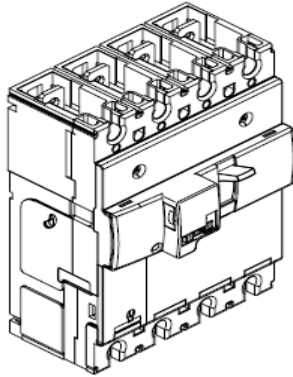


# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

 Reference(s) : 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

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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>

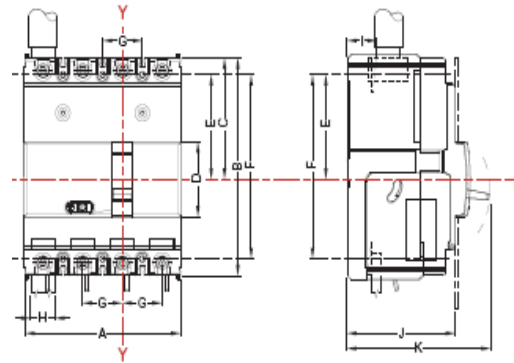
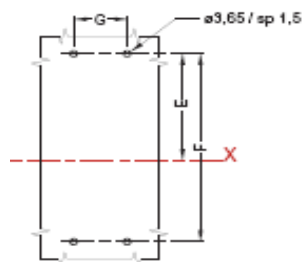
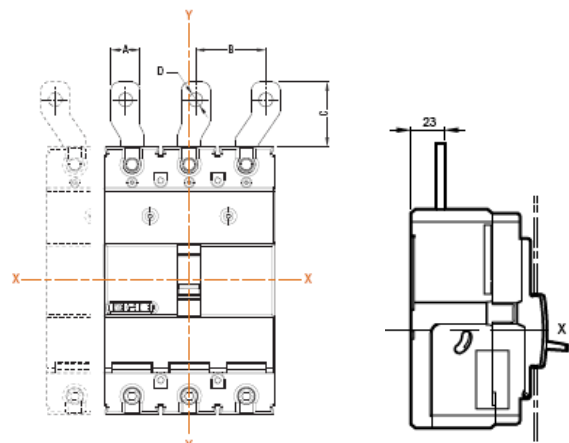
In (A)	25 kA	36 kA	50 kA	70 kA
	4P	4P	4P	4P
100	420225	420255	420285	420625
160	420227	420257	420287	420627
200	420228	420258	420288	420628
250	420229	420259	420289	420629

 DPX<sup>3</sup>-I

In	4P
250	420298

**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
250	33	48,5	54,75	13



# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

### 4.1 Breaker technical characteristics

Circuit breaker	DPX <sup>3</sup> 250 + earth leakage
Rated current I <sub>n</sub> (A)	100-250
Rated insulation voltage U <sub>i</sub> (V)	500
Rated operational voltage U <sub>e</sub> (V)	500 V (ac)
	500 V (dc)
Rated impulse withstand voltage U <sub>imp</sub> (kV)	6
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	thermal-mag + earth leakage
Nominal frequency (Hz)	50-60
Thermal adjustment	0,8 ÷ 1 I <sub>n</sub>
Magnetic threshold	5 ÷ 10 x I <sub>n</sub>

### 4.2 Switches technical characteristics

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

### 4.3 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	8	16	18	20
I <sub>cs</sub> (%I <sub>cu</sub> )	-	100	100	100	100

### 4.4 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)												
I <sub>n</sub> (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 <sup>3</sup> 250 + earth leakage (W)				
I <sub>n</sub> (A) ---->	100	160	200	250
Cage terminals	9,2	17,4	25,6	37,5
Lugs	9,2	17,4	25,6	37,5
External terminals	9,2	17,4	25,6	37,5
Spreaders	9,2	17,4	25,6	37,5
Rear terminals	9,2	17,4	25,6	37,5
Plugin version	11,2	22,5	33,6	50,0

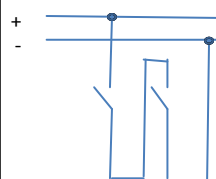
#### 4.5.2 Switches power loss (W)

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

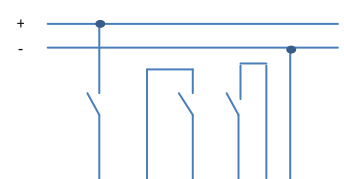
### 4.6 Short-circuit breaking capacity in D.C. current

Short-circuit breaking capacity in D.C. current				
Breaking capacity I <sub>cu</sub> (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

\* Earth leakage protection not available



2 poles in series



3 poles in series

# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 4.7 Protection in DC

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

## 4.8 Altitude

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

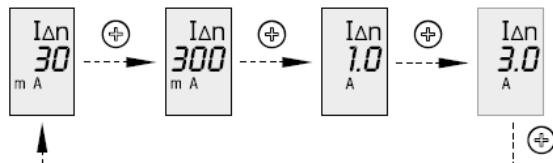
## 4.9 Loads operation

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

## 5. NAVIGATION

### Setup mode

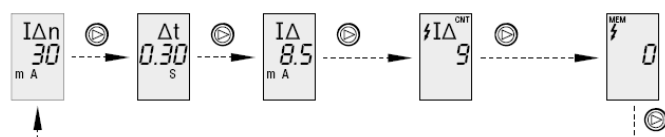
Setting I $\Delta$ n:



Setting t:



ATTENTION: after 5" of permanence on display of the new protection value I $\Delta$ n or time  $\Delta$ t, it is automatically set.

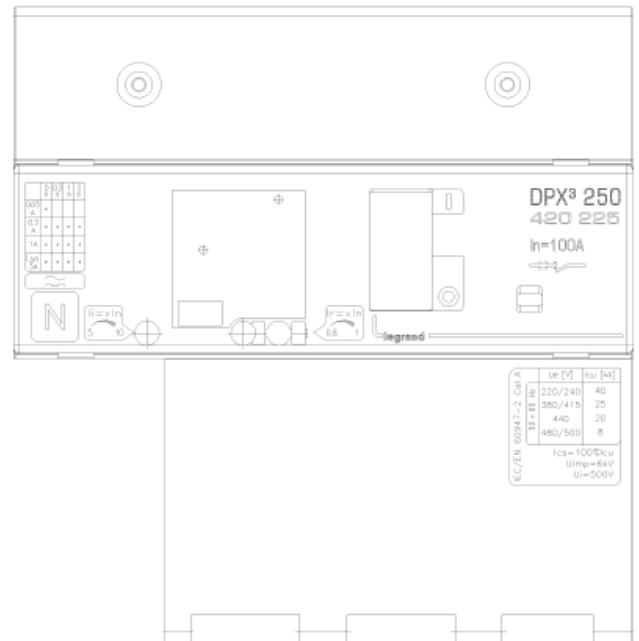


I $\Delta$ n value set       $\Delta$ t value set      I $\Delta$  measured value present      History of interventions for differential intervention

## 6. CONFORMITY

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

## 7. MARKING



## 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 1NO) 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

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

## DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

### 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 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

- 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

#### 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 Supply

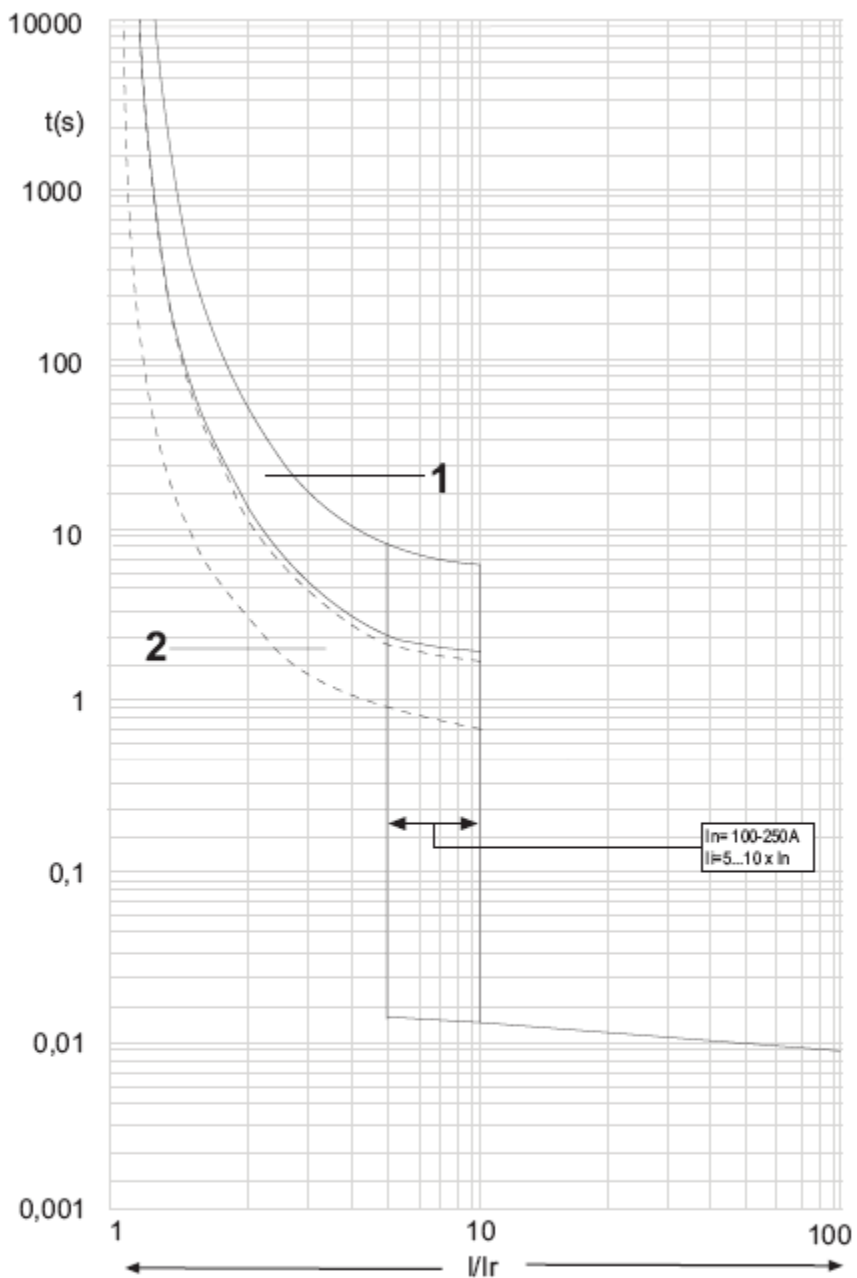
- Lithium battery CR1616 3V x 2 ref. 421 082

**DPX<sup>3</sup> 250 + earth leakage**  
**DPX<sup>3</sup>-I 250 + earth leakage**

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
 288/ 289/ 625/ 627/ 628/ 629/ 298

**9. CURVES**

**9.1 TRIPPING CURVE**

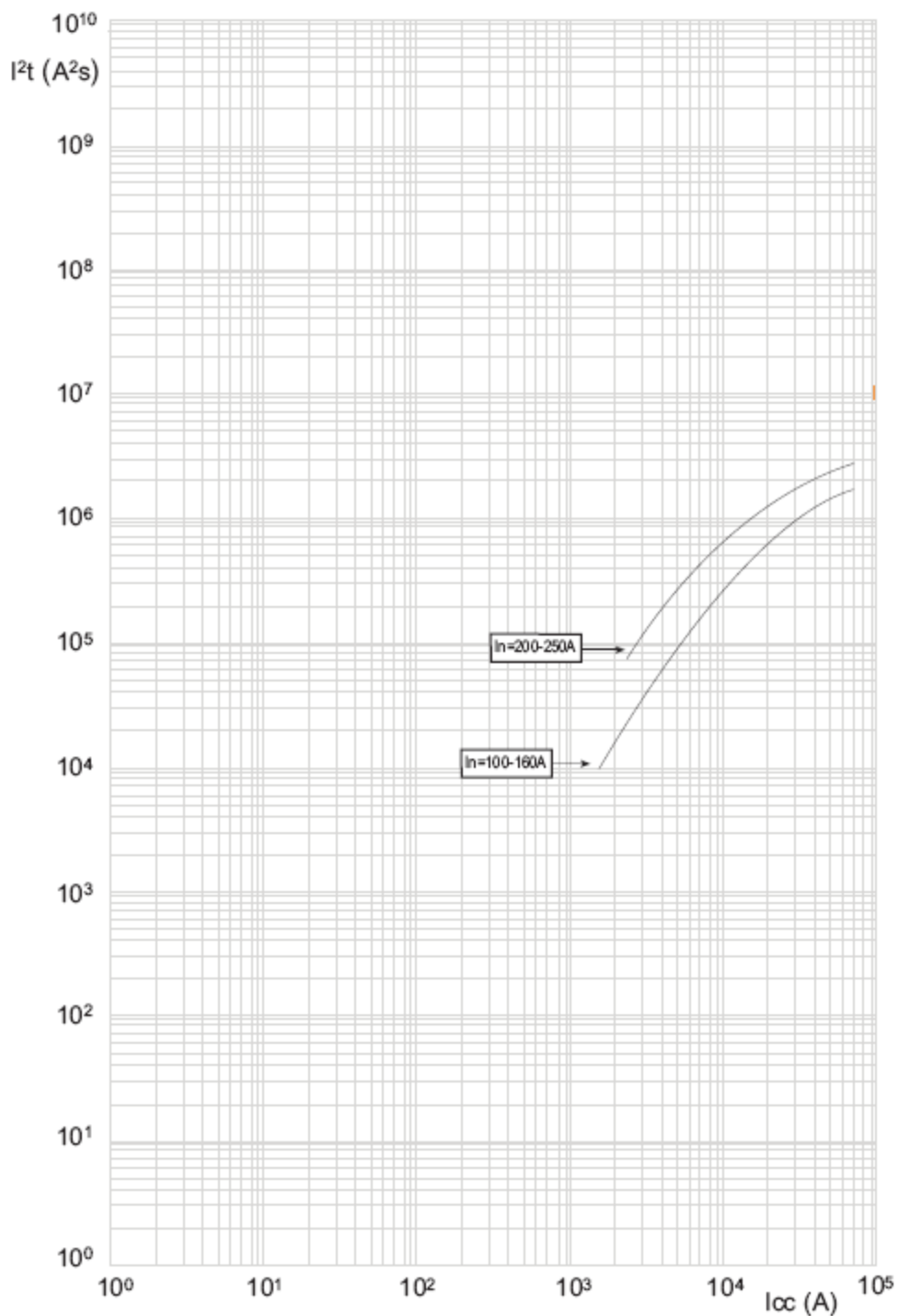


$t$  = time  
 $I$  = rated current  $\square$   
 $I_r$  = setting current  
 curve number 1 = characteristic with cold start  
 curve number 2 = characteristic with hot start

# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 9.2 Energy curve

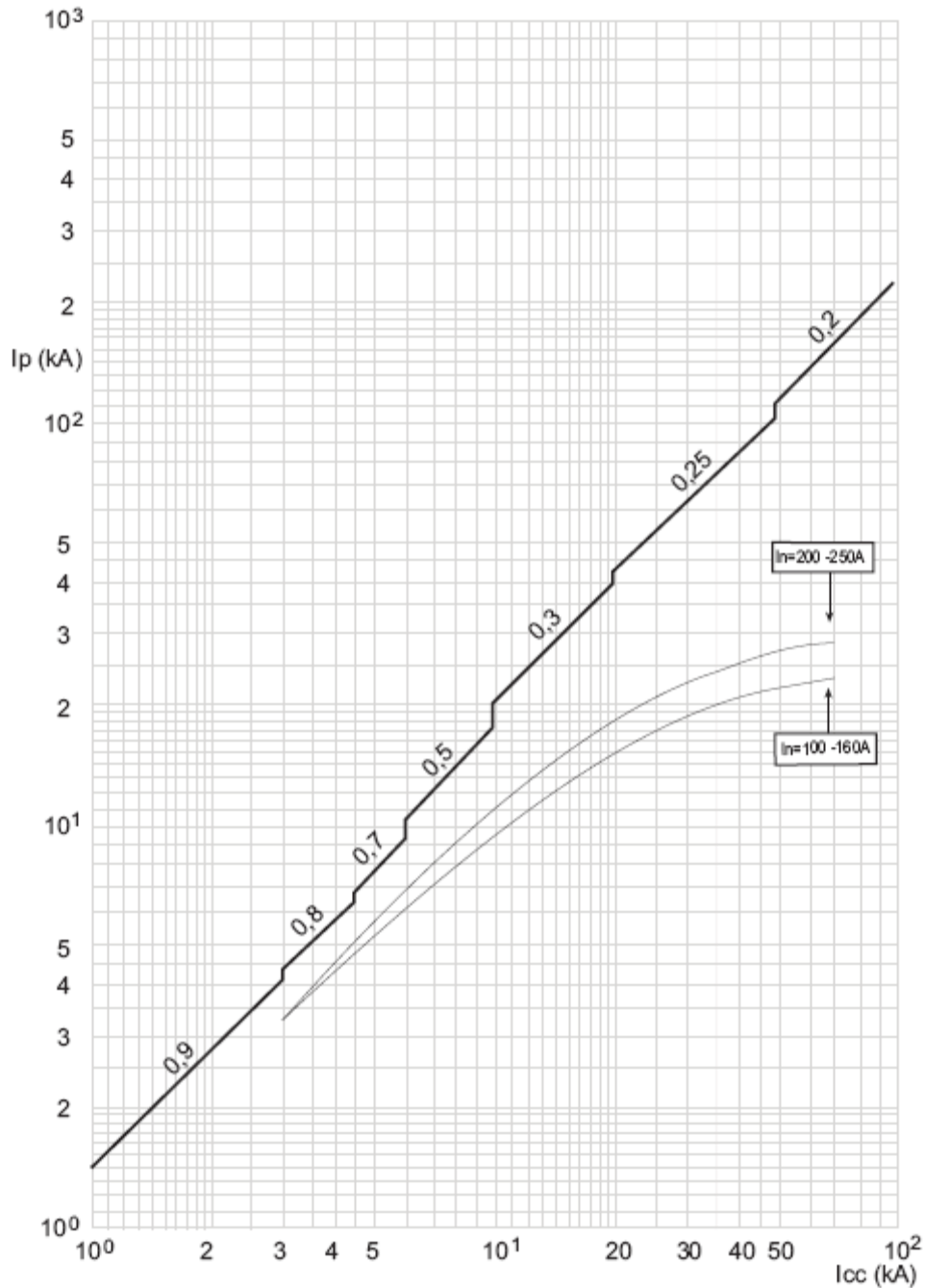


$I_{cc}$  = estimated short circuit symmetrical current (RMS value)  
 $I^2t$  ( $A^2s$ ) = pass-through specific energy

# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 9.3 Restricted current curve



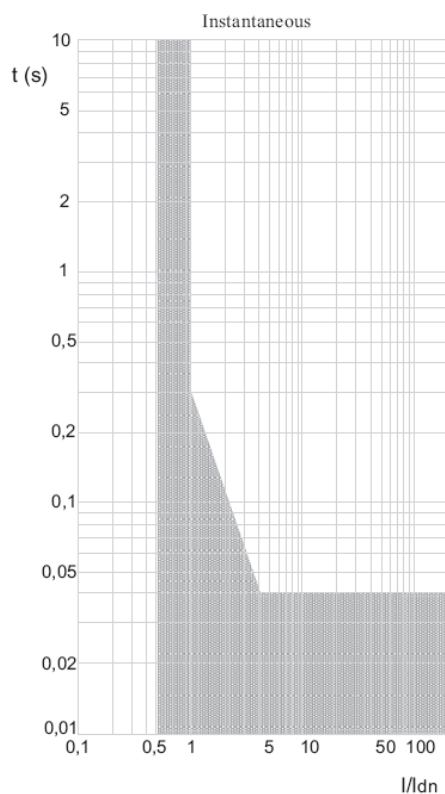
$I_{cc}$  = estimated short circuit symmetrical current (RMS value)  
 $I_p$  = maximum short circuit peak current  
 ----- maximum prospective short circuit peak current  
 corresponding at the power factor  
 ————— maximum real peak short circuit current



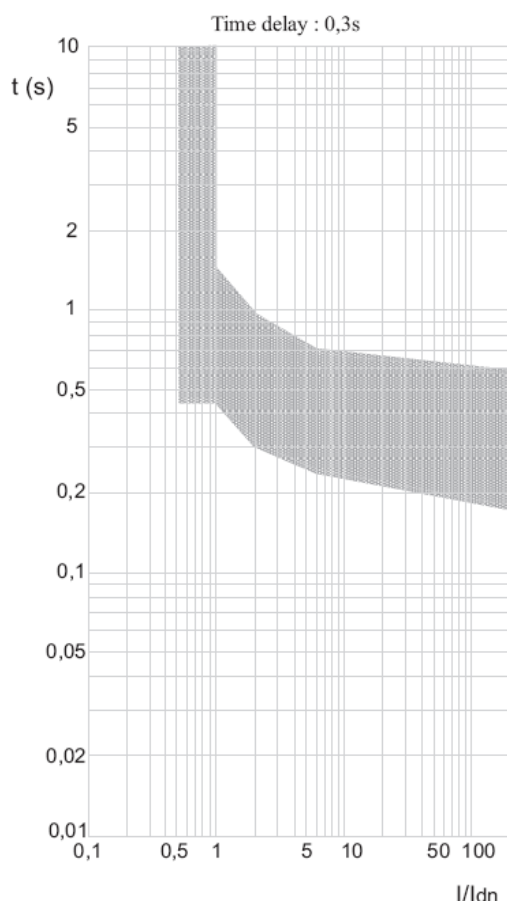
# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 9.4 Earth leakage curve, instantaneous



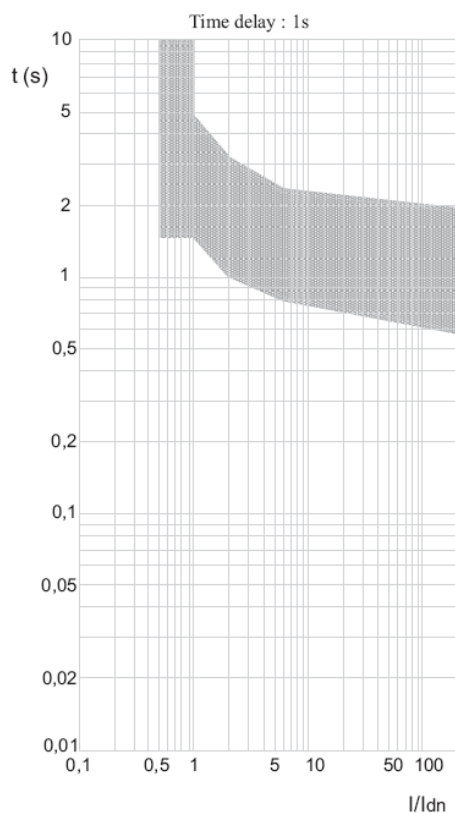
## 9.4 Earth leakage curve, time delay = 0.3 s



# DPX<sup>3</sup> 250 + earth leakage DPX<sup>3</sup>-I 250 + earth leakage

Reference(s) 420 225/ 227/ 228/229/ 255/ 257/ 258/ 259/ 285/ 287/  
288/ 289/ 625/ 627/ 628/ 629/ 298

## 9.4 Earth leakage curve, time delay = 1 s



## 9.4 Earth leakage curve, time delay = 3 s

