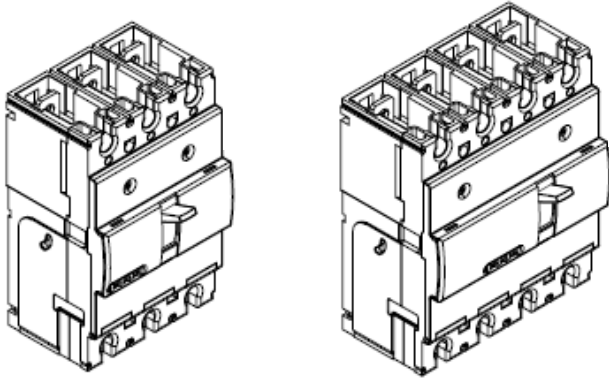


DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

Reference(s) : 420 205/ 207/ 208/209/ 215/ 217/ 218/ 219/ 235/ 237/
238/ 239/ 245/ 247/ 248/ 249/ 265/ 267/ 268/ 269/ 275/ 277/ 278/ 279/
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1. USE

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

2. RANGE

DPX³

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
100	420205	420215	420235	420245	420265	420275	420605	420615
160	420207	420217	420237	420247	420267	420277	420607	420617
200	420208	420218	420238	420248	420268	420278	420608	420618
250	420209	420219	420239	420249	420269	420279	420609	420619

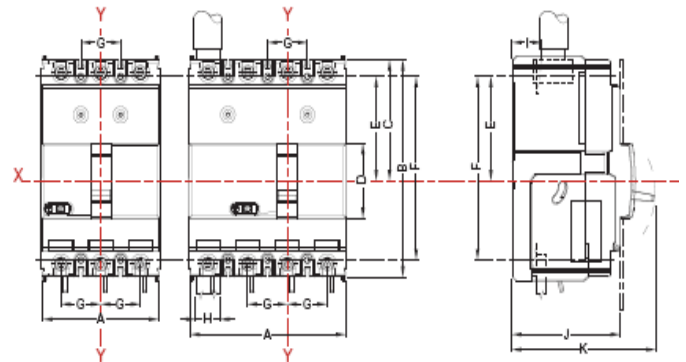
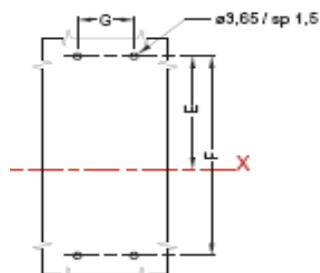
DPX³-I

	3P	4P
250	420299	420 300

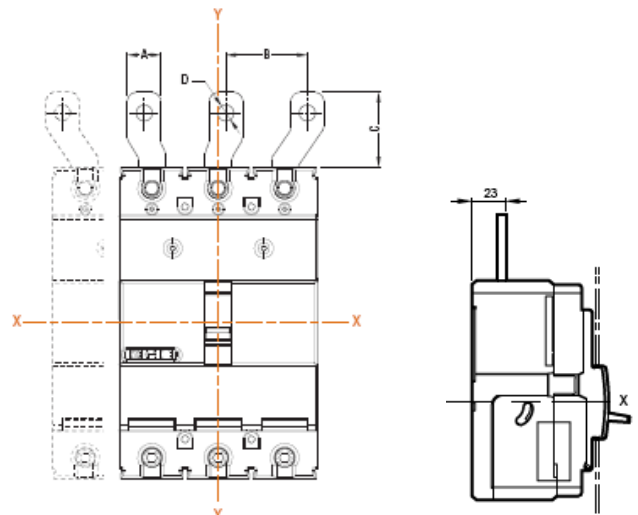
3. DIMENSIONS

3.1 Fixed version

	A	B	C	D	E	F	G	H	I	J	K
250 3P	105	165	82,5	45	61,5	123	35	28,5	18	74	97
250 4P	140	165	82,5	45	61,5	123	35	28,5	18	74	97



3.2 Fixed version, front terminals



	A	B	C	D
250	33	48,5	54,75	13

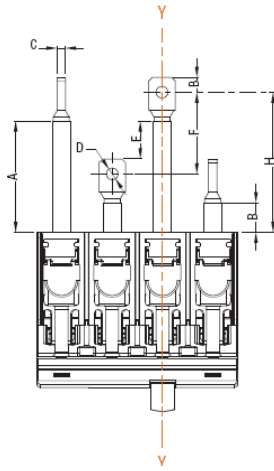
DPX³ 250

Thermal magnetic and trip-free switches

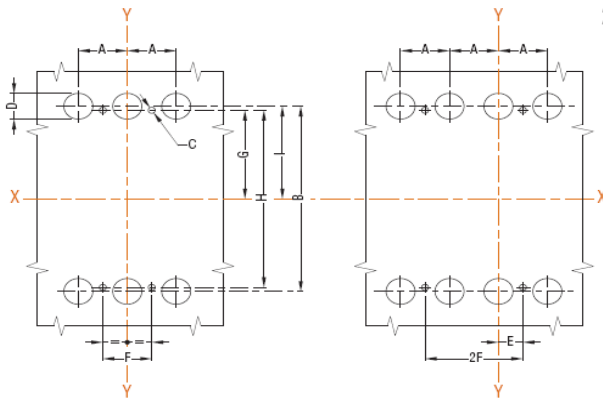
DPX³-I 250

Reference(s) 420 205/ 207/ 208/209/ 215/ 217/ 218/ 219/ 235/ 237/ 238/ 239/ 245/ 247/ 248/ 249/ 265/ 267/ 268/ 269/ 275/ 277/ 278/ 279/ 605/ 607/ 608/ 609/ 615/ 617/ 618/ 619/ 299/ 300

3.3 Fixed version, rear terminals

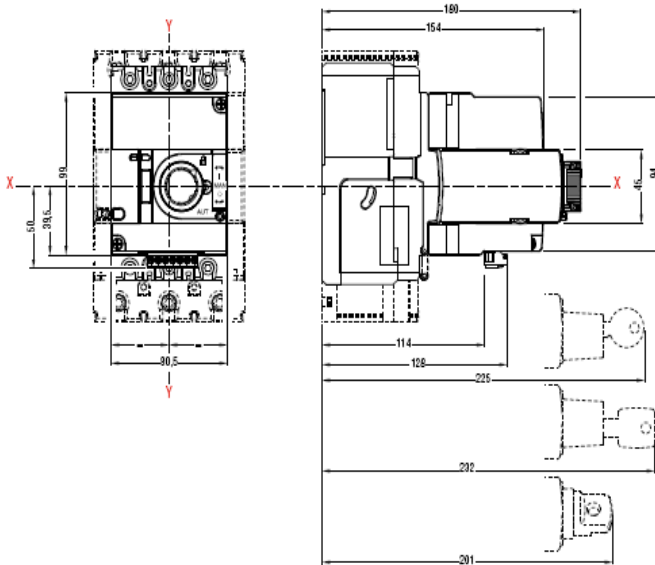


	A	B	C	D	E	F	G	H
250	66,5	22,5	6	8,4	15,5	44	15	80

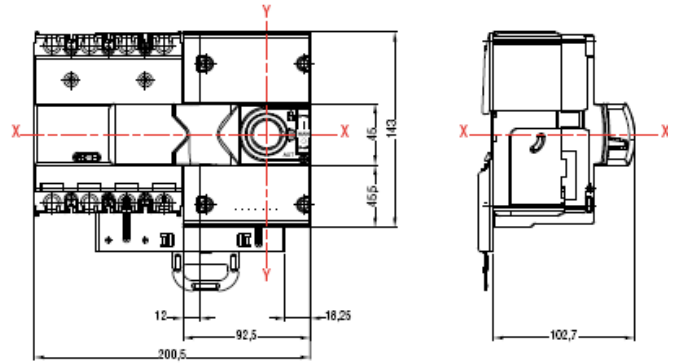


	A	B	C	D	E	F	G	H	I
250	35	142,5	3,65	19	17,5	35	61,5	123	71,5

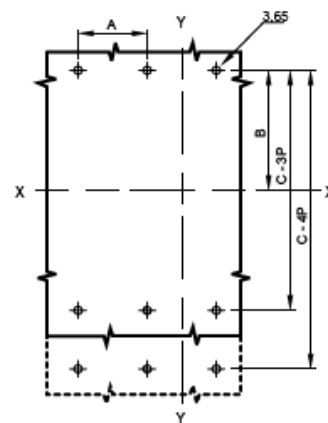
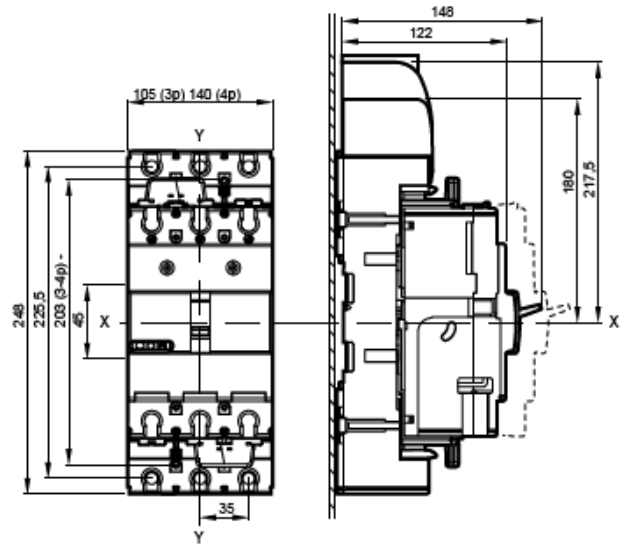
3.4 Fixed version, front motor operator



3.5 Fixed version, side motor operator



3.6 Plug-in version



	A	B	C
DPX ³ 250	35	103	206

DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

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4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

4.1 Breaker technical characteristics

Circuit breaker	DPX ³ 250
Rated current I _n (A)	100-250
Rated insulation voltage U _i (V)	800
Rated operational voltage U _e (V)	690 V (ac) 500 V (dc)
Rated impulse withstand voltage U _{imp} (kV)	8
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	thermal-mag
Nominal frequency (Hz)	50-60
Thermal adjustment	0,8 ÷ 1 I _n
Magnetic threshold	5 ÷ 10 x I _n

4.2 Switches technical characteristics

Switches	DPX ³ -I 250
Rated current I _n (A)	250
Rated insulation voltage U _i (V)	800
Rated operational voltage U _e (V)	690 V (ac) 500 V (dc)
Rated impulse withstand voltage U _{imp} (kV)	8
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Rated short-time withstand current I _{cw} (1 s) (kA)	1,7
Rated short-circuit making capacity I _{cm} (kA)	2,4
AC 22, AC 23, DC 22, DC 23 (A)	250

4.3 Breaking capacity (KA)

Breaking capacity I _{cu} and I _{cs} in AC (kA)					
	U _e	25 kA	36 kA	50 kA	70 kA
I _{cu} (kA)	220/240V	40	60	80	100
	380/415V	25	36	50	70
	440V	20	30	40	60
	480/500V	10	25	30	40
	690V	8	16	18	20
I _{cs} (%I _{cu})	-	100	100	100	100

4.4 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)												
I _n (A)	-25	-20	-10	-5	0	10	20	30	40	50	60	70
100	135	132	128	126	123	120	112	102	100	94	90	84
160	216	211	205	201	197	192	179	163	160	151	143	134
200	270	264	256	251	246	240	224	203	200	189	179	168
250	338	330	320	314	308	300	280	254	250	236	224	210

4.5 Power loss (W)

4.5.1 Breaker power loss (W)

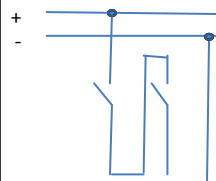
Power loss DPX ³ 250 (W)				
I _n (A) ---->	100	160	200	250
Cage terminals	8,1	15,1	22,8	29,4
Lugs	8,1	15,1	22,8	29,4
External terminals	8,1	15,1	22,8	29,4
Spreaders	8,1	15,1	22,8	29,4
Rear terminals	8,1	15,1	22,8	29,4
Plugin version	10	20,5	30,8	41,9

4.5.2 Switches power loss (W)

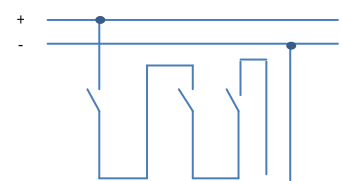
Power loss DPX ³ -I 250 (W)	
I _n (A) ---->	250
Cage terminals	18,8
Lugs	18,8
External terminals	18,8
Spreaders	18,8
Rear terminals	18,8
Plugin version	31,3

4.6 Short-circuit breaking capacity in D.C. current

Short-circuit breaking capacity in D.C. current				
	Breaking capacity I _{cu} (kA)			
	2 p. in ser.	2 p. in ser.	3 p. in ser.	3 p. in ser.
	110-125V	250V	400V	500V
250 25 kA	50	25	30	25
250 36 kA	72	36	45	36
250 50 kA	80	40	50	40
250 70 kA	90	45	55	45



2 poles in series



3 poles in series

DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

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4.7 Protection in DC

Protection in D.C. current		
	thermal	magnetic
250 25 kA	like AC	1,5 I _m AC
250 36 kA	like AC	1,5 I _m AC
250 50 kA	like AC	1,5 I _m AC
250 70 kA	like AC	1,5 I _m AC

4.8 Altitude

Altitude (m)				
	Altitude (m)	≤2000	3000	4000
DPX ³ 250	Rated current (A)	1 x I _n	0,96 x I _n	0,93 x I _n
	Rated voltage (V)	690	690	550
DPX ³ -I 250	Rated current (A)	1 x I _n	0,96 x I _n	0,93 x I _n
	Rated voltage (V)	690	690	550

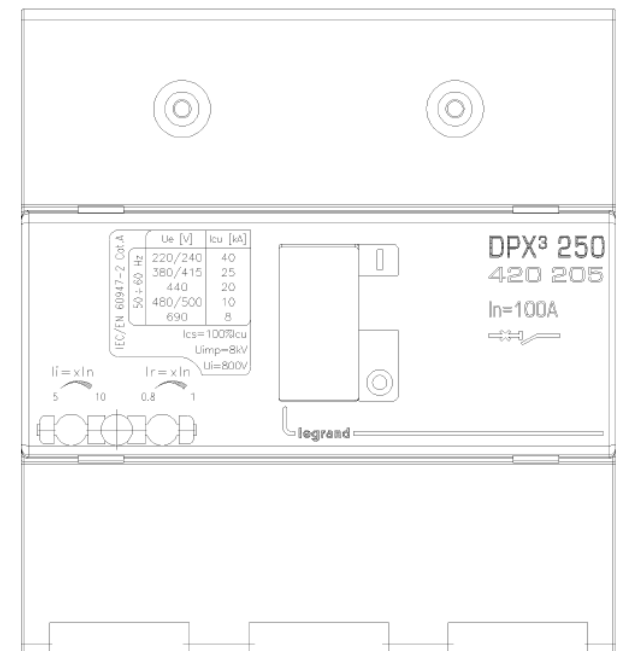
4.9 Loads operation

Loads operation	
Rated current (A)	I _n =250
Opening (N)	45
Closing (N)	78
Reset (N)	75

5. CONFORMITY

IEC 60947-2
(for switches IEC 60947-3)
EN 60947-2
(for switches EN 60947-3)

6. MARKING



7. EQUIPMENTS AND ACCESSORIES

7.1 Releases

• Shunt releases with voltage:
12 Vac/dc ref. 421 012
24 Vac/dc ref. 421 013
48 Vac/dc ref. 421 014
110-130 Vac ref. 421 015
200-277 Vac ref. 421 016
380-480 Vac ref. 421 017

• undervoltage releases with voltage:
12 Vac/dc ref. 421 018
24 Vac/dc ref. 421 019
48 Vac/dc ref. 421 020
110 Vac ref. 421 021
200-240 Vac ref. 421 022
277 Vac ref. 421 023
380-415 Vac ref. 421 024
440-480 Vac ref. 421 025

• auxiliary contact:
set of connectors for aux contacts ref. 421 044
aux contacts and fault signal ref. 421 011
aux contacts (1NC and 1 NO) for all rotary handles ref. 421 010
inserted device signal ref. 421 048

7.2 Rotary handles :

Direct:
• DPX³ direct rotary handle ref. 421 000
• DPX³ emergency direct rotary handle ref. 421 002

Vari-depht:
• DPX³ vari depth rotary handle ref. 421 004
• DPX³ emergency vari depth rotary handle ref. 421 005

Locking accessories

• locking acc. for direct rotary handle - ronis ref. 421 006
• locking acc. for direct rotary handle - profalux ref. 421 007
• locking acc. for vari depth rotary handle - ronis ref. 421 008
• locking acc. for vari depth rotary handle - profalux ref. 421 009

7.3 Mechanical accessories :

Insulated shields
• Set of 3 ref. 421 070

Sealable terminal shields

• sealable terminal shield for rear terminals 250 3P ref. 421 052
• sealable terminal shield for rear terminals 250 4P ref. 421 053
• sealable terminal shield for front spreaders 250 3P ref. 421 056
• sealable terminal shield for front spreaders 250 4P ref. 421 057

Padlocks

• DPX³ padlock accessory for handle (off) ref. 421 049

Interlock:

• DPX³ interlock mounting plate ref. 421 058
• DPX³ interlock for plug-in / draw-out version ref. 421 059

7.4 Connection's accessories :

Cage terminals

• cage terminals for al or cu cables kit (3) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 030
• cage terminals for al or cu cables kit (4) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 031

Front spreaders

• DPX³ front spreaders for 3P DPX³ 250 (3) ref. 421 034
• DPX³ front spreaders for 4P DPX³ 250 (4) ref. 421 035

DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

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Rear terminals

- DPX³ flat rear terminals for 3P DPX³ 250 (3) ref. 421 038
- DPX³ flat rear terminals for 4P DPX³ 250 (4) ref. 421 039

7.5 Plug-in version

Bases

- front/rear terminals plug-in base 3P DPX³ 250 ref. 421 042
- front/rear terminals plug-in base 4P DPX³ 250 ref. 421 043

Locking accessories

- locking accessory for plug-in base – ronis ref. 421 045
- locking accessory for plug-in base – profalux ref. 421 046
- padlock accessory for plug-in base ref. 421 047

7.6 Motor operator

- side motor operator 24-230 Vac - 24-230 Vdc ref. 421 060
- front motor operator 24-230 Vac - 24-230 Vdc ref. 421 061

Locking accessories for front motor operator:

- locking acc. for front motor operator - ronis ref. 421 062
- locking acc. for front motor operator – profalux ref. 421 063
- padlock selector for front motor operator ref. 421 064

Locking accessories for side motor operator:

- locking acc. for side motor operator - ronis ref. 421 065
- locking acc. for side motor operator – profalux ref. 421 066
- padlock selector for side motor operator ref. 421 067

Din plate:

- DPX³ din plate for motor operator DPX³ 250 ref. 421 069

7.7 Mounting on rail fixing plate

- DPX³ din rail fixing plate DPX³ 250 3P/4P ref. 421 072

DPX³ 250

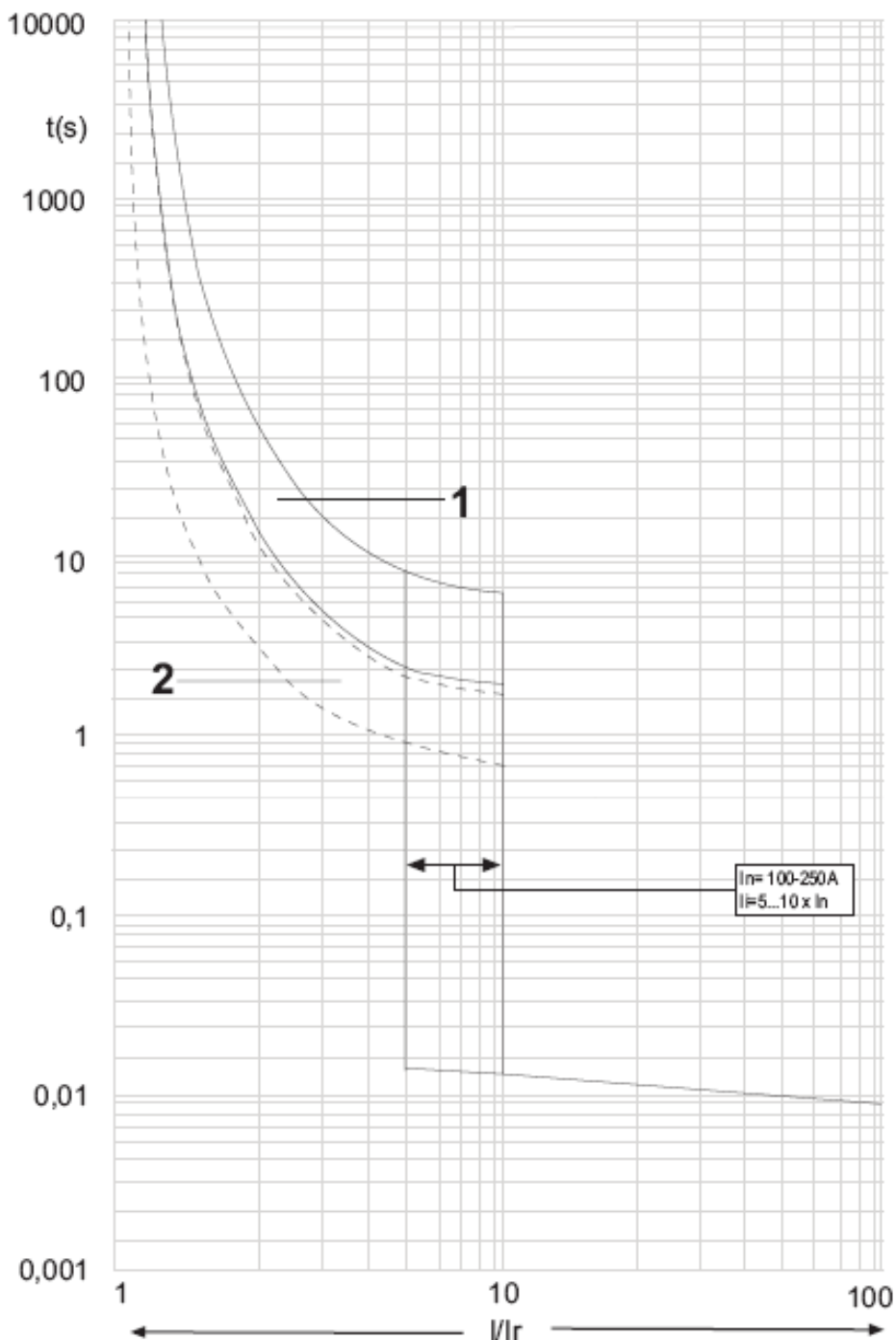
Thermal magnetic and trip-free switches

DPX³-I 250

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8. CURVES

8.1 TRIPPING CURVE



t = time

I = rated current \square

I_r = setting current

curve number 1 = characteristic with cold start

curve number 2 = characteristic with hot start

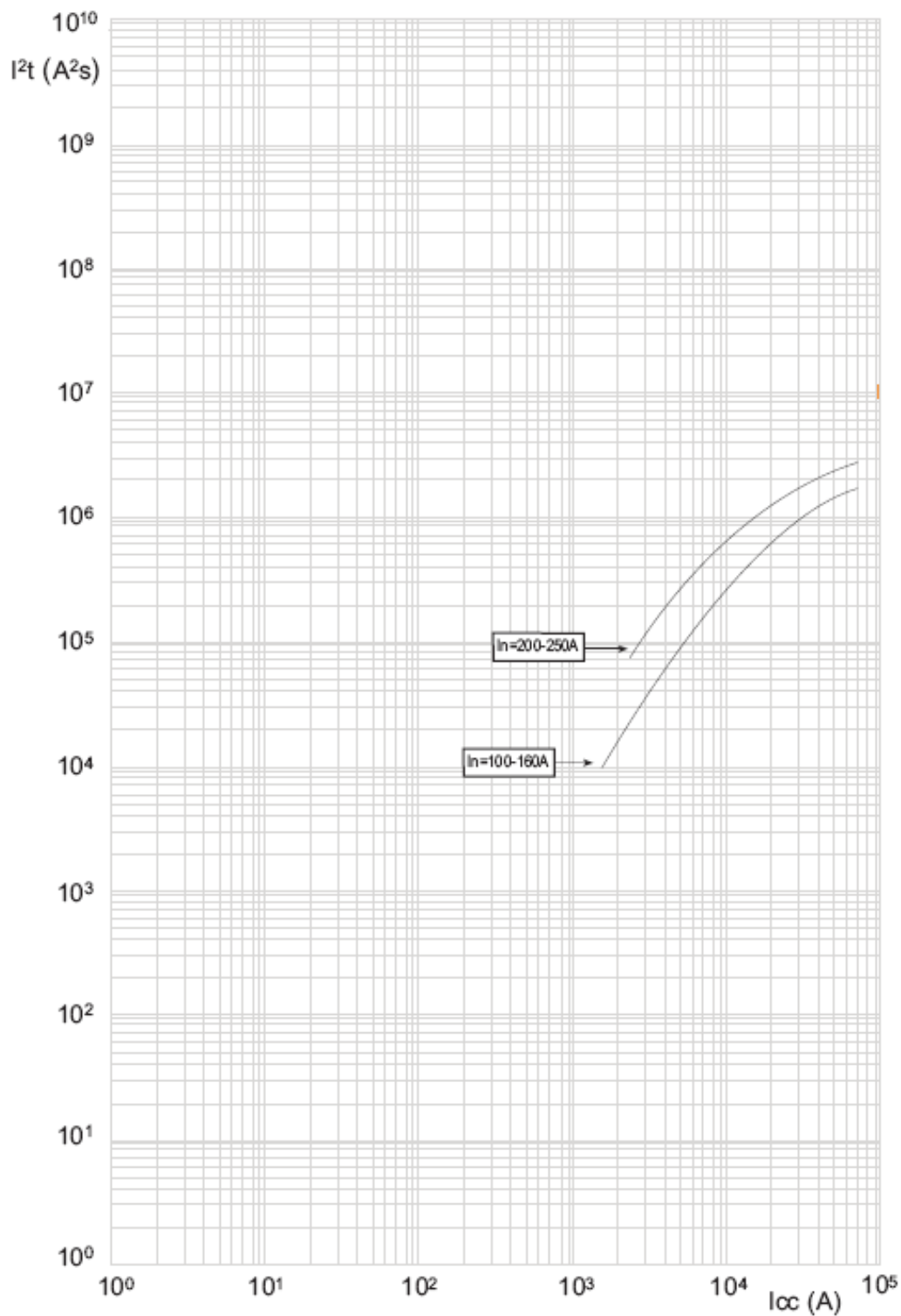
DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

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8.2 Energy curve



I_{cc} = estimated short circuit symmetrical current (RMS value)
 I^2t (A^2s) = pass-through specific energy

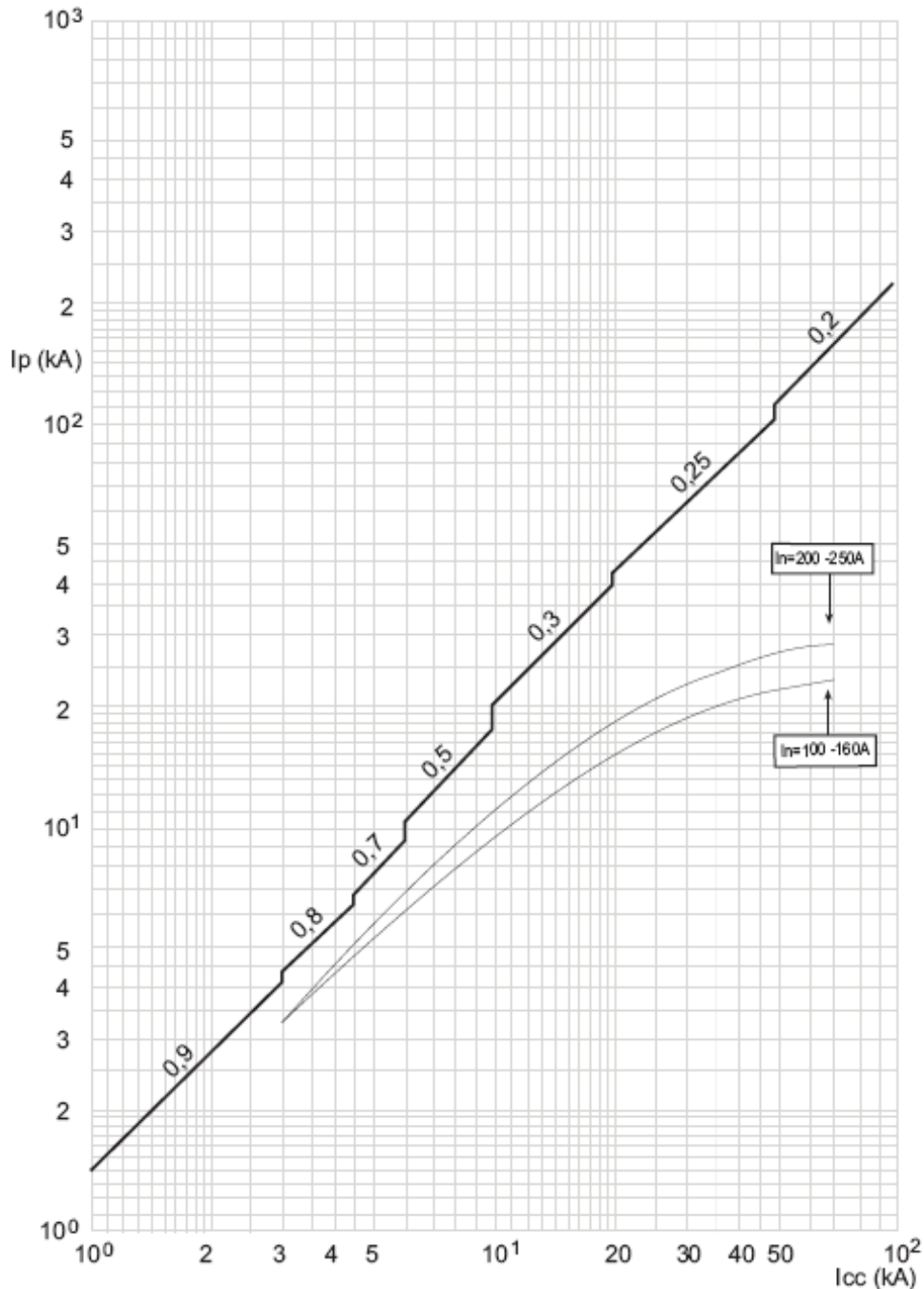
DPX³ 250

Thermal magnetic and trip-free switches

DPX³-I 250

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8.3 Restricted current curve



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