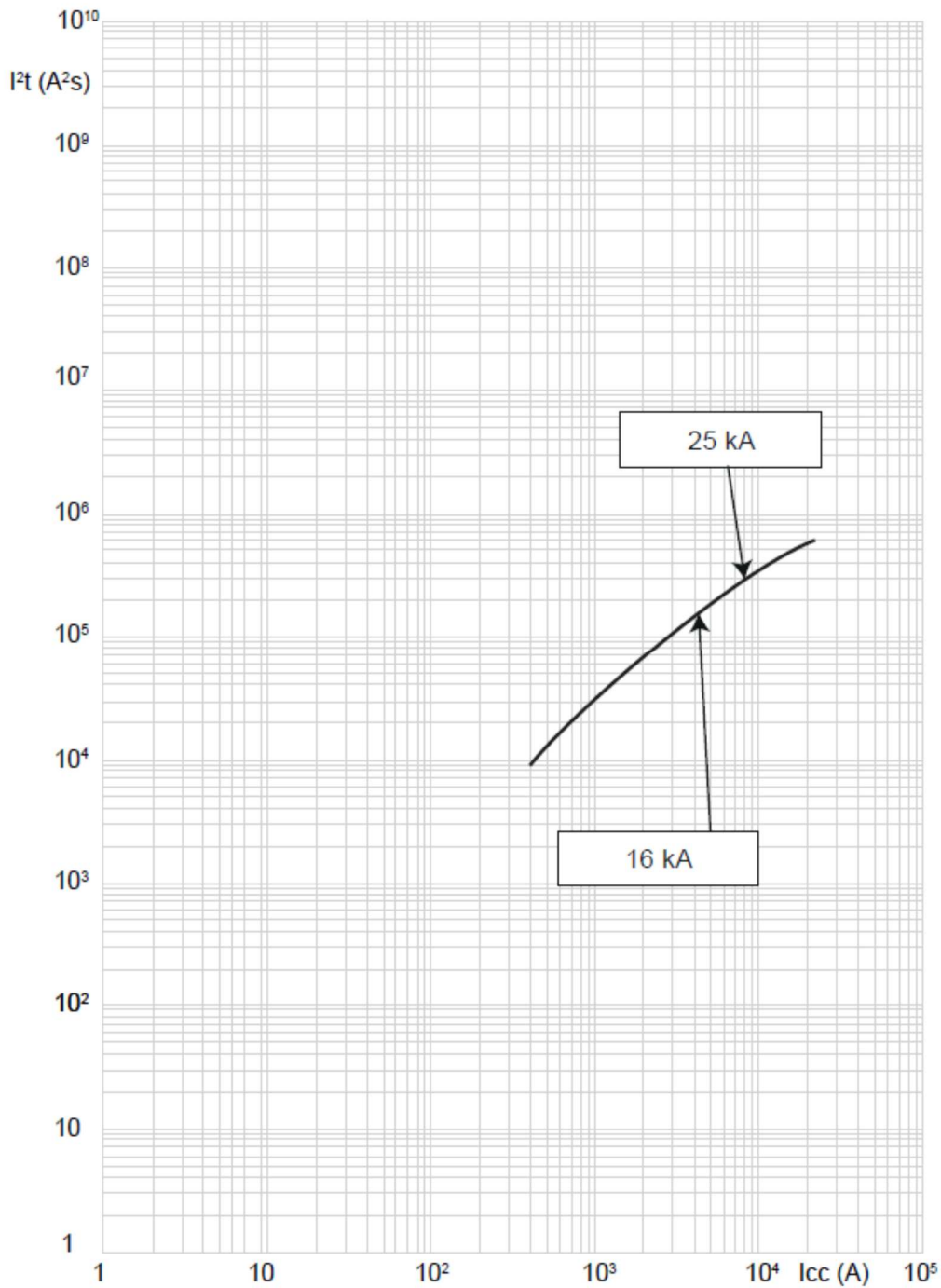
$I_{cu} = 16-25 \text{ kA}$ $I_{max} = 63 \text{ A}$ 3P $U_e = 415 \text{ Vac}$

Value	Description
t	time
I	current
I_n	rated current
I_r	long time setting current

DPX³ 160

Magnetic only

8.2 Pass-through specific energy characteristic curve

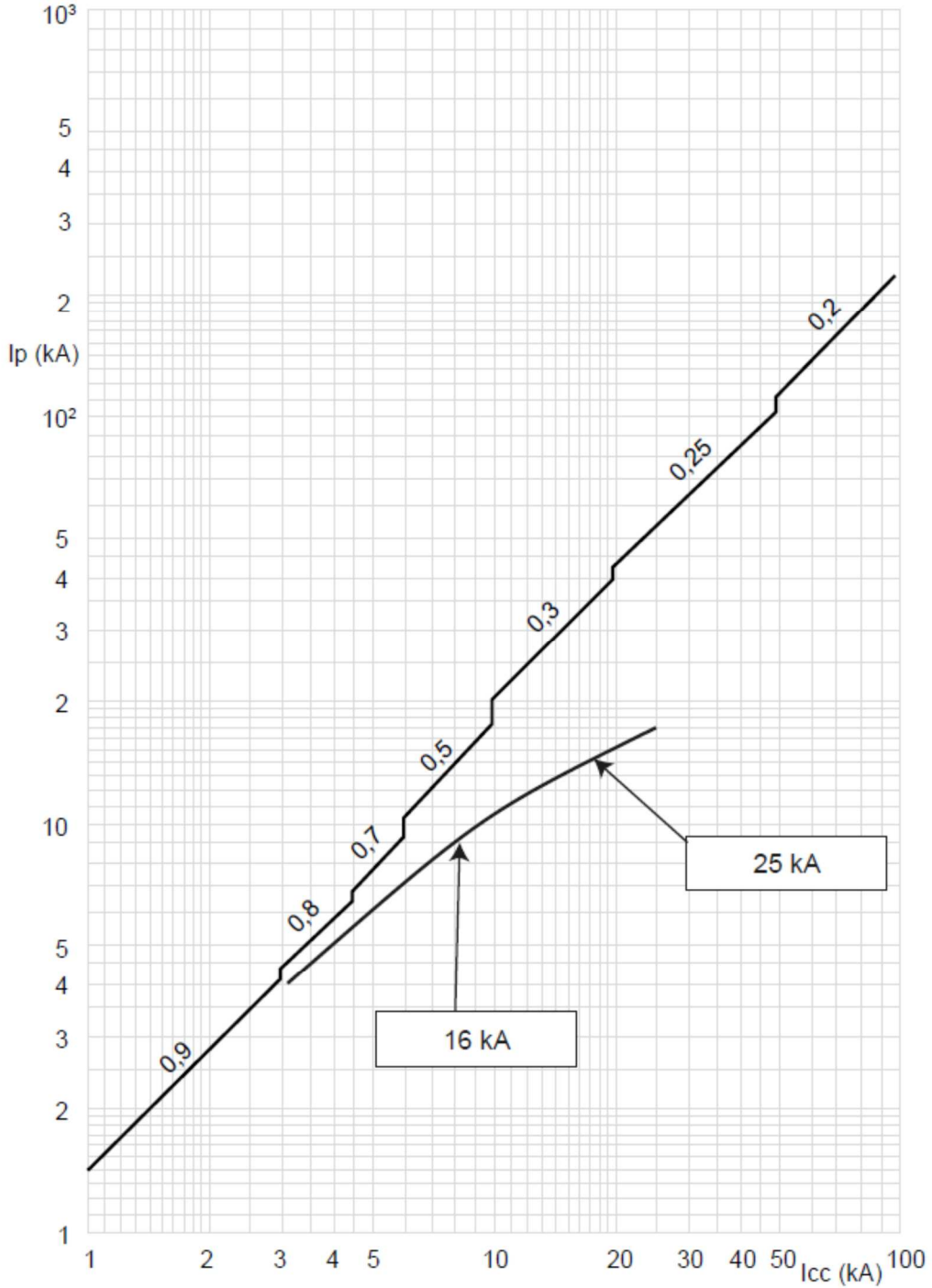


$I_{cu} = 16-25 \text{ kA}$ $I_{max} = 63A$ 3P $U_o = 415Vac$

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

DPX³ 160
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8.3 Cut-off peak current characteristic curve (kA)



$I_{cu} = 16-25 \text{ kA}$ $I_{max} = 63A$ 3P $U_o = 415Vac$

Value	Description
I_{cc}	estimated short circuit symmetrical current (RMS value)
I_p	maximum short circuit peak current
	maximum prospective short circuit peak current corresponding at the power factor
	maximum real peak short circuit current

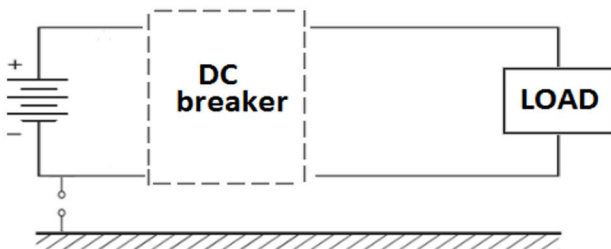
DPX³ 160

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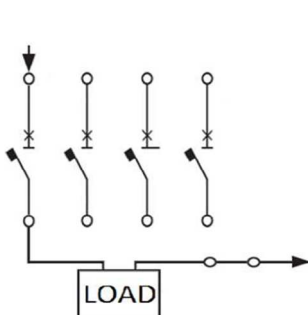
A) Breaking capacity in DC (kA)

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
16	16 - 25 - 50 - 63	16	16	16	10	16	10	10
25	16 - 25 - 50 - 63	25	25	25	10	25	10	10

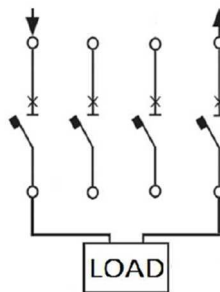
These values are applied to DC networks insulated from the ground
(this diagram applies to both 3P and 4P circuit breakers):



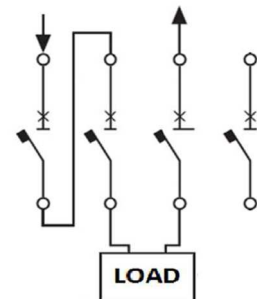
* Connection modality of the DC breaker:



1 pole



2 poles in series



3 poles in series