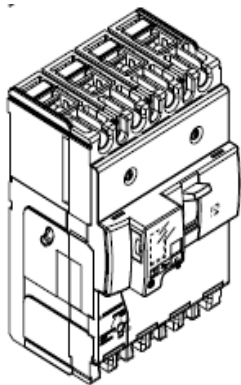


# DPX<sup>3</sup> 250 AB + earth leakage

Reference(s): 420 731/733



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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

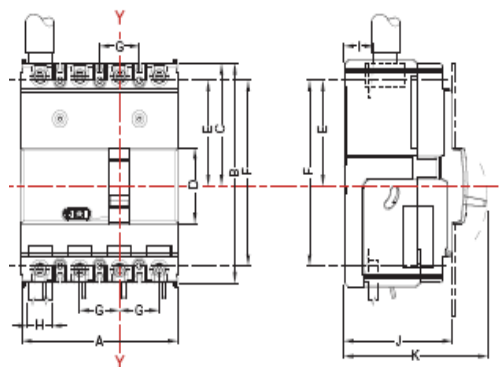
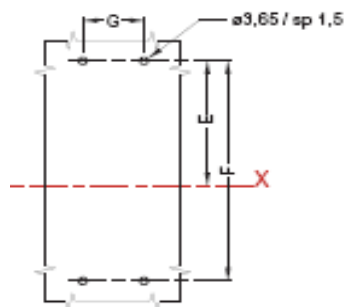
DPX<sup>3</sup> AB + EARTH LEAKAGE

In	36 kA
(A)	4P
130	420731
240	420733

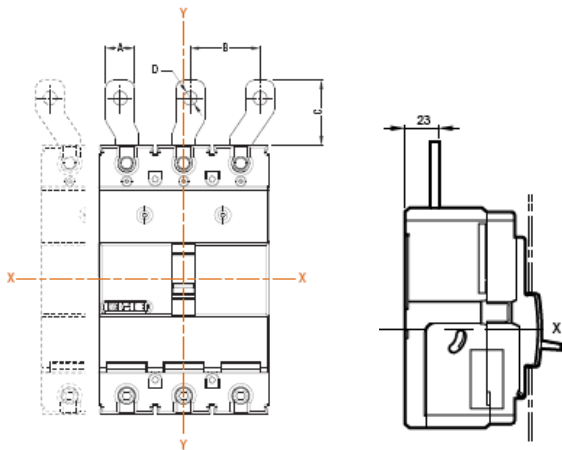
## 3. DIMENSIONS

### 3.1 Fixed version

	A	B	C	D	E	F	G	H	I	J	K
250 DIFF	140	195	82,5	45	61,5	153	35	28,5	18	74	97

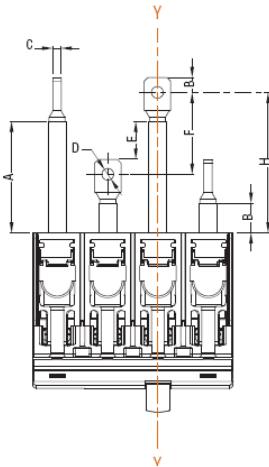


### 3.2 Fixed version, front terminals

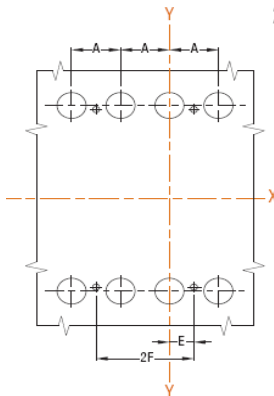


	A	B	C	D
<b>250</b>	33	48,5	54,75	13

### 3.3 Fixed version, rear terminals

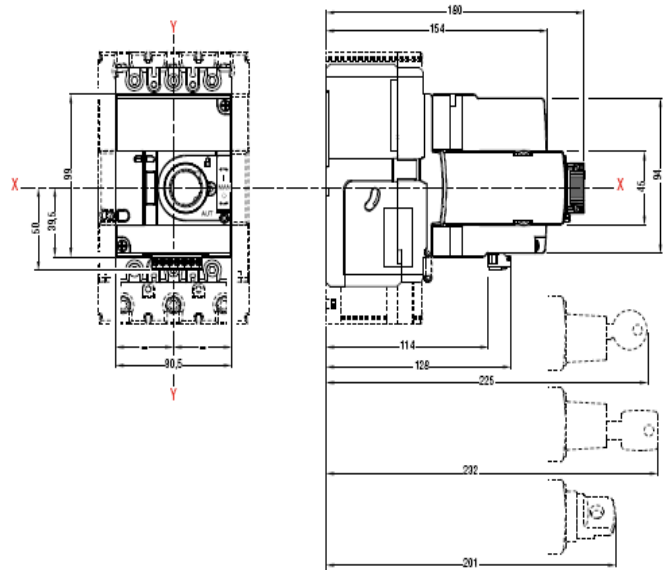


	A	B	C	D	E	F	G	H
<b>250</b>	66,5	22,5	6	8,4	15,5	44	15	80

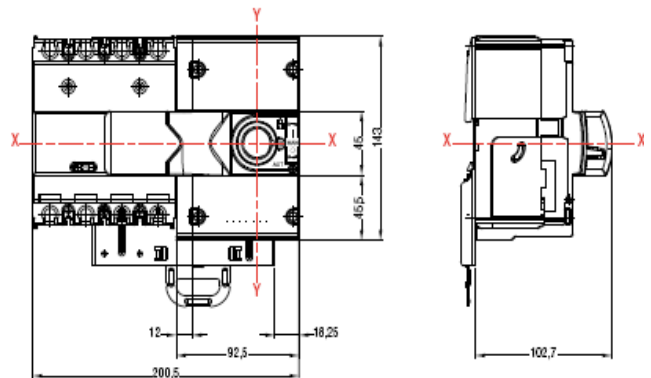


	A	B	C	D	E	F	G	H	I
<b>250 DIFF</b>	35	172,5	3,65	19	17,5	35	61,5	153	71,5

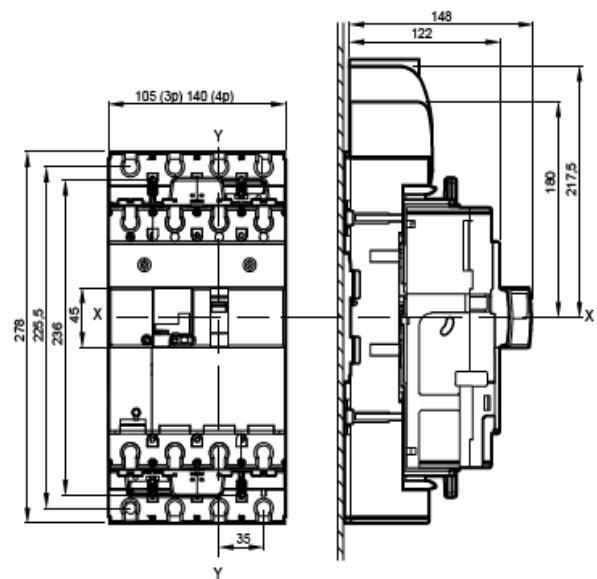
### 3.4 Fixed version, front motor operator



### 3.5 Fixed version, side motor operator



### 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)	130-240
Rated insulation voltage U <sub>i</sub> (V)	500
Rated operational voltage U <sub>e</sub> (V)	500 V (ac)
Rated impulse withstand voltage U <sub>imp</sub> (kV)	6
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	Electronic+ earth leakage
Nominal frequency (Hz)	50-60
Thermal adjustment (I <sub>n</sub> 130A)	60-70-80-90-100-110-120-130
Thermal adjustment (I <sub>n</sub> 240A)	140-150-160-170-180-190-200-220-230-240
Magnetic threshold	600 A (fixed)

### 4.2 Breaking capacity (KA)

Breaking capacity I <sub>cu</sub> and I <sub>cs</sub> in AC (kA)		
	U <sub>e</sub>	
I <sub>cu</sub> (kA)	220/240V	60
	380/415V	36
	440V	30
	480/500V	25
	690V	16
I <sub>cs</sub> (%I <sub>cu</sub> )	-	100

### 4.3 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)				
I <sub>n</sub> (A)	40	50	60	70
130	130	120	109	99
240	240	221	202	182

There is no derating below 40°C.

### 4.4 Breaker power loss (W)

Power loss DPX <sup>3</sup> 250 ELE + earth leakage (W)		
I <sub>n</sub> (A) ---->	130	240
Cage terminals	5.1	17.3
Lugs	5.1	17.3
External terminals	5.1	17.3
Spreaders	5.1	17.3
Rear terminals	5.1	17.3
Plugin version	8.5	28.8

### 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> =240
Opening (N)	45
Closing (N)	78
Reset (N)	75

### 4.7 Measure

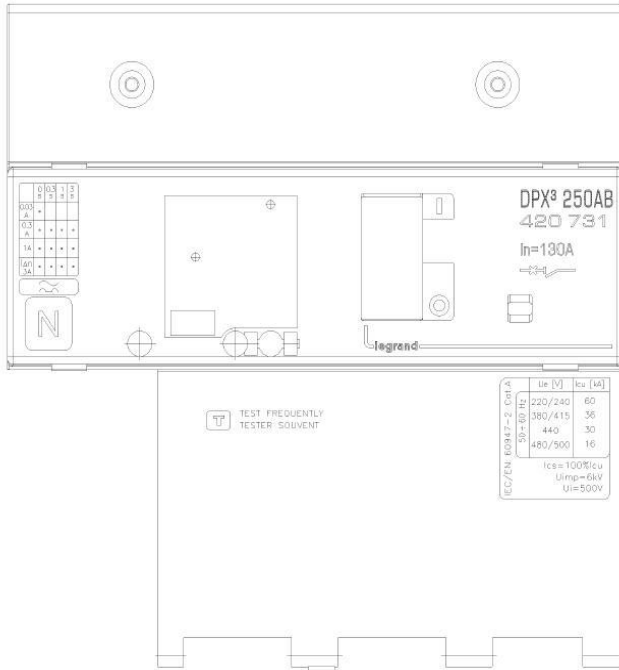
Current	phase and neutral	I1,I2,I3,IN	Class I according to IEC 61557-12
	phases average	Iavg	Class I according to IEC 61557-12
	higher phase	I <sub>max</sub>	Class I according to IEC 61557-12
	current unbalance	%Iavg	Class I according to IEC 61557-12
Voltage	Phase/phase	U12,U23, U31	0.50%
	Phase/neutral	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 <sub>tot</sub> & for phase	Class II according to IEC 61557-12
	reactive	Q <sub>tot</sub> & for phase	Class II according to IEC 61557-12
	apparent	R <sub>tot</sub> & for phase	Class II according to IEC 61557-12

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

	
<b>I<sub>r</sub></b> (I <sub>n</sub> 130 A)	60-70-80-90-100-110-120-130
<b>I<sub>r</sub></b> (I <sub>n</sub> 240 A)	140-150-160-170-180-190-200-220-230-240
<b>tr</b>	3 – 5 – 10 – 15 – MEM 3 – MEM 5 – MEM 10 – MEM 15
<b>I<sub>sd</sub></b>	600
<b>tsd</b>	0-100-200-300-400-500- $i^2t = k 0 \dots 500$ ms
<b>I<math>\Delta</math>n</b>	30 mA– 300 mA - 1A – 3A
<b><math>\Delta t</math></b>	0 – 300 ms – 1s – 3s
<b>N</b>	OFF – 50% - 100%
<b>sel</b>	Lo - Hi
<b>I1</b>	I L1 measured value present
<b>I2</b>	I L2 measured value present
<b>I3</b>	I L3 measured value present
<b>IN</b>	I N measured value present
<b>I<math>\Delta</math></b>	I $\Delta$ measured value present
<b> I<math>\Delta</math>n</b>	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-depth:
- 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 4P ref. 421 053
  - 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
- high capacity 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

- Front spreaders
- 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 4P DPX<sup>3</sup> 250 (4) ref. 421 039

## 8.5 Plug-in version

### Bases

- 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 4P+earth leakage ref. 421 074

## 8.8 Communication interface

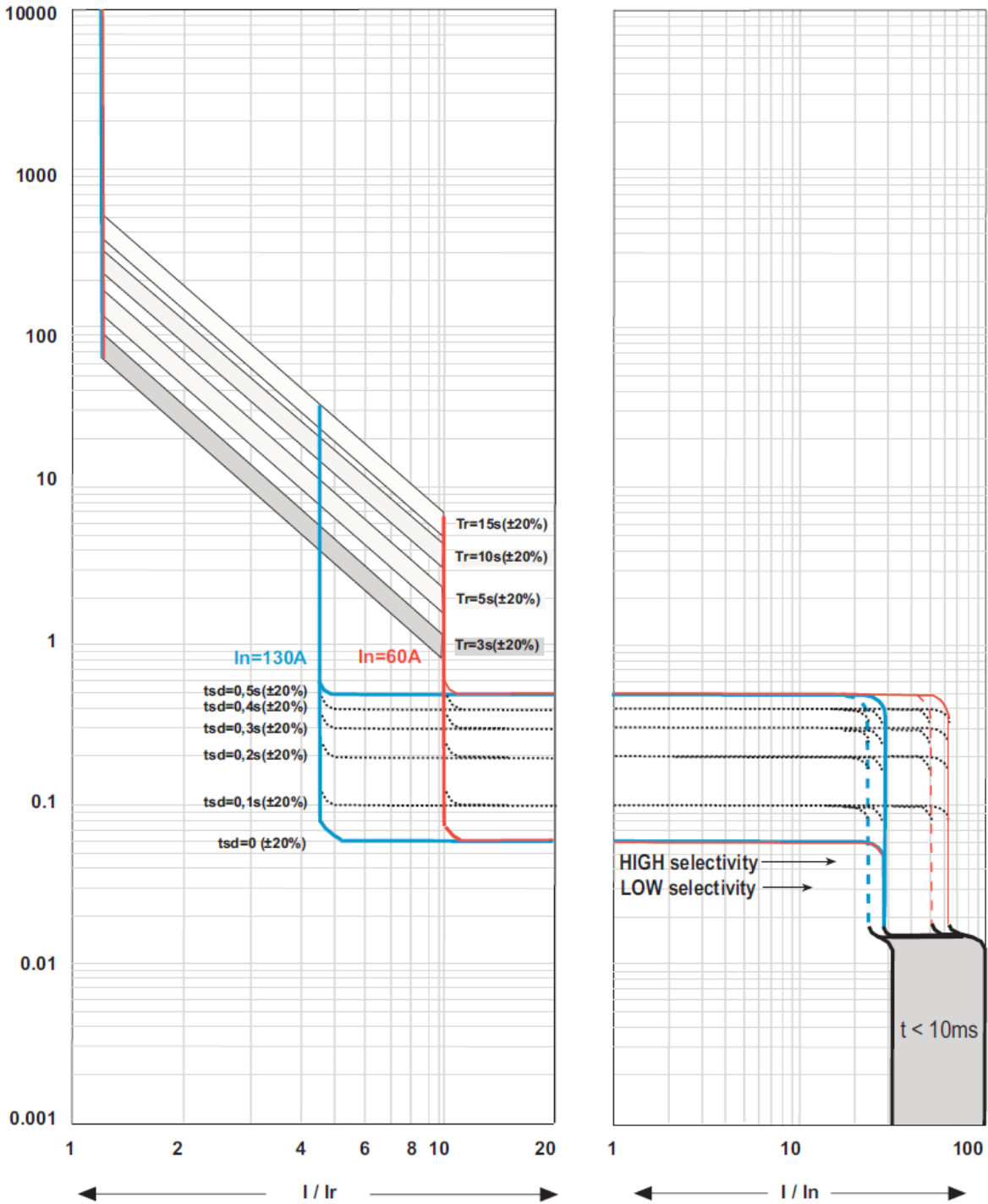
- DPX<sup>3</sup> communication interface (Modbus) ref. 421 075

## 8.9 Supply

- Lithium battery CR1616 3V x 2;
- Minimum current for electronic card supply : 0.2 x I<sub>n</sub>
- Auxiliary supply by 421 075 (24 V ac/dc);

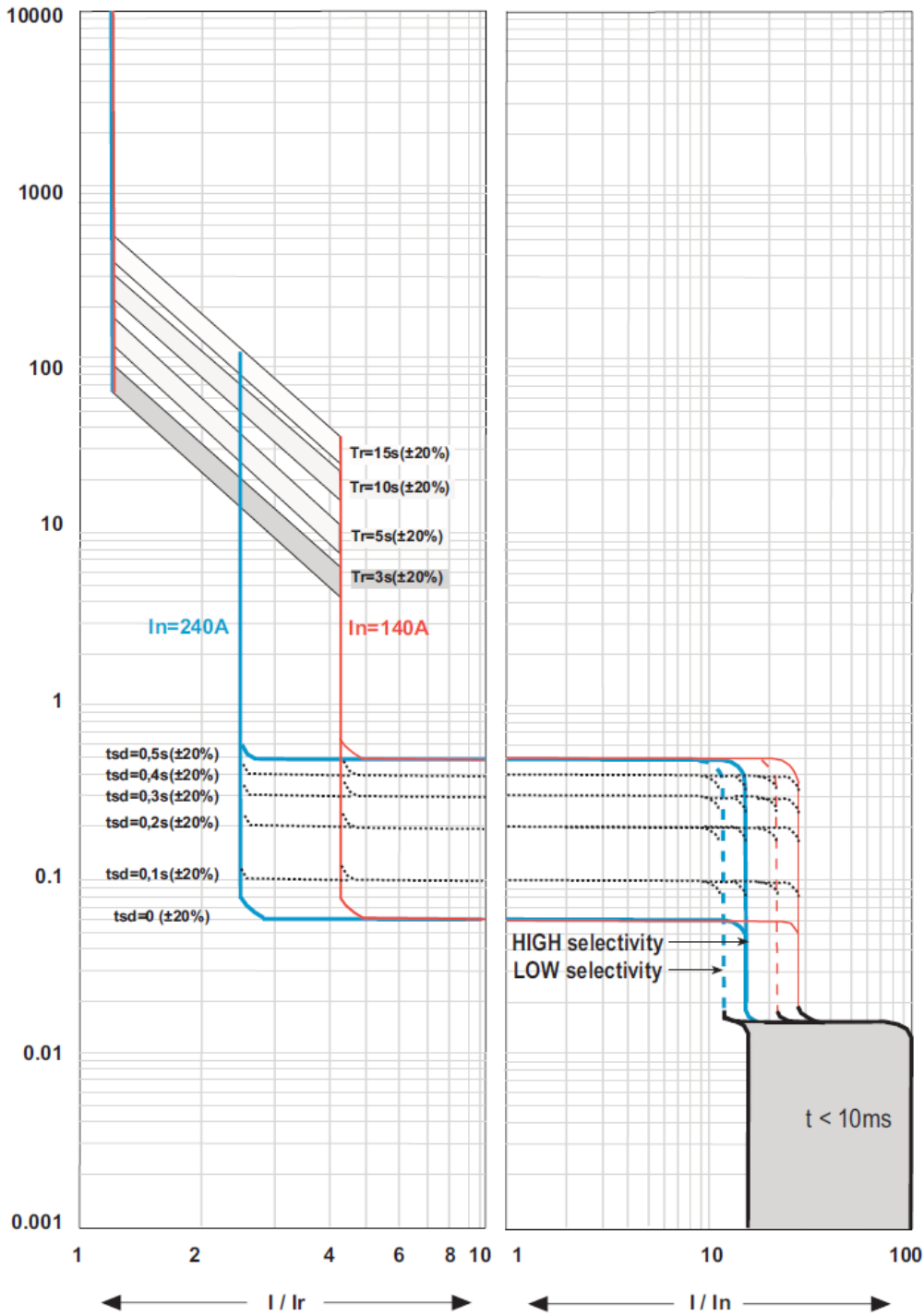
9. CURVES

9.1.1 TRIPPING CURVE : 420731



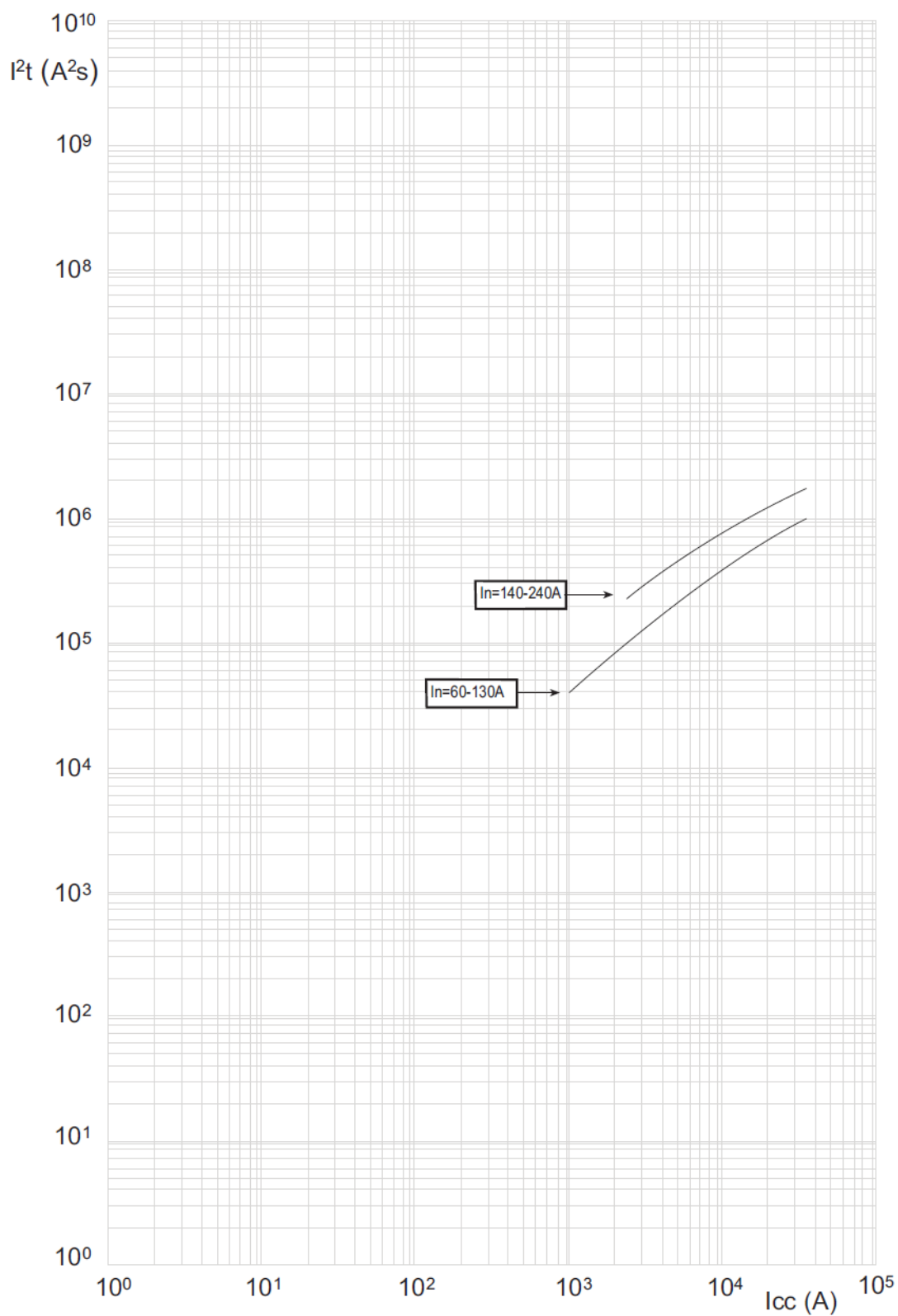
$t$  = time  
 $I$  = rated current  
 $I_r$  = setting current  
 curve number 1 = characteristic with cold start  
 curve number 2 = characteristic with hot start

9.1.2 TRIPPING CURVE : 420733



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

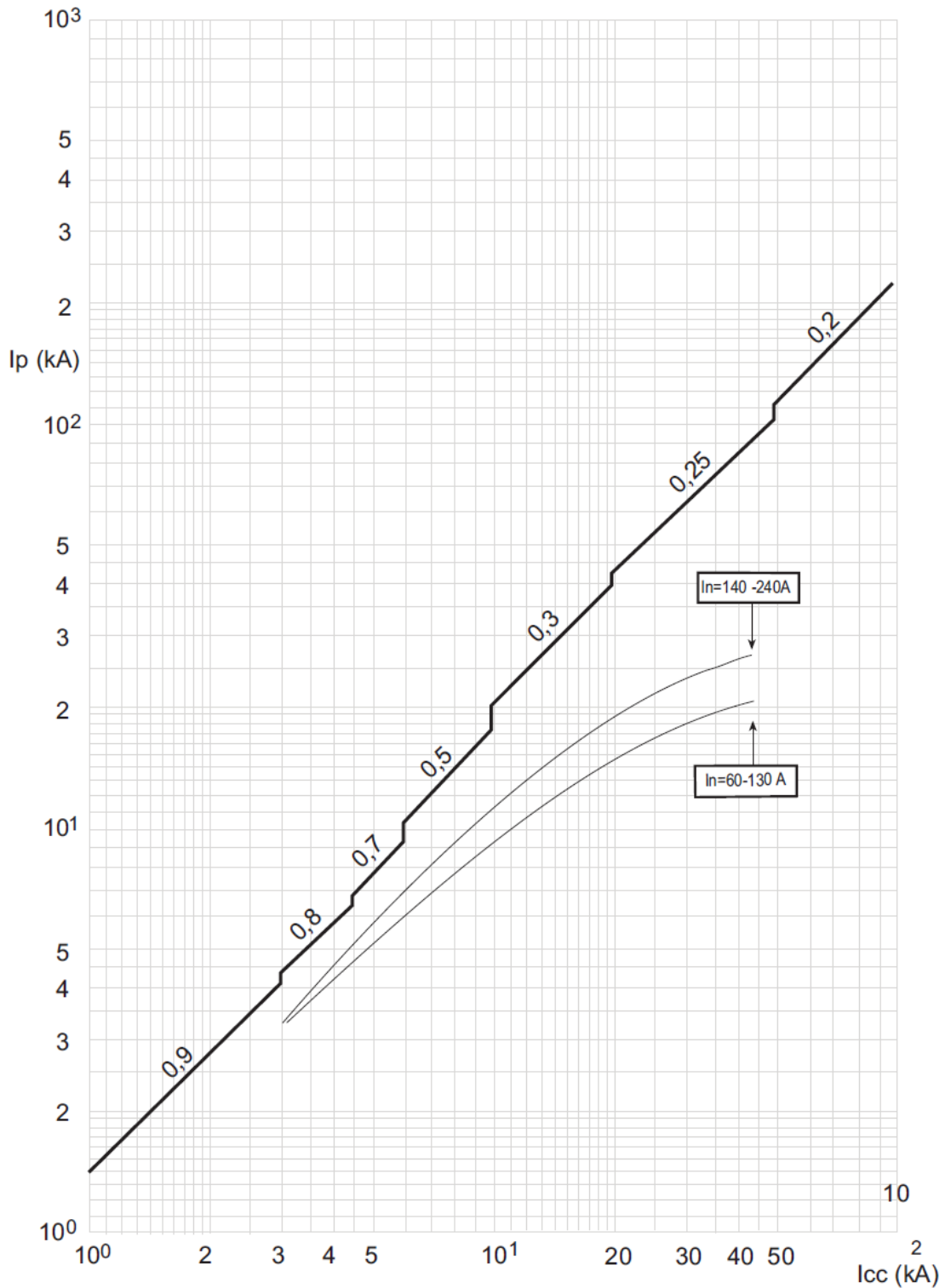
9.2 Energy curve



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

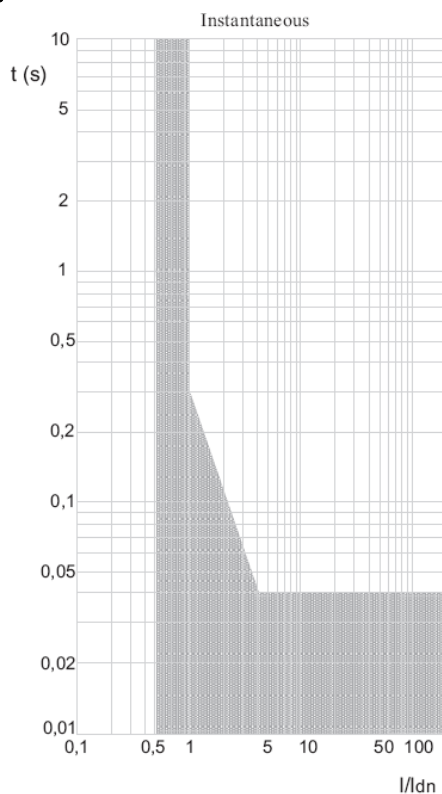


9.3 Restricted current curve

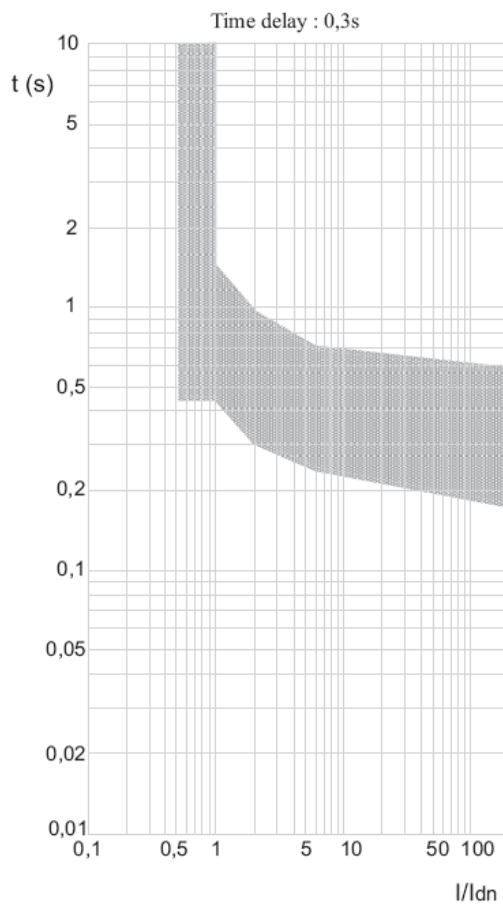


$I_{cc}$  = estimated short circuit symmetrical current (RMS value)  
 $I_p$  = maximum short circuit peak current  
 ..... maximum prospective short circuit peak current corresponding at the power factor  
 ——— maximum real peak short circuit current

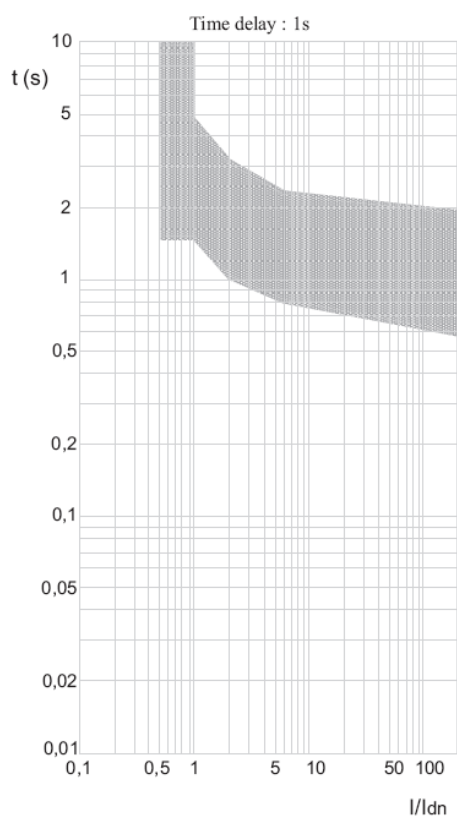
9.4.1 Earth leakage curve, instantaneous



9.4.2 Earth leakage curve, time delay = 0.3 s



9.4.3 Earth leakage curve, time delay = 1 s



9.4.4 Earth leakage curve, time delay = 3 s

