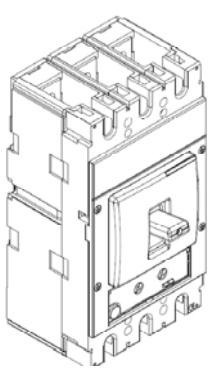
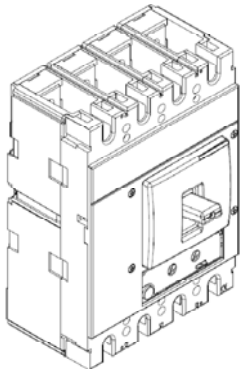
87045 LIMOGES Cedex
Phone :+33 05 55 06 87 87 – Fax :+33 05 55 06 88 88

Reference(s) : **6 676 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60 / 61 / 62 / 63 / 64 / 65**

DRX 630
Thermal magnetic adjustable





CONTENTS

1. USE

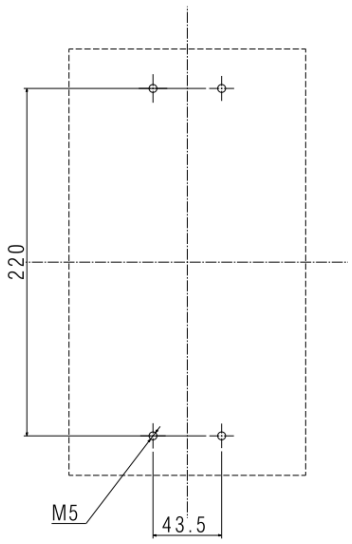
DRX is the range of fixed or adjustable breakers for all the applications of the tertiary and industrial sector including also large assortment of accessories of easy and fast assemblage.

2. RANGE

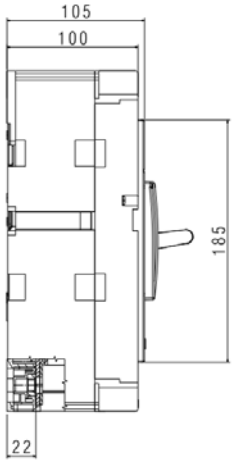
	36 kA		50 kA	
I_n (A)	3P	4P	3P	4P
320A	6 676 50	6 676 54	6 676 58	6 676 62
400A	6 676 51	6 676 55	6 676 59	6 676 63
500A	6 676 52	6 676 56	6 676 60	6 676 64
630A	6 676 53	6 676 57	6 676 61	6 676 65

3. DIMENSIONS

Fixing on Plate: FRONTAL

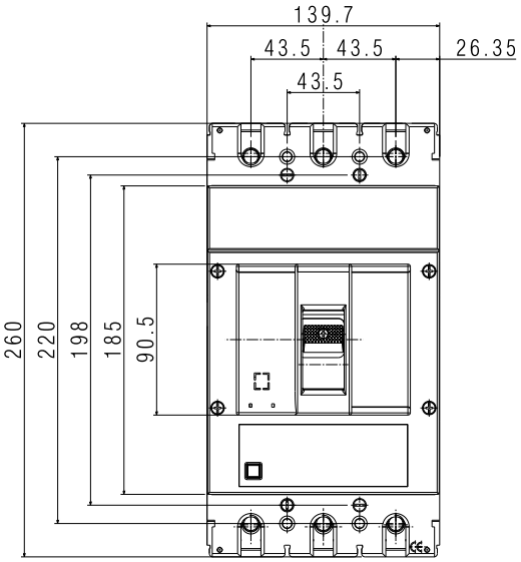


Lateral



Frontal

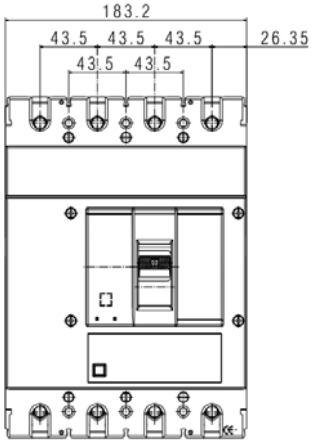
3 poles



DRX 630
Thermal magnetic adjustable

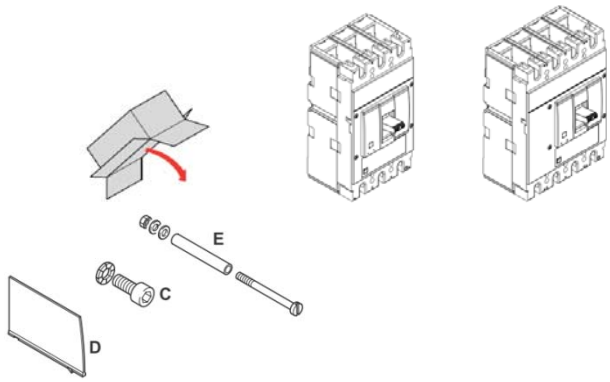
Reference(s) : **6 676 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60 / 61 / 62 / 63 / 64 / 65**

4 poles



4. OVERVIEW

4.1 Delivery



Quantity of accessories (included in the package)

	3P	4P
C	6	8
D	2	3
E	4	4

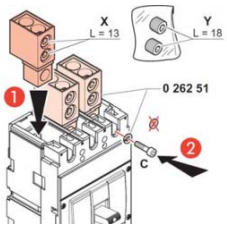
4.2 Possible way to mount

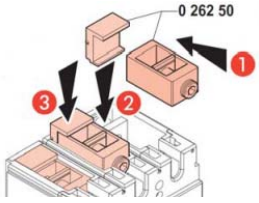
On plate:

- Vertical
- Horizontal

4.3 Cabling

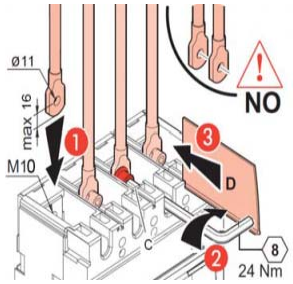
Cables : Set of 4 standard (ref. 026250) or High-capacity (ref. 026251)

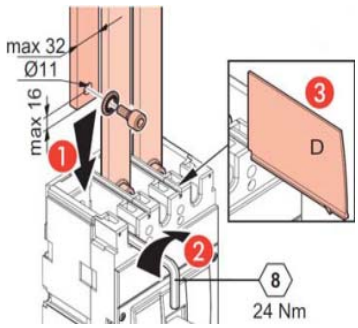




Bars :

BUSBAR CONNECTION - Al/Cu bars





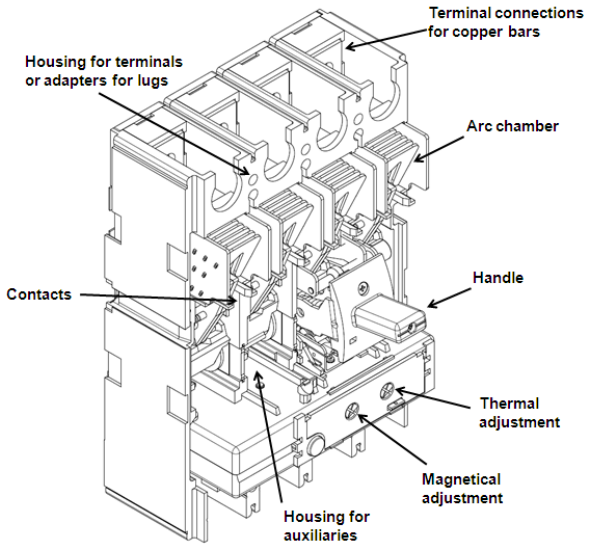
5. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit Breaker	DRX 630 adj (36kA, 50kA)
Rated current (A)	320,400,500,630
Poles	3 - 4
Rated insulation voltage U_i (V)	800
Rated operating voltage (50/60Hz) U_e (V)	690
Rated impulse withstand current U_{imp} (kV)	8
Nominal frequency (Hz)	50 - 60
Reference ambient temperature(°C)	40 - 50
Operating temperature (°C)	-25 ÷ 70
Mechanical endurance (cycles)	6000
Electrical endurance at I_n (cycles)	2000
Electrical endurance at 0.5 I_n (cycles)	4000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Thermal-magnetic
Magnetic adjustment (A)	5 - 10 x In
Thermal adjustment (A)	0,8 - 1 x In
Neutral protection for 4P version (%I_{th})	100
Dimensions (W x H x D) (mm)	140 x 260 x 105 (3P) 184 x 260 x 105 (4P)
Weight (kg)	5.2(3P) - 6.85(4P)

DRX 630
Thermal magnetic adjustable

Reference(s) : **6 676 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60 / 61 / 62 / 63 / 64 / 65**

5.1 Main parts constituting the circuit breaker



5.2 Breaking capacity (kA)

	Breaking capacity (Icu) & Ics		
	3P & 4P		
IEC	U_e/I_{cu}	36kA	50kA
	110/130V ac	70	100
	220/240V ac	70	100
	380/415V ac	36	50
	440/460V ac	30	40
	480/500V ac	25	30
	690V ac	14	18
	I_{cs}(% I_{cu})	100	100
NEMA	220/240V ac	70	100
	480/550V ac	25	30
	690V ac	14	18

5.3 Power losses per pole under I_n

I_n (A)	320	400	500	630
P (W)	16.4	25.6	23.6	37.3

5.4 FUNCTIONING IN PARTICULAR CONDITIONS

5.4.1 Temperature

I_n (A)	10	20	30	40	50	60	70
320	416	384	352	320	320	288	256
400	475	460	425	400	400	360	320
500	600	550	525	500	500	455	410
630	700	683	650	630	630	580	530

5.4.2 Altitude

Altitude (m)	2000	3000	4000	5000
U_e (V)	690	590	520	460
I_n (A) (T_a = 40°C/50°C)	1 x I_n	0.98 x I_n	0.93 x I_n	0.9 x I_n

6. CONFORMITY

DRX range of product concerning circuit-breakers are in full compliance with the IEC/EN 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 marked. Other local markings are available.

6.1 Marking

" Tropical climate" :

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

7. EQIPMENT AND ACCESSORIES

7.1 Control and signalling auxiliaries

Auxiliary and alarm contacts

• Auxiliary + Alarm Contact *ref. 4 210 11*

Changeover switch 3 A – 240 V ~

Shunt trips:

shunt inrrush power 300V ~

• 24 V = and ~ *ref. 4 222 39*

• 48 V = and ~ *ref. 4 222 40*

• 110 V = and ~ *ref. 4 222 41*

• 230 V = and ~ *ref. 4 222 42*

• 400 V = and ~ *ref. 4 222 43*

Undervoltage releases:

Power consumption 5V ~

• 24 V = ref. 4 222 44

• 24V ~ ref. 4 222 45

• 48 V = and ~ *ref. 4 222 46*

• 110 V = and ~ *ref. 4 222 47*

• 230 V = and ~ *ref. 4 222 48*

• 400 V = and ~ *ref. 4 222 49*

7.2 Rotary handles

• Direct on DRX *ref. 0 272 50*

Standard (grey)

• Vary-depth handle *ref. 0 272 51*

Standard (grey)

Comprising: connecting rod, bracket, drilling template, mounting accessories door locking mechanism

7.3 Connection accessories

Cage Terminals

• Set of 4 terminals for cables 300mm² max (rigid) or 240mm² max (flexible) Cu/Al *ref. 0 262 50*

• Set of 4 terminals for cables 2x240mm² max (rigid) or 2x180mm² max (flexible) Cu/Al *ref. 0 262 51*

Sealable terminal **shields**

• Set of 2 for 3P version *ref. 0 262 44*

• Set of 2 for 4P version *ref. 0 262 45*

Insulating Shields

Used to isolate the connection between each pole

• Set of 2 *ref. 0 262 30*

IP 20 Terminal covers

• Set of 2 terminal covers for 3P version *ref. 4 222 34*

• Set of 2 terminal covers for 4P version *ref. 4 222 35*

Extended front terminals

• Set of 4 *ref. 0 262 47*

Spreader

• Set of 3 incoming or outgoing spreaders (3P) *ref. 0 262 48*

• Set of 4 incoming or outgoing spreaders (4P) *ref. 0 262 49*

Flat terminals

• Set of 3 incoming or outgoing flat terminals (3P) *ref. 0 263 52*

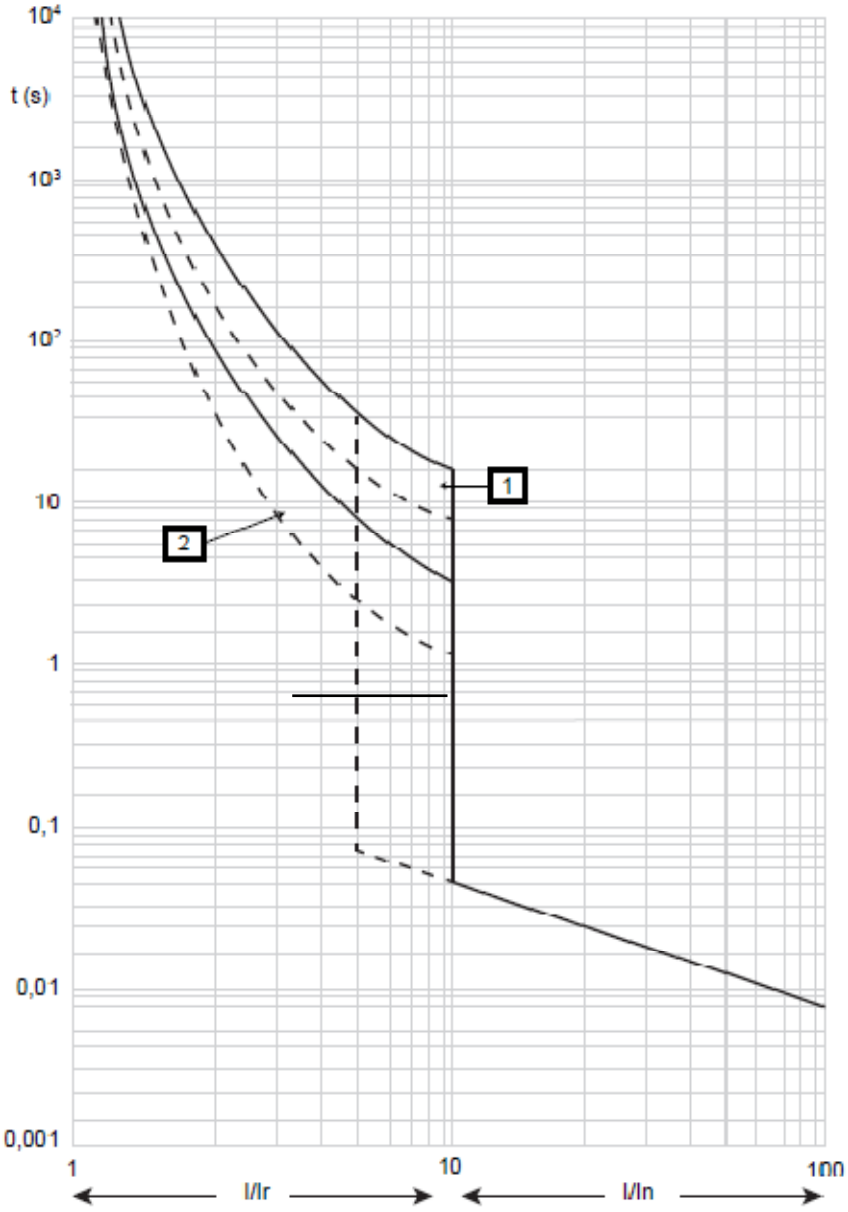
• Set of 4 incoming or outgoing flat terminals (4P) r*ef. 0 263 53*

7.4 Padlock device

• For locking on “OFF” position *ref. 0 262 40*

8. CURVES

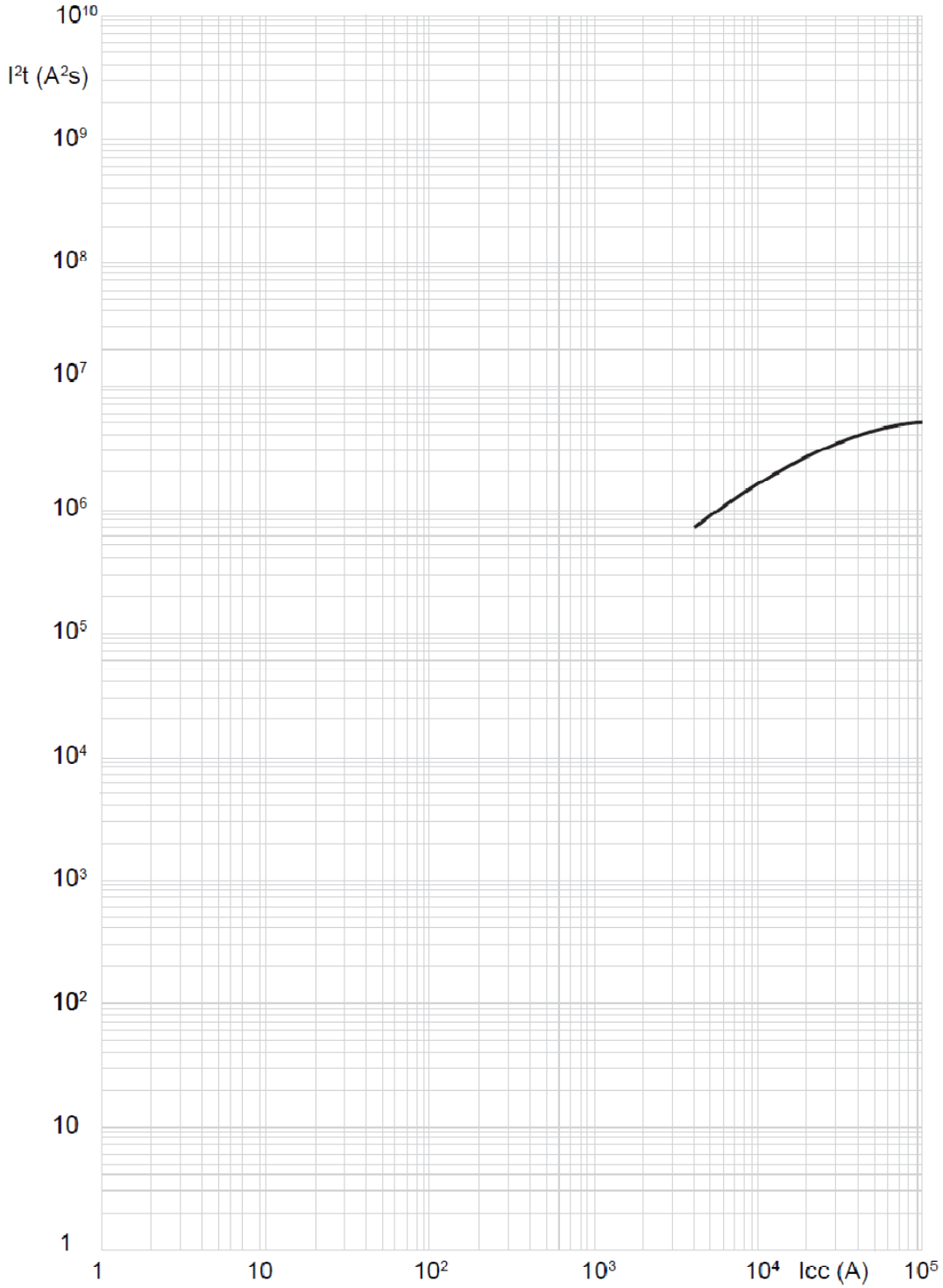
8.1 Thermal magnetic tripping curve



I_{cu} = 36-50 kA I_{max} = 630A 3-4 P U_e = 415Vac

Value	Description
t	time
I	current
I_n	rated current
I_r	long time setting current
curve 1	characteristic with cold start
curve 2	characteristic with hot start

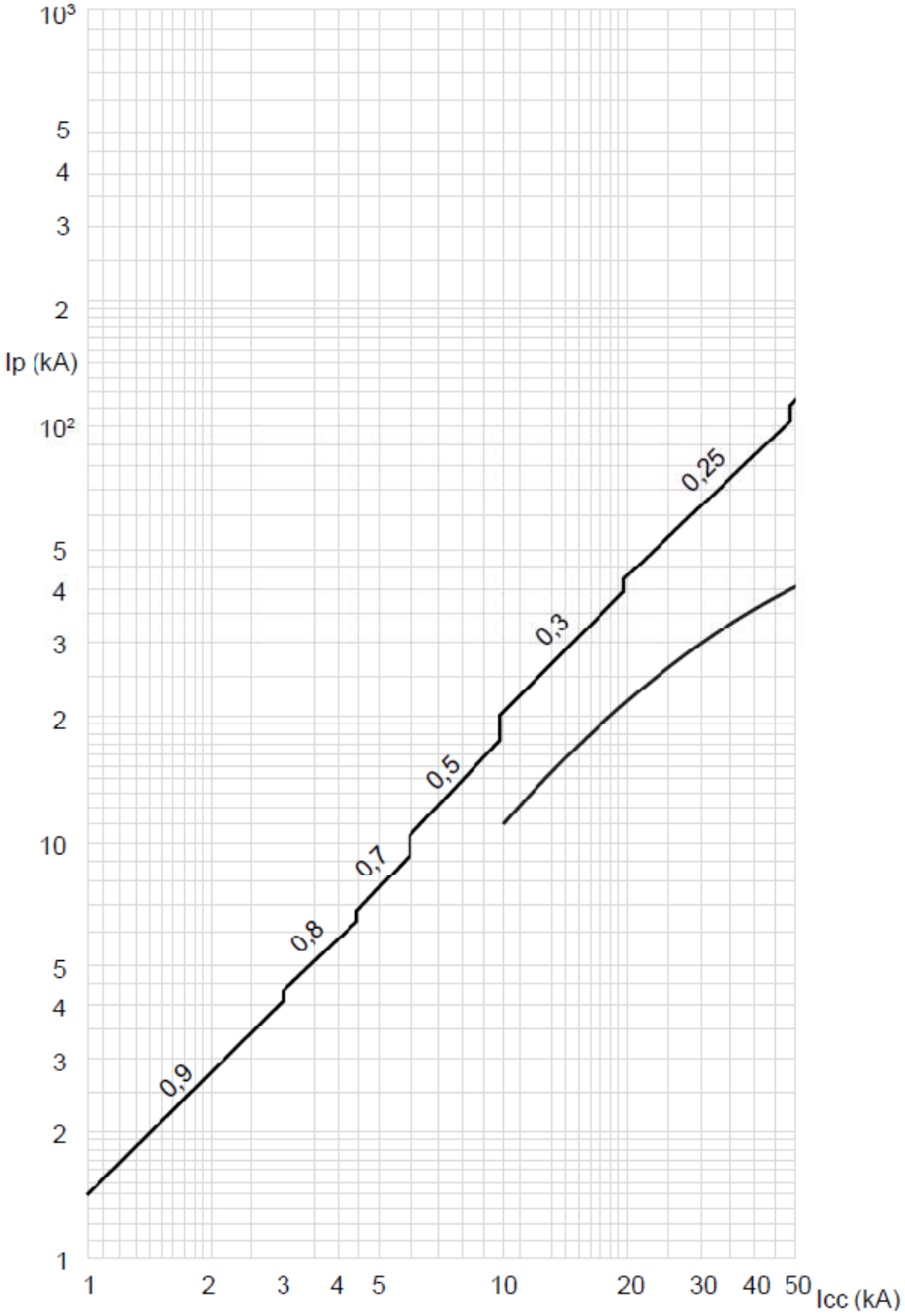
8.2 Pass-through specific energy characteristic curve



I_{cu} = 36-50 kA I_{max} = 630A 3-4 P U_e = 415Vac

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

8.3 Cut-off peak current characteristic curve (kA)



I_{cu} = 36-50 kA I_{max} = 630A 3-4 P U_e = 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