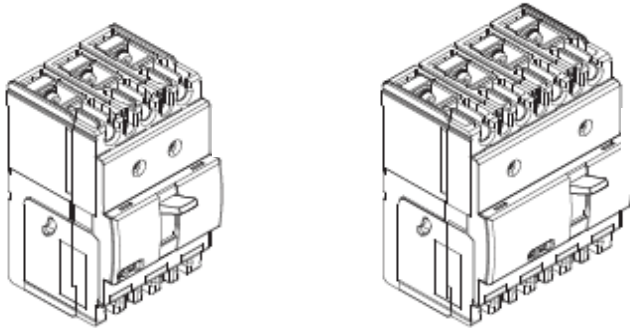


DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/
 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/
 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/
 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/
 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199



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6. MARKING	4
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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)	16 kA		25 kA		36 kA		50 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
16	420000	420010	420040	420050	420080	420090	420120	420130
25	420001	420011	420041	420051	420081	420091	420121	420131
40	420002	420012	420042	420052	420082	420092	420122	420132
63	420003	420013	420043	420053	420083	420093	420123	420133
80	420004	420014	420044	420054	420084	420094	420124	420134
100	420005	420015	420045	420055	420085	420095	420125	420135
125	420006	420016	420046	420056	420086	420096	420126	420136
160	420007	420017	420047	420057	420087	420097	420127	420137

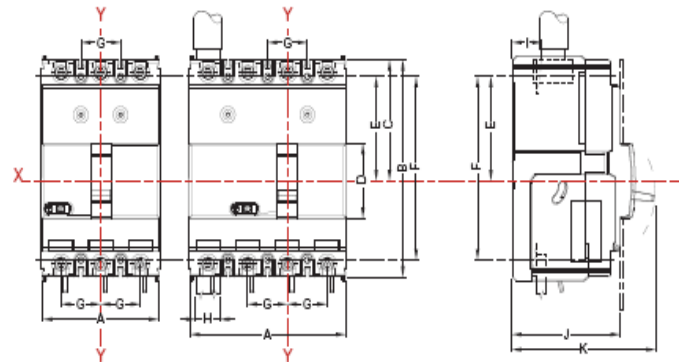
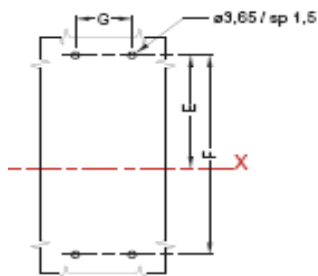
DPX³-I

	3P	4P
160	420 198	420 199

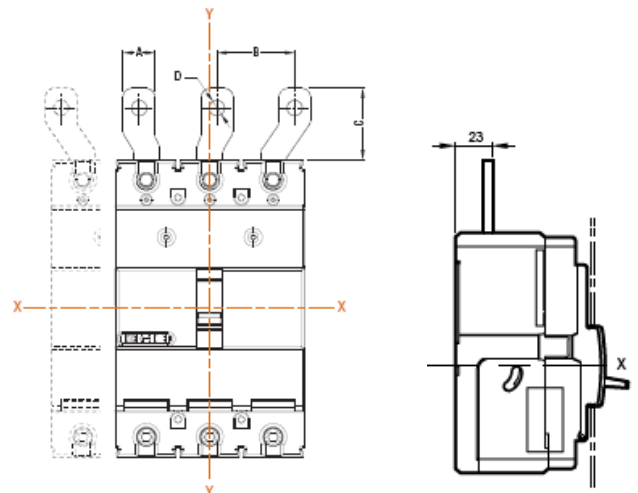
3. DIMENSIONS

3.1 Fixed version

	A	B	C	D	E	F	G	H	I	J	K
160 3P	81	130	72,5	45	62,5	110	27	19	18	74	97
160 4P	108	130	72,5	45	62,5	110	27	19	18	74	97



3.2 Fixed version, front terminals



	A	B	C	D
160	17,5	35	41	8,5

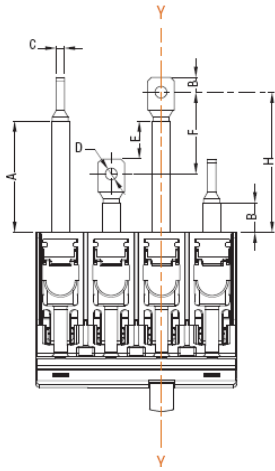
DPX³ 160

Thermal magnetic and trip-free switches

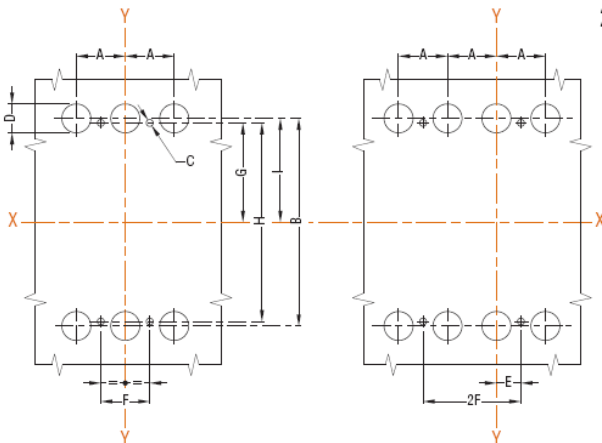
DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

3.3 Fixed version, rear terminals

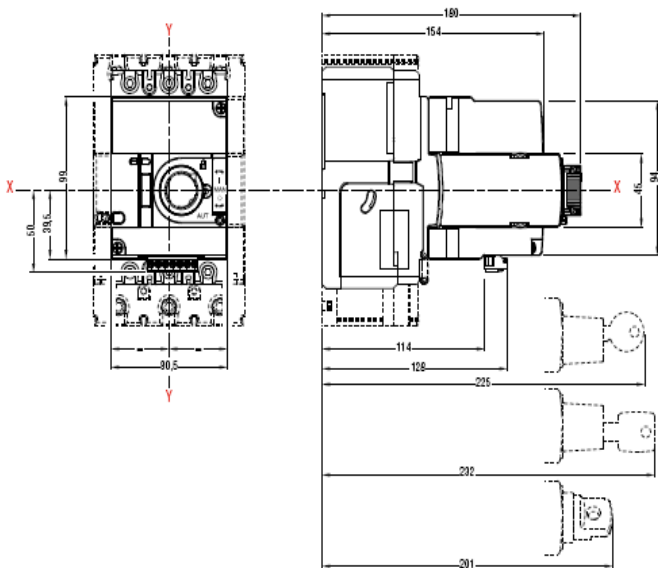


	A	B	C	D	E	F	G	H
160	65,5	21,5	4,5	6,3	19,5	44	11	79

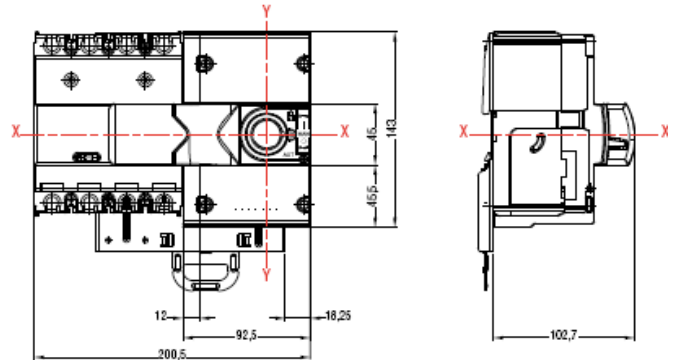


	A	B	C	D	E	F	G	H	I
160	27	115	3,65	16	13,5	27	62,5	110	65

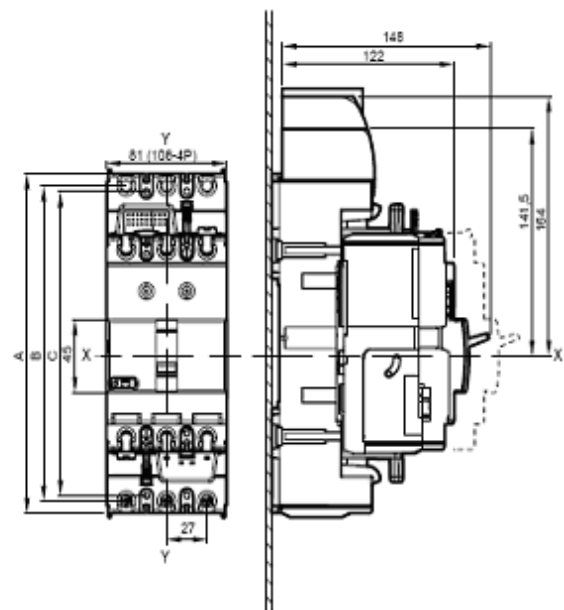
3.4 Fixed version, front motor operator



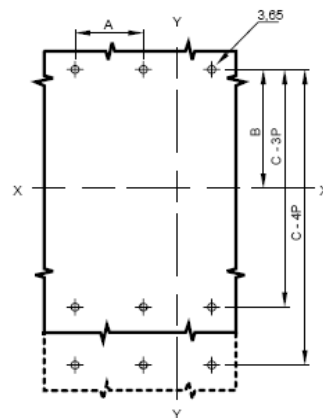
3.5 Fixed version, side motor operator



3.6 Plug-in version



	A	B	C
DPX ³ 160 - 3P	208	193	186
DPX ³ 160 - 4P	238	223	216



	A	B	C
DPX ³ 160	27	100,5	186

DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

4.1 Breaker technical characteristics

Circuit breaker	DPX ³ 160
Rated current I _n (A)	16-160
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	8000/25000
Utilization category	A
Releases type	thermal-mag
Nominal frequency (Hz)	50-60
Thermal adjustment	0,8 ÷ 1 I _n
Magnetic threshold (for 16 and 25A I _m = 400A)	10 x I _n

4.2 Switches technical characteristics

Switches	DPX ³ -I 160
Rated current I _n (A)	160
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	8000/25000
Nominal frequency (Hz)	50-60
Rated short-time withstand current I _{sw} (1 s) (kA)	1,7
Rated short-circuit making capacity I _{cm} (kA)	2,4
AC 22, AC 23, DC 22, DC 23 (A)	160

4.3 Breaking capacity (kA)

Breaking capacity I _{cu} and I _{cs} in AC (KA)					
	U _e	16 kA	25 kA	36 kA	50 kA
I _{cu} (kA)	220/240V	25	36	50	65
	380/415V	16	25	36	50
	440V	10	18	25	30
	460V	10	18	25	30
	480/500V	8	10	12	15
690V	5	5	8	10	
I _{cs} (%I _{cu})	-	100	100	100	100
Rated short-circuit making capacity I _{cm} (KA)					
	U _e	16 kA	25 kA	36 kA	50 kA
I _{cm} (kA)	415 V	32	52.5	75.6	105

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
16	23	22	21	21	20	19	18	17	16	15	15	14
25	37	35	34	33	32	30	28	26	25	23	22	21
40	55	54	52	51	50	47	43	42	40	38	36	34
63	88	87	84	83	81	76	69	66	63	60	57	55
80	115	113	111	109	107	97	87	84	80	78	75	72
100	135	133	130	123	115	108	104	102	100	95	90	85
125	160	158	155	153	150	138	130	127	125	118	112	105
160	224	221	214	210	205	192	176	168	160	152	145	139

4.5 Power loss (W)

4.5.1 Breaker power loss (W)

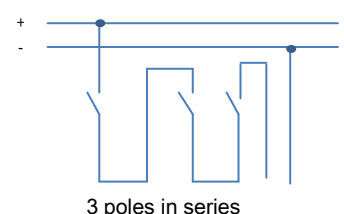
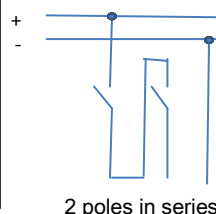
Power loss DPX ³ 160 (W)								
I _n (A) ---->	16	25	40	63	80	100	125	160
Cage terminals	2,8	5,0	5,1	6,7	7,0	11,0	12,5	15,4
Lugs	2,8	5,0	5,1	6,7	7,0	11,0	12,5	15,4
External terminals	2,8	5,0	5,1	6,7	7,0	11,0	12,5	15,4
Spreaders	2,8	5,0	5,1	6,7	7,0	11,0	12,5	15,4
Rear terminals	2,8	5,0	5,1	6,7	7,0	11,0	12,5	15,4
Plugin version	2,9	5,1	5,4	7,5	8,3	13,0	15,6	20,5

4.5.2 Switches power loss (W)

Power loss DPX ³ -I 160 (W)	
I _n (A) ---->	160
Cage terminals	9,2
Lugs	9,2
External terminals	9,2
Spreaders	9,2
Rear terminals	9,2
Plugin version	14,3

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
160 16 kA	32	16	16	10
160 25 kA	50	25	25	20
160 36 kA	60	30	30	25
160 50 kA	80	40	40	35



DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

4.7 Protection in DC

Protection in D.C. current		
	thermal	magnetic
160 16 kA	like AC	1,5 Im AC
160 25 kA	like AC	1,5 Im AC
160 36 kA	like AC	1,5 Im AC
160 50 kA	like AC	1,5 Im AC

4.8 Altitude

Altitude (m)				
	Altitude (m)	≤2000	3000	4000
DPX ³ 160	Rated current (A)	1 x In	0,96 x In	0,93 x In
	Rated voltage (V)	690	690	550
DPX ³ -I 160	Rated current (A)	1 x In	0,96 x In	0,93 x In
	Rated voltage (V)	500	500	400

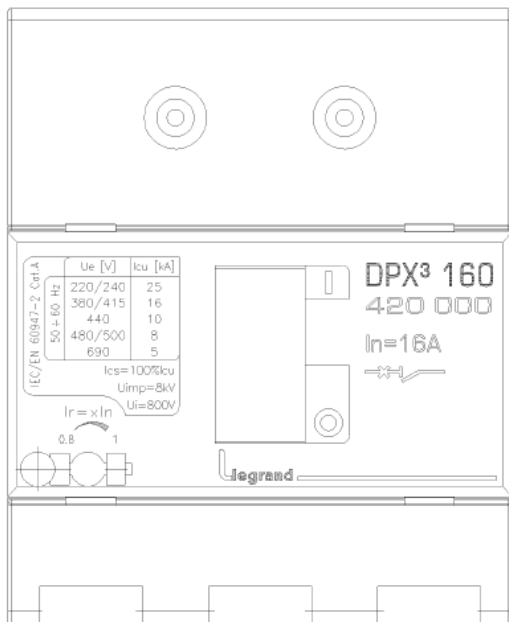
4.9 Loads operation

Loads operation	
Rated current (A)	In=160
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-depth:
- 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 160 3P ref. 421 050
- sealable terminal shield for rear terminals 160 4P ref. 421 051
- sealable terminal shield for front spreaders 160 3P ref. 421 054
- sealable terminal shield for front spreaders 160 4P ref. 421 055

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

- high capacity terminals for al or cu cables kit (3) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 026
- high capacity terminals for al or cu cables kit (4) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 027
- rack screw and nut for cable lug (3) ref. 421 028
- rack screw and nut for cable lug (4) ref. 421 029

Front spreaders

- DPX³ front spreaders for 3P DPX³ 160 (3) ref. 421 032
- DPX³ front spreaders for 4P DPX³ 160 (4) ref. 421 033

DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/
012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/
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086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/
124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

Rear terminals

- DPX³ flat rear terminals for 3P DPX³ 160 (3) ref. 421 036
- DPX³ flat rear terminals for 4P DPX³ 160 (4) ref. 421 037

7.5 Plug-in version

Bases

- front/rear terminals plug-in base 3P DPX³ 160 ref. 421 040
- front/rear terminals plug-in base 4P DPX³ 160 ref. 421 041

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 160 ref. 421 068

7.7 Mounting on rail fixing plate

- DPX³ din rail fixing plate DPX³ 160 3P/4P ref. 421 071

DPX³ 160

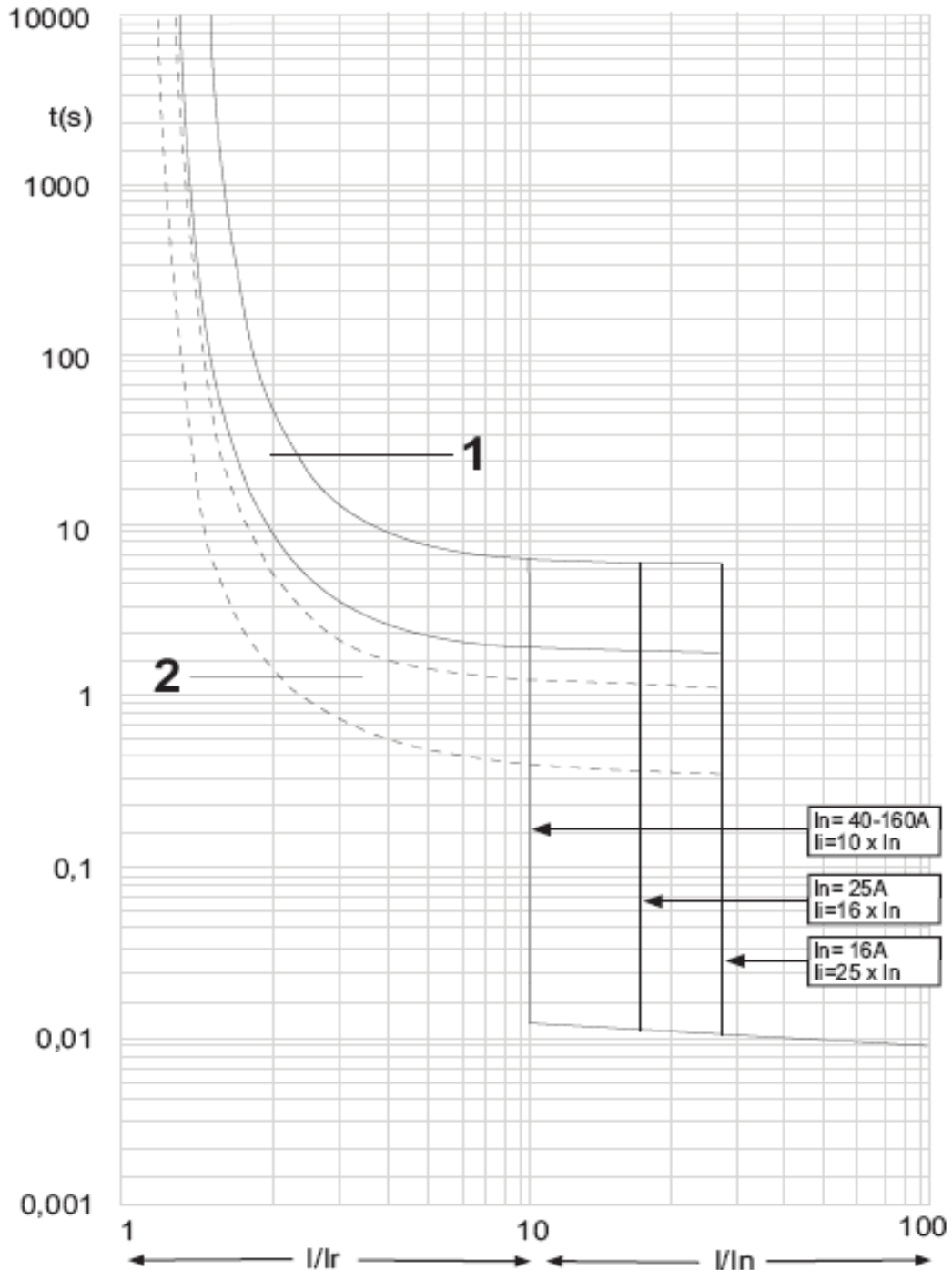
Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

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

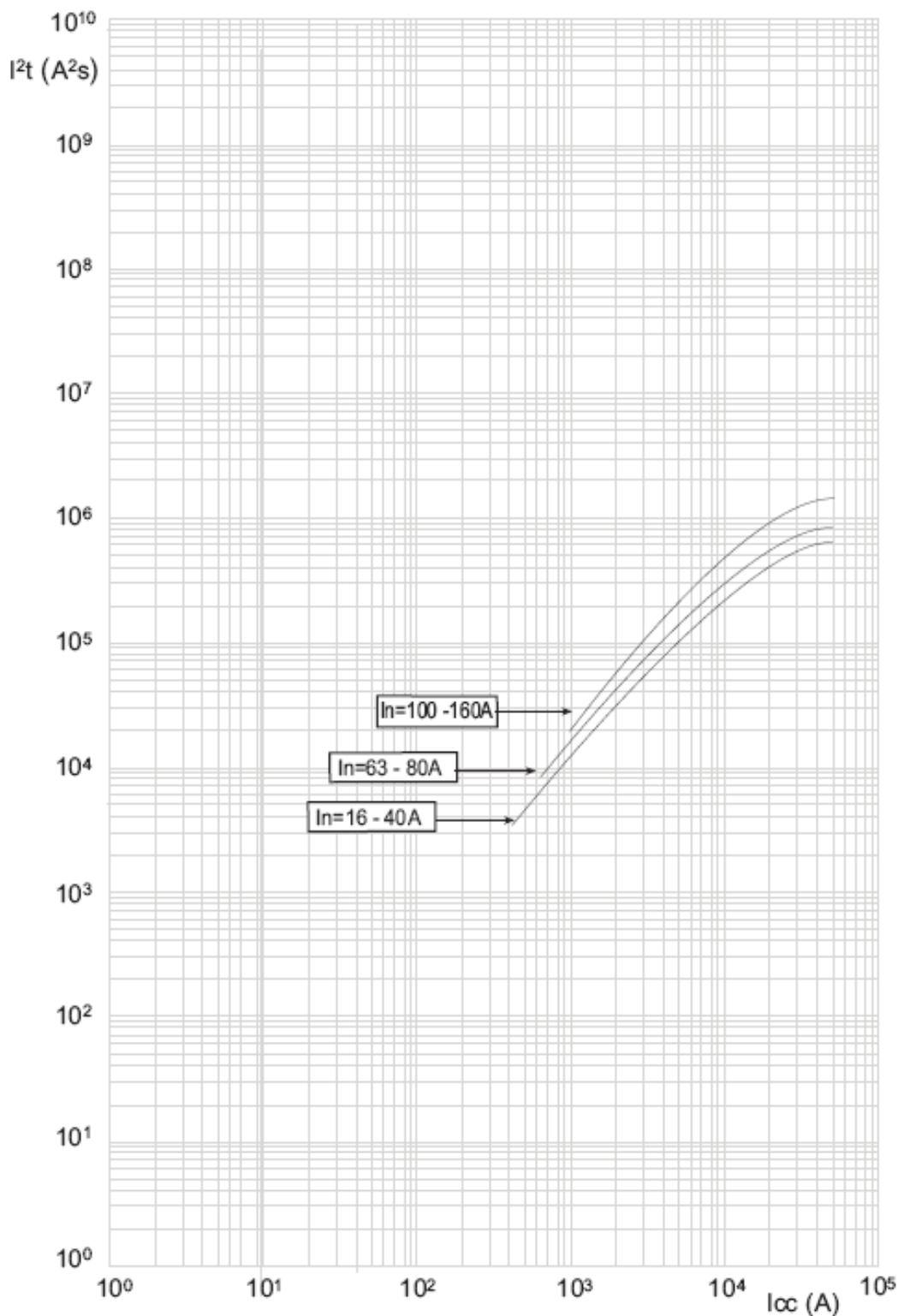
DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

8.2 Energy curve



I_{cc} = estimated short circuit symmetrical current (RMS value)
 I^2t (A²s) = pass-through specific energy

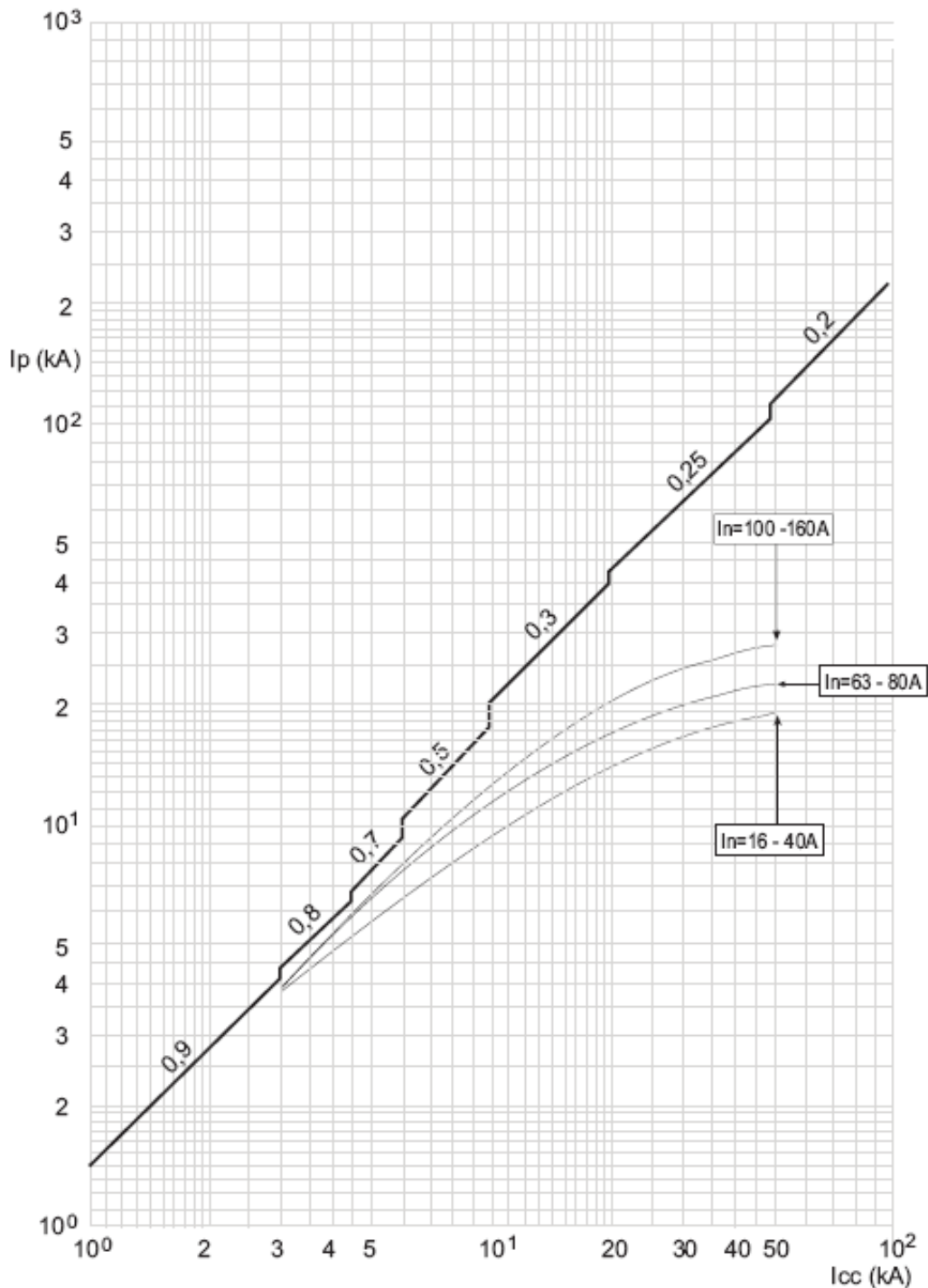
DPX³ 160

Thermal magnetic and trip-free switches

DPX³-I 160

Reference(s) : 420 000/ 001/ 002/003/ 004/ 005/ 006/ 007/ 010/ 011/ 012/ 013/ 014/ 015/ 016/ 017/ 040/ 041/ 042/ 043/ 044/ 045/ 046/ 047/ 050/ 051/ 052/ 053/ 054/ 055/ 056/ 057/ 080/ 081/ 082/ 083/ 084/ 085/ 086/ 087/ 090/ 091/ 092/ 093/ 094/ 095/ 096/ 097/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 198/ 199

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