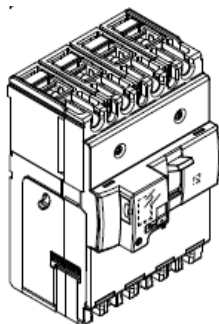


# DPX<sup>3</sup> 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/  
 337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/  
 638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/  
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 697/699/702/705/707/709/402/405/407/409/412/415/417/419/432/435/  
 437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/  
 667/668/669/675/677/678/679



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## 1. USE

DPX<sup>3</sup> "moulded case" offers optimal solutions to answer protection requirements of tertiary and industrial installations.

## 2. RANGE

### DPX<sup>3</sup> ELECTRONIC

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420302	420312	420332	420342	420362	420372	420635	420645
100	420305	420315	420335	420345	420365	420375	420637	420647
160	420307	420317	420337	420347	420367	420377	420638	420648
250	420309	420319	420339	420349	420369	420379	420639	420649

### DPX<sup>3</sup> ELECTRONIC + Ig tg

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420502	420512	420522	420532	420542	420552	420692	420702
100	420505	420515	420525	420535	420545	420555	420695	420705
160	420507	420517	420527	420537	420547	420557	420697	420707
250	420509	420519	420529	420539	420549	420559	420699	420709

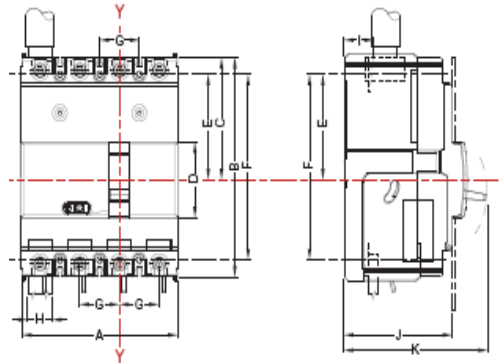
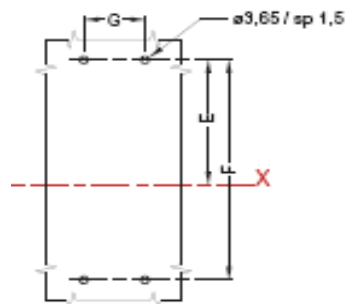
### DPX<sup>3</sup> ELECTRONIC + MEASURE

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420402	420412	420432	420442	420462	420472	420665	420675
100	420405	420415	420435	420445	420465	420475	420667	420677
160	420407	420417	420437	420447	420467	420477	420668	420678
250	420409	420419	420439	420449	420469	420479	420669	420679

## 3. DIMENSIONS

### 3.1 Fixed version

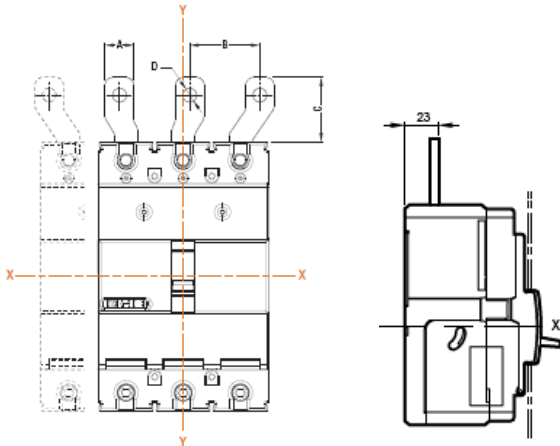
	A	B	C	D	E	F	G	H	I	J	K
250 4P	140	165	82,5	45	61,5	123	35	28,5	18	74	97



# DPX<sup>3</sup> 250 Electronic

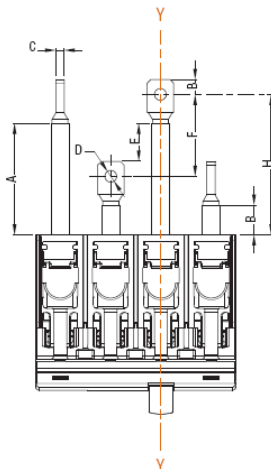
Reference(s): 420 302/305/307/309/312/315/317/319/332/335/  
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 437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/  
 667/668/669/675/677/678/679

## 3.2 Fixed version, front terminals



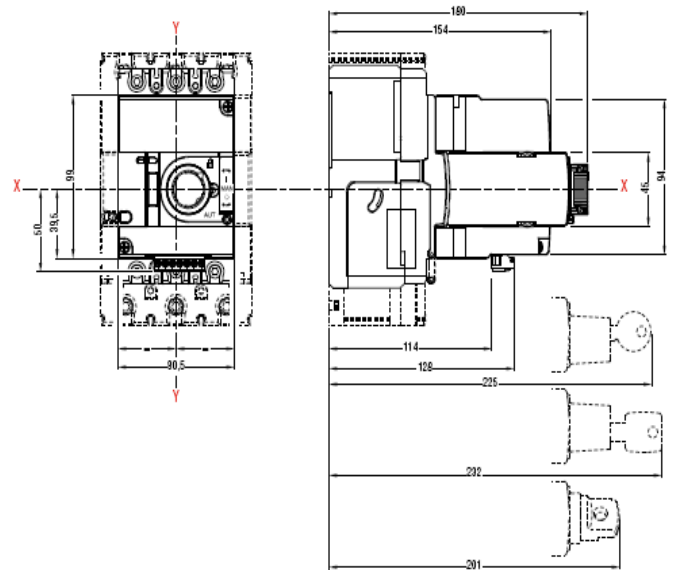
	A	B	C	D
250	33	48,5	54,75	13

## 3.3 Fixed version, rear terminals

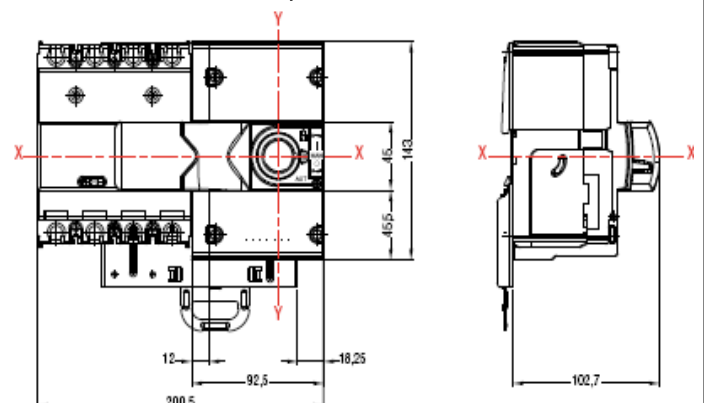


	A	B	C	D	E	F	G	H
250	66,5	22,5	6	8,4	15,5	44	15	80

## 3.4 Fixed version, front motor operator



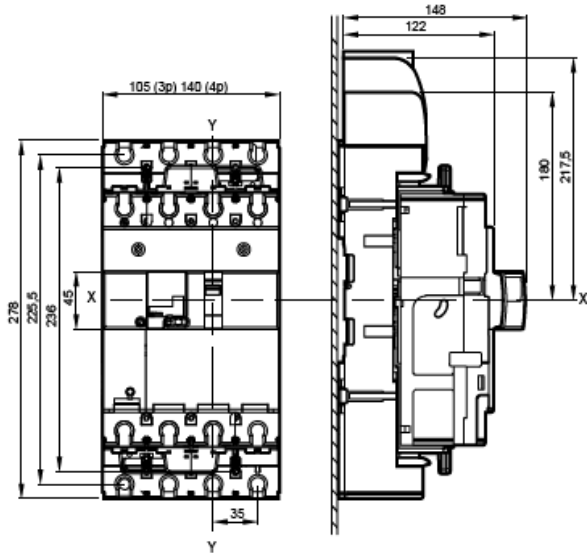
## 3.5 Fixed version, side motor operator



# DPX<sup>3</sup> 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/  
337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/  
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437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/  
667/668/669/675/677/678/679

## 3.6 Plug-in version



## 4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

### 4.1 Breaker technical characteristics

Circuit breaker	DPX <sup>3</sup> 250
Rated current I <sub>n</sub> (A)	40-250
Rated insulation voltage U <sub>i</sub> (V)	800
Rated operational voltage U <sub>e</sub> (V)	690 V (ac)
Rated impulse withstand voltage U <sub>imp</sub> (kV)	8
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	electronic
Nominal frequency (Hz)	50-60
Thermal adjustment	0,4 ÷ 1 I <sub>n</sub>
Magnetic threshold	1,5 ÷ 10 x I <sub>r</sub>

### 4.2 Breaking capacity (KA)

Breaking capacity I <sub>cu</sub> and I <sub>cs</sub> in AC (kA)					
	U <sub>e</sub>	25 kA	36 kA	50 kA	70 kA
I <sub>cu</sub> (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 <sub>cs</sub> (%I <sub>cu</sub> )	-	100	100	100	100

### 4.3 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)				
I <sub>n</sub> (A)	40	50	60	70
40	40	37	34	30
100	100	92	84	76
160	160	147	134	122
250	250	230	210	190

There is no derating below 40°C.

### 4.4 Breaker power loss (W)

Power loss DPX <sup>3</sup> 250 ELE(W)				
I <sub>n</sub> (A) ---->	40	100	160	250
Cage terminals	0,3	2,0	5,1	12,5
Lugs	0,3	2,0	5,1	12,5
External terminals	0,3	2,0	5,1	12,5
Spreaders	0,3	2,0	5,1	12,5
Rear terminals	0,3	2,0	5,1	12,5
Plugin version	0,6	4,0	10,2	25,0

### 4.5 Altitude

Altitude (m)				
	Altitude (m)	≤2000	3000	4000
DPX <sup>3</sup> 250	Rated current (A)	1 x I <sub>n</sub>	0,96 x I <sub>n</sub>	0,93 x I <sub>n</sub>
	Rated voltage (V)	500	500	400

### 4.6 Loads operation

Loads operation	
Rated current (A)	I <sub>n</sub> =250
Opening (N)	45
Closing (N)	78
Reset (N)	75

### 4.7 Measure

Current	phase and neutral	I1,I2,I3,IN	Class I according to IEC 61557-12
	phases average	Iavg	Class I according to IEC 61557-12
	higher phase	I <sub>max</sub>	Class I according to IEC 61557-12
	current unbalance	%Iavg	Class I according to IEC 61557-12
Voltage	Phase/phase	U12,U23, U31	0.50%
	Phase/neutral	V1N,V2N,V3N	0.50%
	phase/phase avg.	Uavg	0.50%
	Phase/neutral avg.	Vavg	0.50%
	Phases rotation	123,132	0.50%
Frequency	Electrical network	F	0.10%
Power	active	P,tot & for phase	Class II according to IEC 61557-12
	reactive	Q,tot & for phase	Class II according to IEC 61557-12
	apparent	R,tot & for phase	Class II according to IEC 61557-12

# DPX<sup>3</sup> 250 Electronic

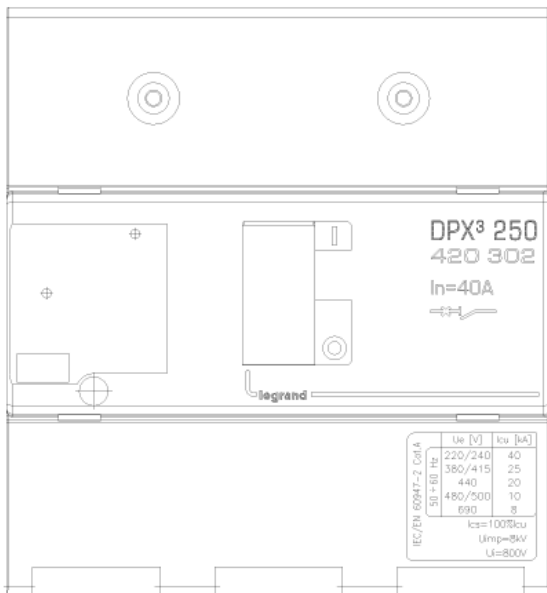
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638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/  
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697/699/702/705/707/709/402/405/407/409/412/415/417/419/432/435/  
437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/  
667/668/669/675/677/678/679

Energy	active	Last reset	Class II according to IEC 61557-12
	reactive	Last reset	Class II according to IEC 61557-12
	apparent	Last reset	Class II according to IEC 61557-12
THD	voltage	Pha./pha. & phase/neutral	Range 1 to 15°
	current	Phase/neutral	Range 1 to 15°

## 5. CONFORMITY

IEC 60947-2  
EN 60947-2

## 6. MARKING



## 7. NAVIGATION

Symbol	Description
	0.4 x I <sub>n</sub> ÷ 1 x I <sub>n</sub>
	3 – 5 – 10 – 15 – MEM 3 – MEM 5 – MEM 10 – MEM 15
	1.5I <sub>r</sub> – 2I <sub>r</sub> – 2.5I <sub>r</sub> – 3I <sub>r</sub> – 4I <sub>r</sub> – 5I <sub>r</sub> – 6I <sub>r</sub> – 7I <sub>r</sub> – 8I <sub>r</sub> – 9I <sub>r</sub> – 10I <sub>r</sub>
	0-100-200-300-400-500- I <sub>t</sub> = κ 0 .... 500
	OFF – 50% - 100%
	Lo - Hi
	I L1 measured value present
	I L2 measured value present
	I L3 measured value present
	I N measured value present
	Measured value of last intervention

## 8. EQUIPMENTS AND ACCESSORIES

### 8.1 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

### 8.2 Rotary handles :

- Direct:
- DPX<sup>3</sup> direct rotary handle ele / earth leakage ref. 421 001
  - DPX<sup>3</sup> emergency direct rotary handle ele / earth leakage ref. 421 003

### Vari-depht:

- DPX<sup>3</sup> vari depth rotary handle ref. 421 004
- DPX<sup>3</sup> 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

### 8.3 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

- DPX<sup>3</sup> padlock accessory for handle (off) ref. 421 049

#### Interlock:

- DPX<sup>3</sup> interlock mounting plate ref. 421 058
- DPX<sup>3</sup> interlock for plug-in / draw-out version ref. 421 059

### 8.4 Connection's accessories :

#### Cage terminals

- cage terminals for al or cu cables kit (3) - flex 1x120mm<sup>2</sup>, rigid 1x150mm<sup>2</sup>, bar/cable lug 18mm ref. 421 030
- cage terminals for al or cu cables kit (4) - flex 1x120mm<sup>2</sup>, rigid 1x150mm<sup>2</sup>, bar/cable lug 18mm ref. 421 031

# DPX<sup>3</sup> 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/  
337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/  
638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/  
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437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/  
667/668/669/675/677/678/679

## Front spreaders

- DPX<sup>3</sup> front spreaders for 3P DPX<sup>3</sup> 250 (3) ref. 421 034
- DPX<sup>3</sup> front spreaders for 4P DPX<sup>3</sup> 250 (4) ref. 421 035

## Rear terminals

- DPX<sup>3</sup> flat rear terminals for 3P DPX<sup>3</sup> 250 (3) ref. 421 038
- DPX<sup>3</sup> flat rear terminals for 4P DPX<sup>3</sup> 250 (4) ref. 421 039

## 8.5 Plug-in version

### Bases

- front/rear terminals plug-in base 3P DPX<sup>3</sup>250 ref. 421 042
- front/rear terminals plug-in base 4P DPX<sup>3</sup> 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

## 8.6 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:

- DPX<sup>3</sup> din plate for motor operator DPX<sup>3</sup> 250 ref. 421 069

## 8.7 Mounting on rail fixing plate

- DPX<sup>3</sup> din rail fixing plate DPX<sup>3</sup> 250 3P/4P ref. 421 072

## 8.8 Communication interface

- DPX<sup>3</sup> communication interface (Modbus) ref. 421 075

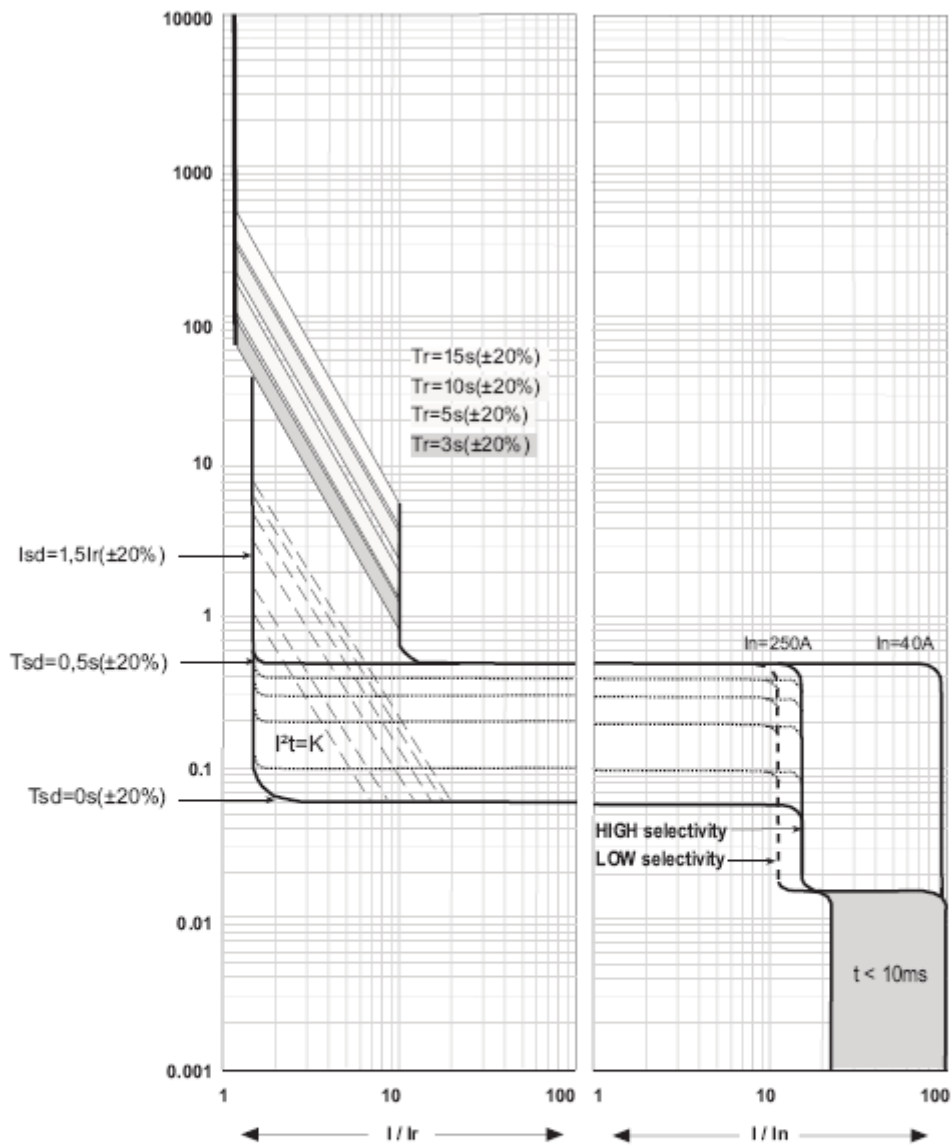
## 8.9 Supply

- Lithium battery CR1616 3V x 2 ref. 421 082
- External power supply 12V ref. 288 06

- Minimum current for electronic card supply :  $0.2 \times I_n$
- Auxiliary supply by 421 075 (24 V ac/dc);

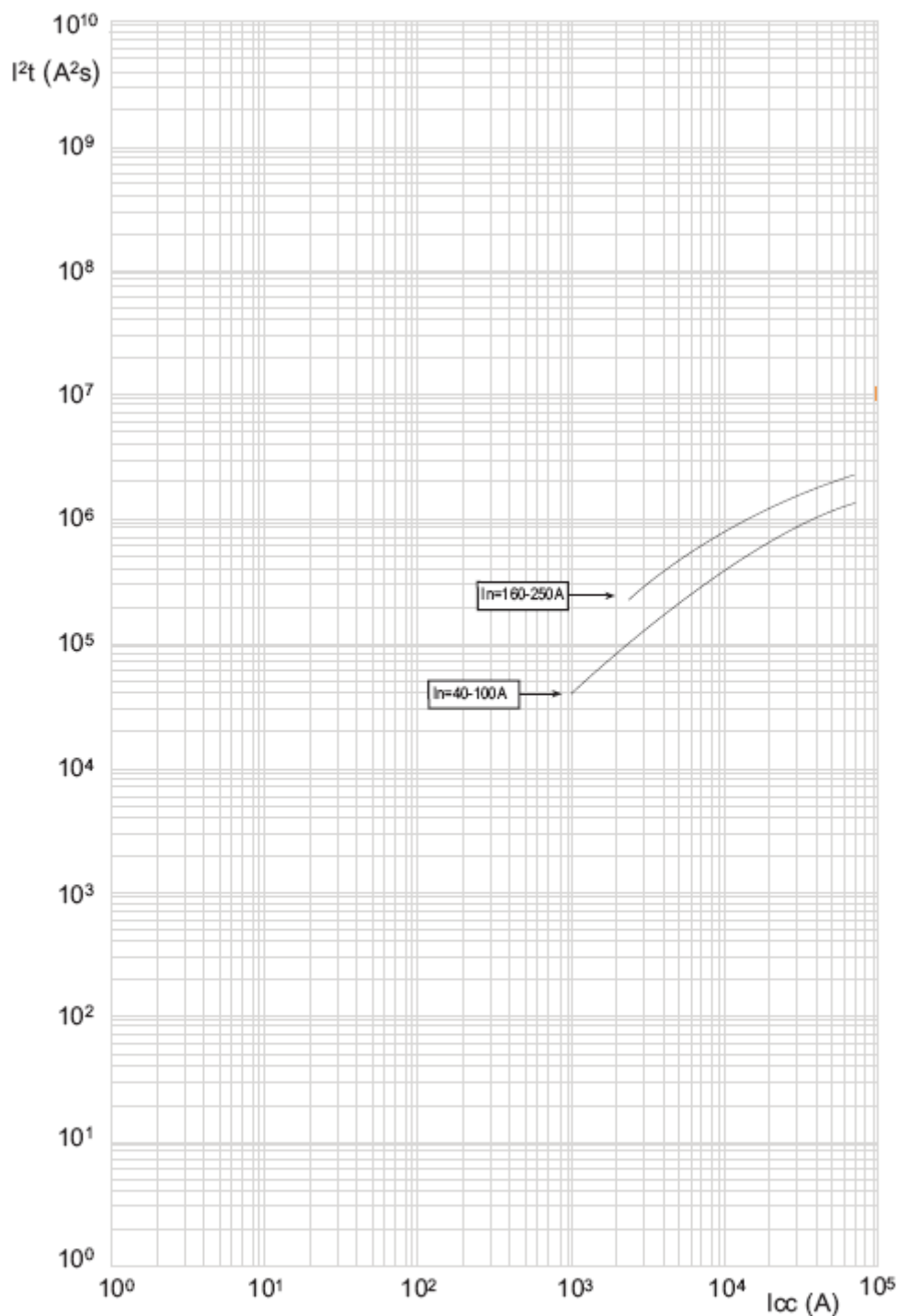
## 9. CURVES

### 9.1 TRIPPING CURVE



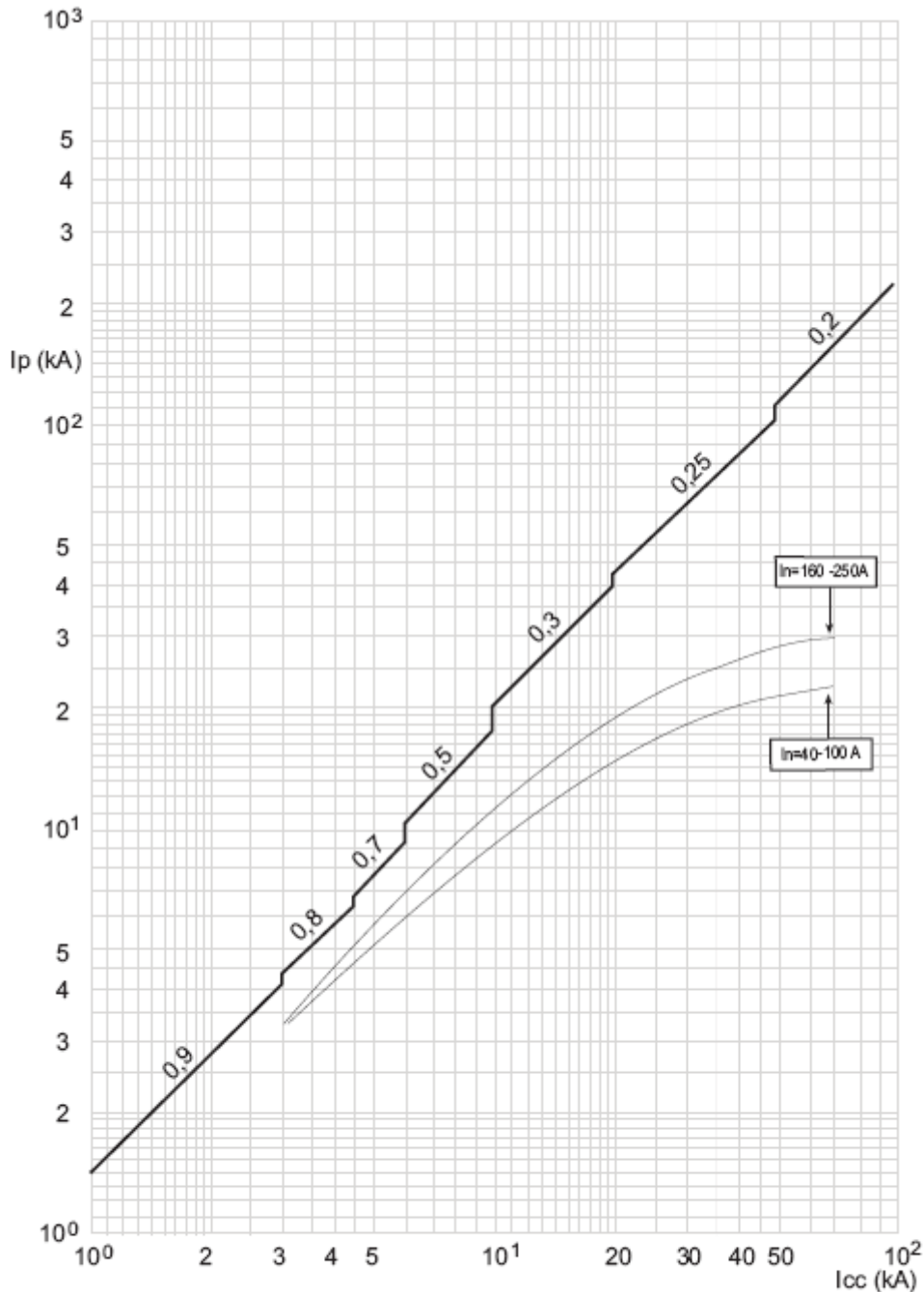
t = time  
 I = rated current □  
 Ir = setting current  
 curve number 1 = characteristic with cold start  
 curve number 2 = characteristic with hot start

## 9.2 Energy curve



I<sub>cc</sub> = estimated short circuit symmetrical current (RMS value)  
 I<sup>2</sup>t (A<sup>2</sup>s) = pass-through specific energy

## 9.3 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