

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors



### CONTENTS

CONTENTS	PAGES
1. USE	1
2. RANGE	1
3. DIMENSIONS AND WEIGHTS	1
4. OVERVIEW	5
5. ELECTRICAL CONNECTIONS	5
6. ELECTRICAL AND MECHANICAL CHARACTERISTICS	7
7. CONFORMITY	9
8. EQUIPMENTS AND ACCESSORIES	10
9. CURVES	13

## 1. USE

DPX<sup>3</sup> HP platform has been developed to give a new solution of protection devices for a more precise approach in power installations in order to offer the correct answer for different project needs.

DPX<sup>3</sup> HP platform provide a complete project approach in premium market segment, offering a range completely suitable for high power application with high performance breakers in compact dimensions and at a competitive costs.

## 2. RANGE

Circuit breakers

I <sub>n</sub> (A)	DPX <sup>3</sup> 250 HP							
	36 kA		50 kA		70 kA		100 kA	
16	423000	423015	423060	423075	423120	423135	423150	423165
20	423001	423016	423061	423076	423121	423136	423151	423166
25	423002	423017	423062	423077	423122	423137	423152	423167
32	423003	423018	423063	423078	423123	423138	423153	423168
40	423004	423019	423064	423079	423124	423139	423154	423169
50	423005	423020	423065	423080	423125	423140	423155	423170
63	423006	423021	423066	423081	423126	423141	423156	423171
80	423007	423022	423067	423082	423127	423142	423157	423172
100	423008	423023	423068	423083	423128	423143	423158	423173
125	423009	423024	423069	423084	423129	423144	423159	423174
160	423010	423025	423070	423085	423130	423145	423160	423175
200	423011	423026	423071	423086	423131	423146	423161	423176
250	423012	423027	423072	423087	423132	423147	423162	423177

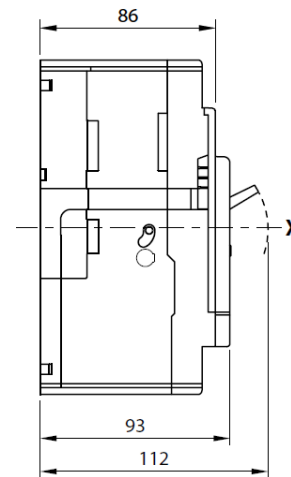
Switch disconnectors

DPX <sup>3</sup> -I 250 HP		
I <sub>n</sub> (A)	3P	4P
250	423180	423181

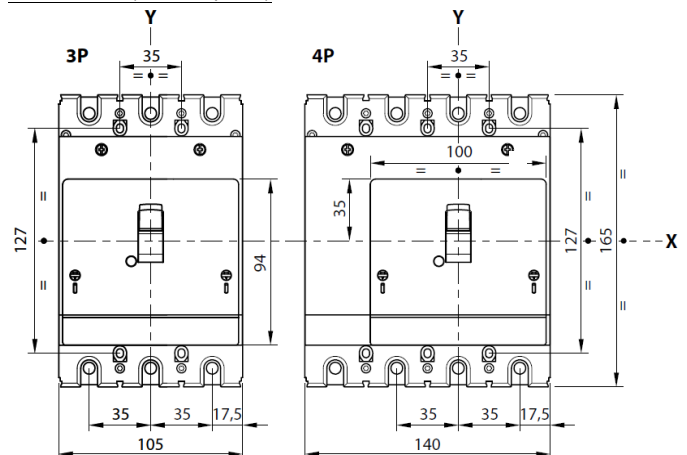
## 3. DIMENSIONS AND WEIGHTS

### 3.1 Dimensions

Lateral view



Frontal view (3 and 4 poles)



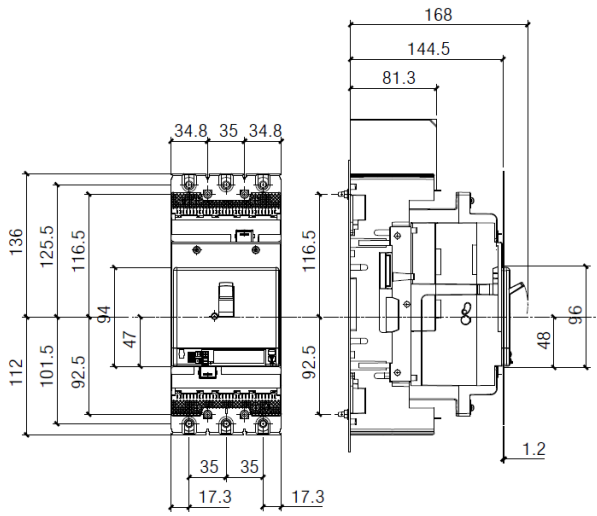
# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

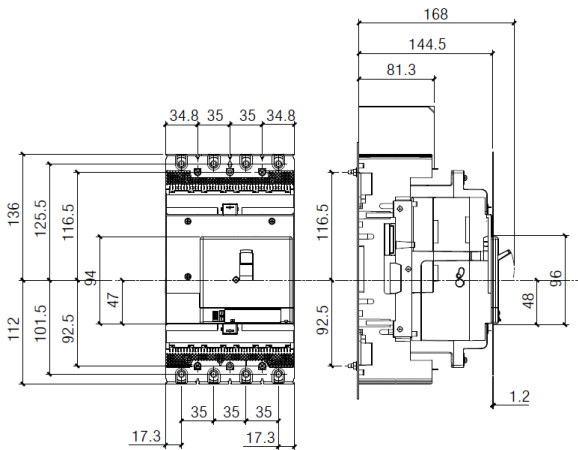
Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

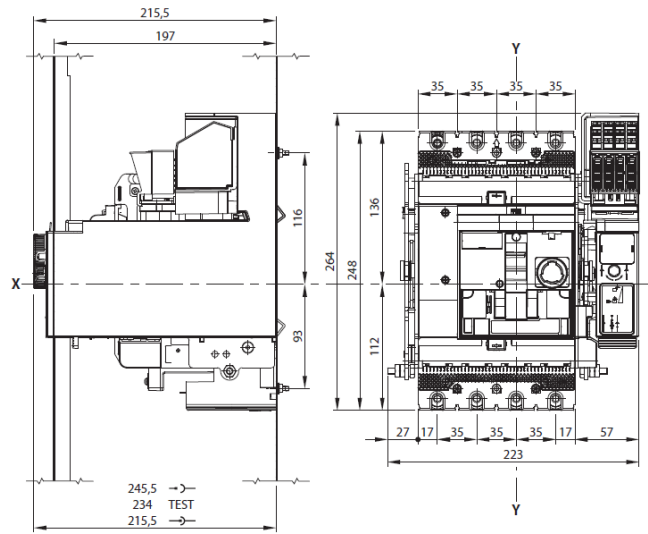
Plug-in version (3P)



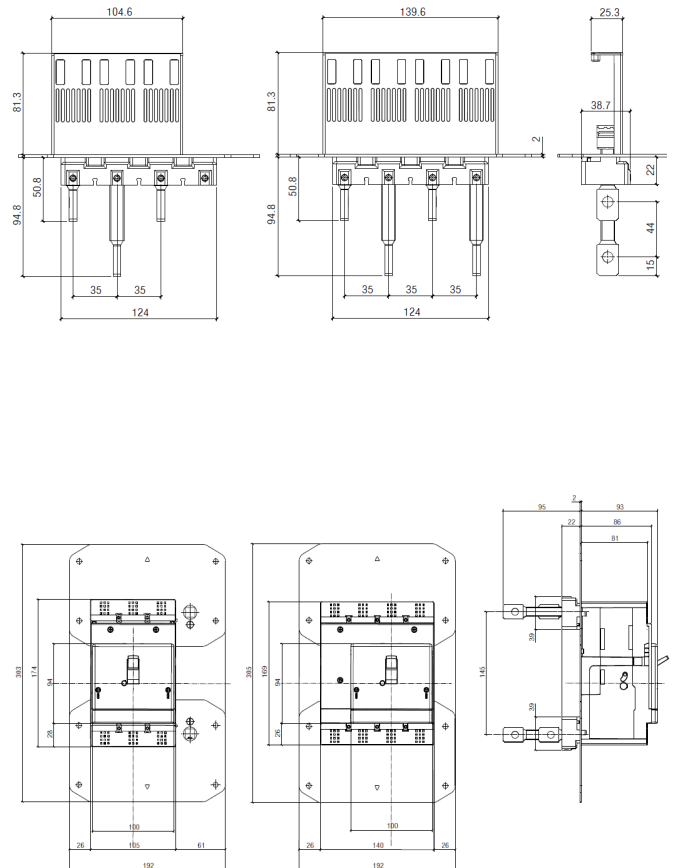
Plug-in version (4P)



Draw-out version (4P)



Rear terminals



# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

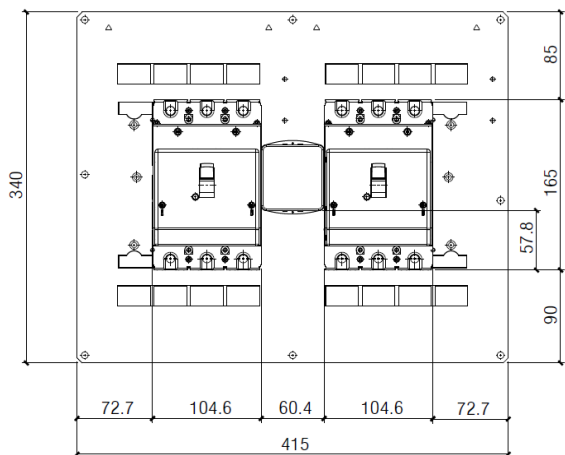
## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

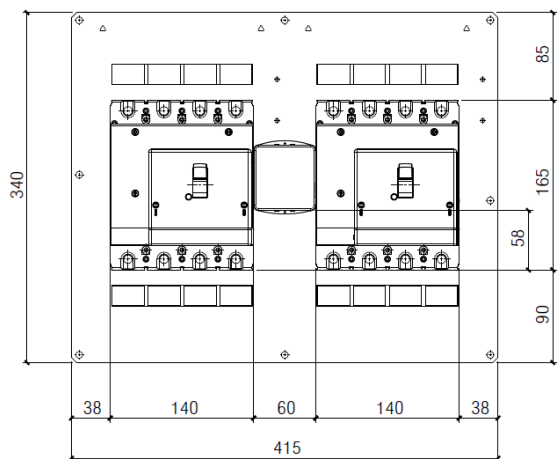
### Interlock (3P)

(for rear plate interlock dimension, see relative instruction sheet)

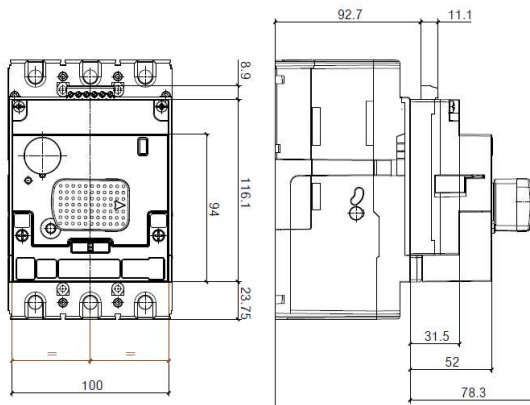
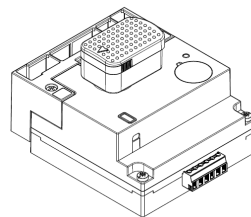
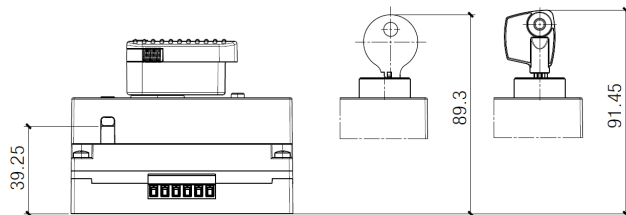
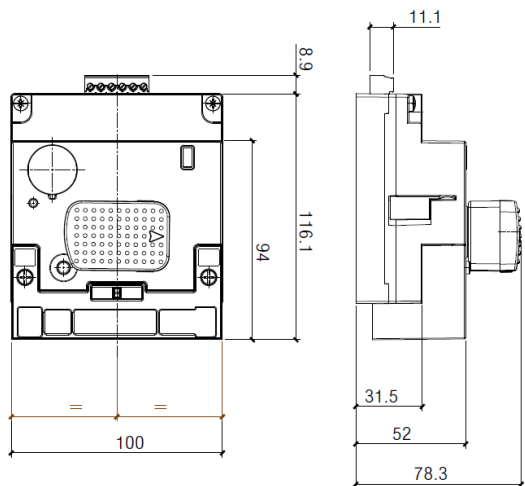


### Interlock (4P)

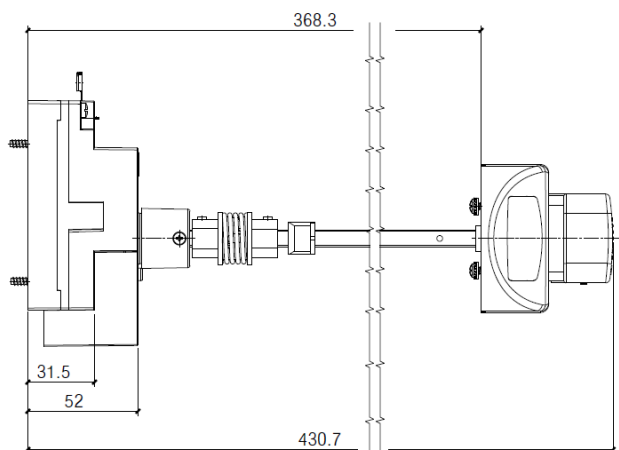
(for rear plate interlock dimension, see relative instruction sheet)



### Direct rotary handle



### Vari-depth rotary handle

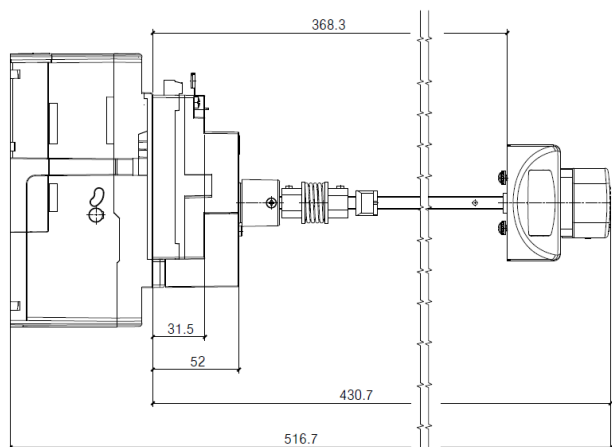
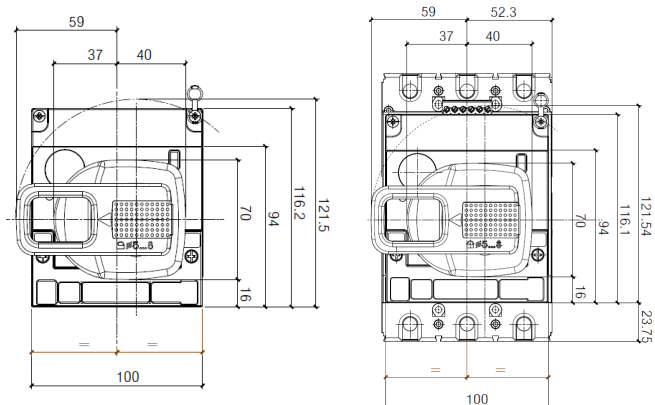


# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

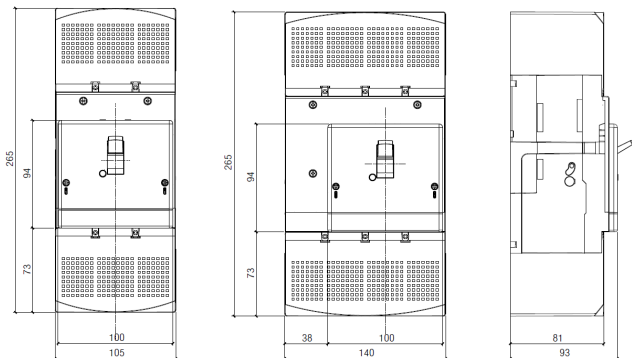
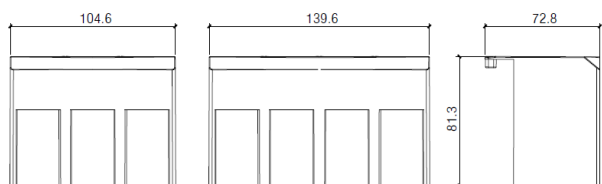
## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

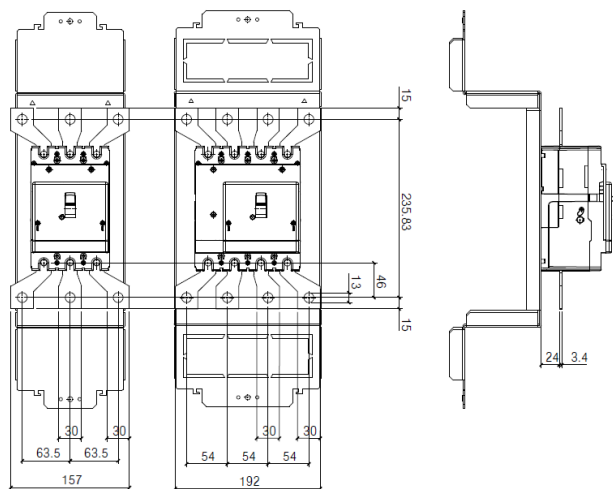
from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;



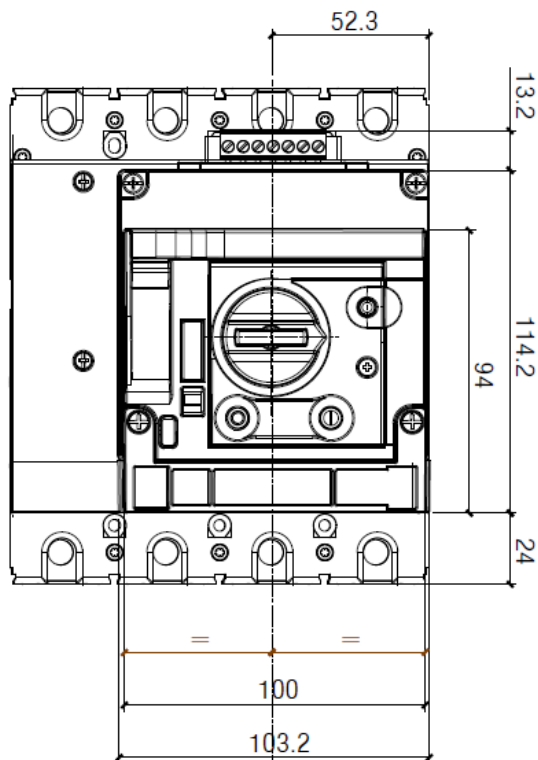
### Sealable terminal shields



### Spreaders



### Motor operator

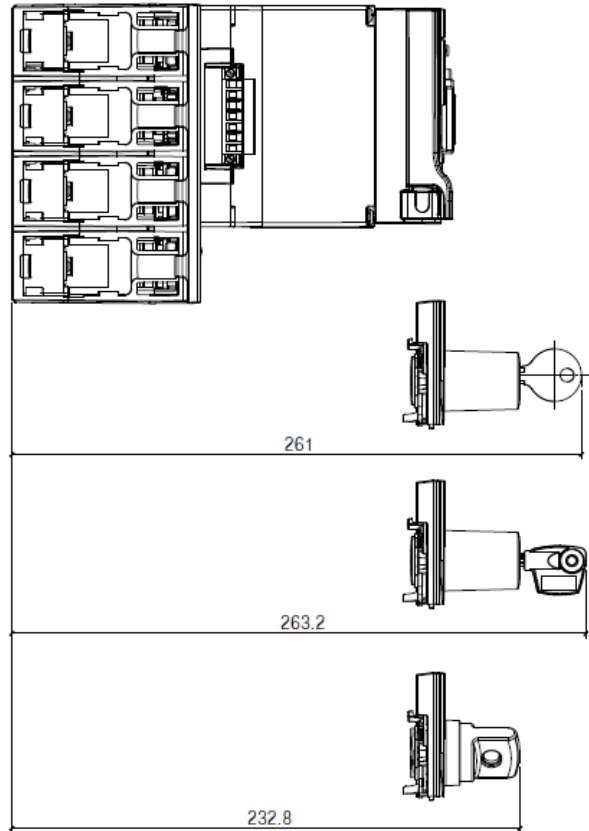
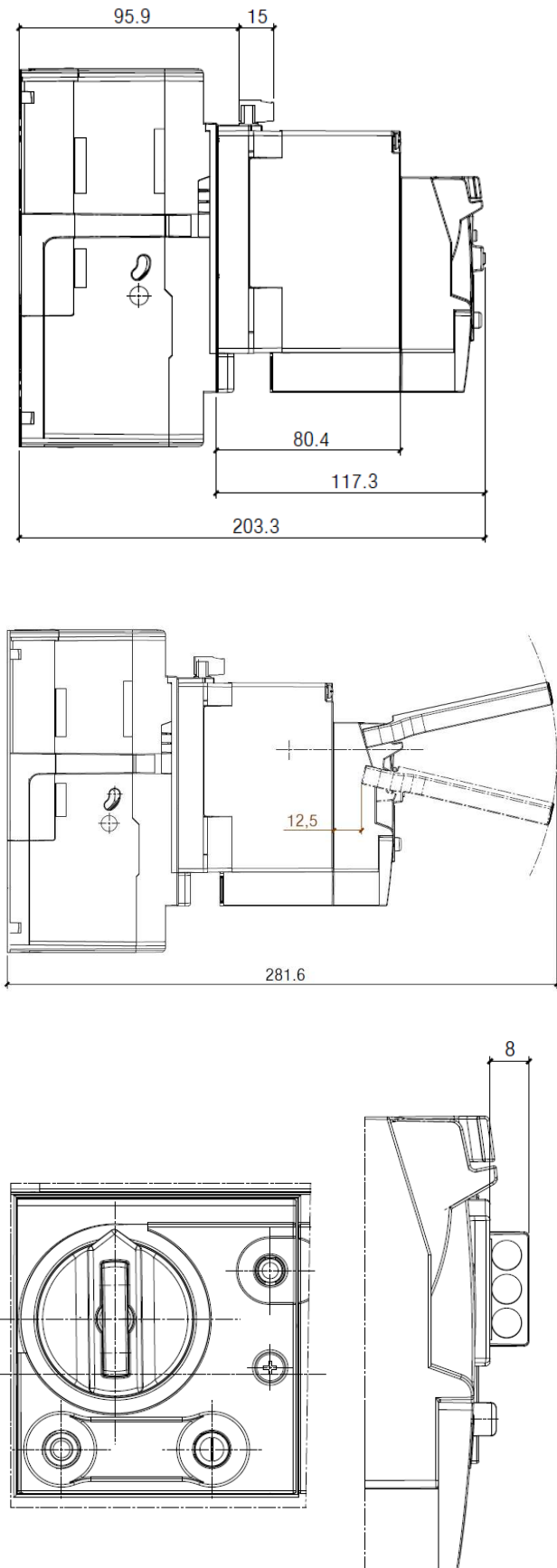


# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;



### 3.2 Weights

Configuration	Weights (Kg)	
	3P	4P
Circuit breaker/switch disconnector	1.5	1.9
Plug-in*	3.5	4.5
Draw-out**	2.5	
Interlock*	0.35	
Rear interlock (for plug-in/draw-out version)*	5	
Motor operator*	1	
* to add to device weight		
** to add to device and plug-in weights		

### 4. OVERVIEW

#### 4.1 Supplied with:

- fixing screws (2 for 3P and 4 for 4P)
- screws for connections (6 for 3P and 8 for 4P)
- phase insulators (2 for 3P and 3 for 4P)

### 5. ELECTRICAL CONNECTIONS

#### 5.1 Mounting possibilities

On plate:

- Vertical
- Horizontal
- Supply inverter type

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

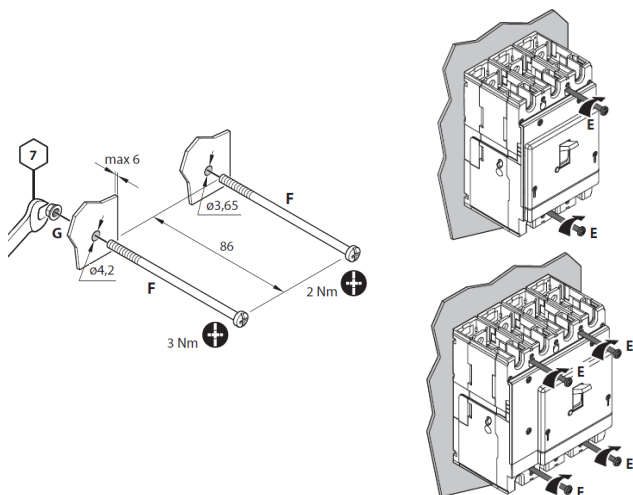
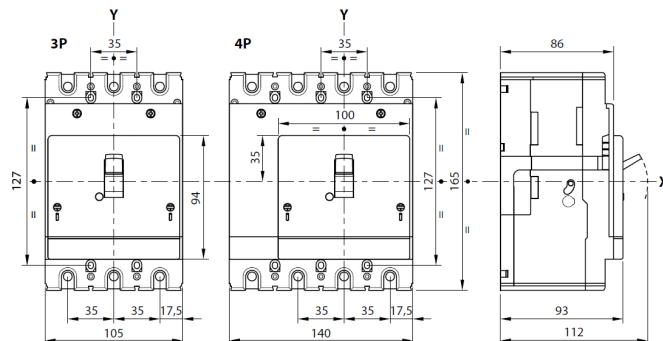
## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

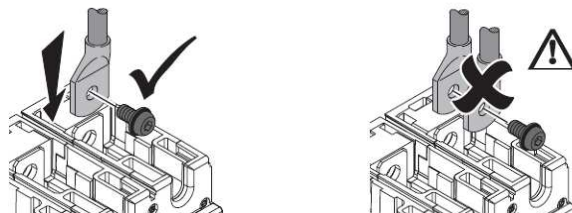
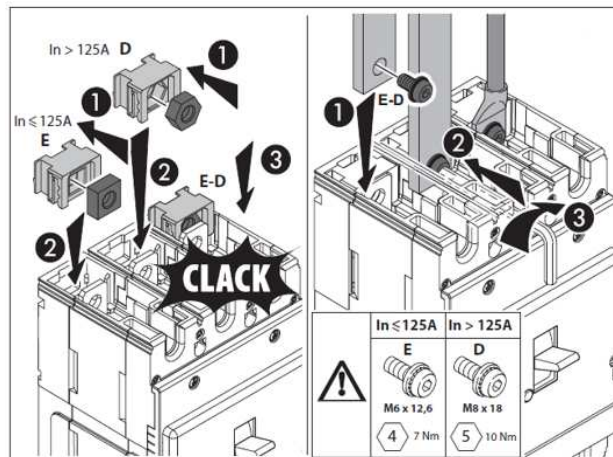
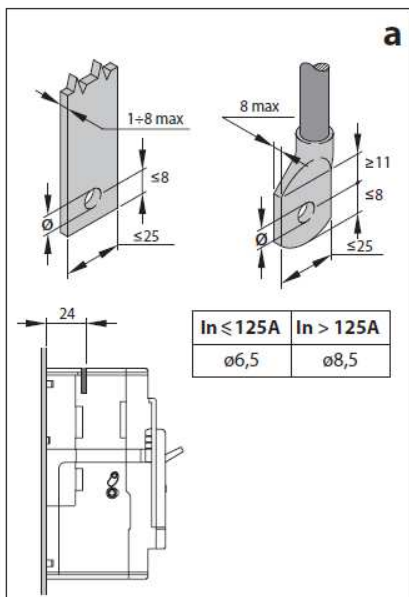
from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### 5.2 Mounting

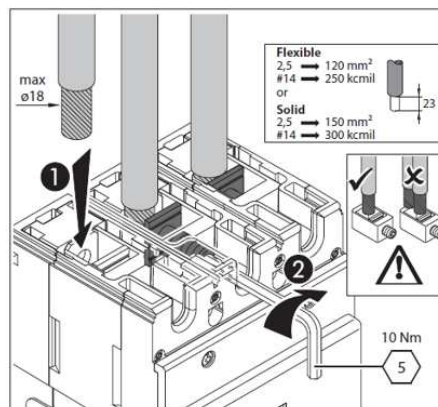
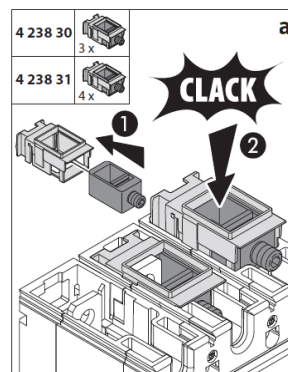
(see instruction sheet for detailed mounting procedures)



### Busbars/cable lugs:



### Cables:



# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
4 231 80; 4 231 81;

### 6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

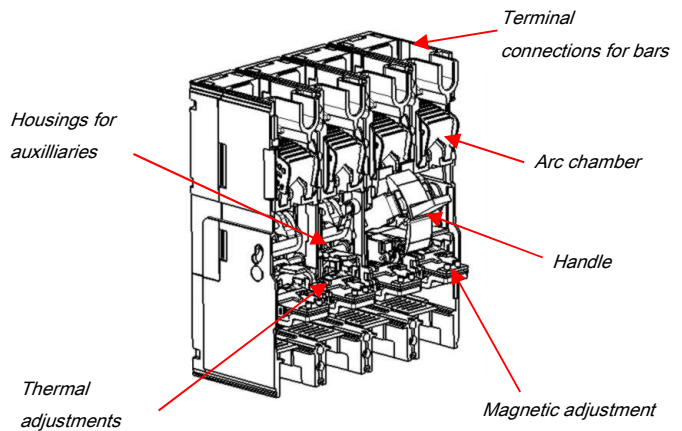
#### Circuit breaker

Circuit Breaker	DPX <sup>3</sup> 250 HP F/N/H/L (36kA, 50kA, 70kA, 100kA)
Rated current (A)	16-20-25-32-40-50-63-80-100-125-160-200-250
Poles	3 - 4
Pole pitch (mm)	35
Rated insulation voltage (50/60Hz) U <sub>i</sub> (V)	800
Rated operating voltage (50/60Hz) U <sub>o</sub> (V)	690
Rated impulse withstand current U <sub>imp</sub> (kV)	8
Rated frequency (Hz)	50 - 60
Reference ambient temperature(°C)	40 - 50
Operating temperature (°C)	-25 + 70
Mechanical endurance (cycles)	12000
Mechanical endurance with motor control (cycles)	12000
Electrical endurance at I <sub>n</sub> (cycles)	6000
Electrical endurance at 0.5 I <sub>n</sub> (cycles)	6000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Thermal-magnetic
Thermal adjustment I <sub>t</sub>	0,8 - 0,9 - 1 x I <sub>n</sub>
Magnetic adjustment I <sub>t</sub> (A)	400 A up to I <sub>n</sub> =40A (not adjustable); 6,5-10-13 x I <sub>n</sub> for I <sub>n</sub> =50A; 5-7,5-10 x I <sub>n</sub> up to =250A;
Neutral protection for 4P (%I <sub>n</sub> of phase pole)	100
Dimensions (W x H x D) (mm)	105 x 165 x 86 (3P) 140 x 165 x 86 (4P)

#### Switch disconnectors

Switch	DPX <sup>3</sup> -I 250 HP
Uninterrupted nominal current I <sub>n</sub> (A)	250
Short-time resistive current I <sub>cr</sub> (kA) for 1s	3
Rated short-circuit making capacity I <sub>cm</sub> (kA)	4.3
Rated insulation voltage U <sub>i</sub> (V AC)	800
Maximum rated operating voltage U <sub>o</sub> (V AC)	690 (I <sub>n</sub> =160 A - 200 A - 250 A) - 415 (I <sub>n</sub> =225 A)
Rated impulse withstand voltage U <sub>imp</sub> (kV)	8
Utilisation category	AC23A (I <sub>n</sub> <= 225A) - AC22A (I <sub>n</sub> =250A)
Suitable for isolation	Yes
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25 + 70
Mechanical endurance (cycles)	12000
Mechanical endurance with motor control (cycles)	12000
Electrical endurance at I <sub>n</sub> (cycles)	6000
Electrical endurance at 0.5 I <sub>n</sub> (cycles)	6000
Dimensions (W x H x D) (mm)	105 x 165 x 86 (3P) 140 x 165 x 86 (4P)

#### 6.1 Main parts constituting the circuit breaker



#### 6.2 Breaking capacity (kA)

	U <sub>o</sub> /I <sub>cu</sub> (I <sub>cu</sub> letter)	Breaking capacity (kA) & I <sub>cs</sub>			
		3P-4P			
IEC 60947-2	240 V AC	70	90	100	150
	415 V AC	36	50	70	100
	500 V AC	16	18	30	35
	690V AC	7	8	20	22
	250 V DC	10	10	10	10
NEMA AB-1	I <sub>cs</sub> (% I <sub>cu</sub> )	100	100	100	100
	Rated making capacity under short circuit I <sub>cm</sub>				
	I <sub>cm</sub> (kA) at 415V	76.5	105	154	220
	240 V AC	70	90	100	150
	500 V AC	16	18	30	35
	690 V AC	7	8	20	22

#### 6.3 Rated current (I<sub>n</sub>) at 40°C / 50°C

I <sub>n</sub> (A)	Phases limit trip current			
	thermal (I <sub>t</sub> )		magnetic (I <sub>t</sub> )	
	0.8 x I <sub>n</sub>	1 x I <sub>n</sub>	min	max
16	13	16	400	400
20	16	20	400	400
25	20	25	400	400
32	26	32	400	400
40	32	40	400	400
50	40	50	325	650
63	51	63	315	630
80	64	80	400	800
100	80	100	500	1000
125	100	125	625	1250
160	128	160	800	1600
200	160	200	1000	2000
250	200	250	1250	2500

#### 6.3 Load operations

Force on handle	N
Opening operation	63,5
Closing operation	66
Restore operation	86,5

#### 6.4 Electrodynamic forces

The table below shows an indication of suggested distances to keep between the breaker and the first fixing point of the conductor and bars

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

in order to reduce the effects of the electrodynamic stresses that may be created during a short circuit. In the realization of anchorage system it is recommended the use of isolators suitable for the type of conductor used and the operating voltage.

I <sub>cc</sub> (kA)	Maximum Distance (mm)
36	350
50	300
70	250
100	200

According to conductor type and bar system (except Legrand bar kits), the choice of the distance to keep is to be calibrated by the installer.

Also installer must take into account the weight of the conductors so that this does not affect the electrical junction between the conductor itself and the connection point.

### 6.5 Power losses per pole under I<sub>n</sub>

Circuit breaker

I <sub>n</sub> (A)	Power losses per pole (W)												
	16	20	25	32	40	50	63	80	100	125	160	200	250
Cage terminals	2.99	4.47	5.34	4.99	7.67	5.76	9.45	7.22	7.77	12.73	11.8	14.89	21.21
Lugs	2.73	4.08	6.38	4.56	7.01	5.26	8.63	6.59	7.1	11.63	10.78	13.6	19.38
Spreaders	2.3	3.44	4.11	3.84	5.9	4.43	7.27	5.55	5.98	9.79	9.08	11.45	16.32
Rear terminals	2.82	4.21	5.03	4.7	7.23	5.42	8.9	6.8	7.32	11.99	11.12	14.03	19.99

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-2 (Annex G) for circuit-breakers. Values in the table are referred to a single phase.

Switch disconnectors

	Power losses per pole (W)
	I <sub>n</sub> (A) 250
Cage terminals	14.84
Lugs	13.55
Spreaders	11.41
Rear terminals	13.98

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-3 for switches. Values in the table are referred to a single phase.

### 6.6 DERATINGS

according to IEC/EN 60947-1

#### 6.6.1 Temperature

Rated current and his adjustment has to be considered relating to a rise or fall of ambient temperature and to a different version or installation conditions. The table below indicates the maximum long-time (LT) protection setting depending on the ambient temperature.

I <sub>n</sub> (A)	Temperature T <sub>a</sub> (°C)											
	-25	-20	-10	-5	0	10	20	30	40	50	60	70
16	22	23	22	21	21	20	18	17	16	16	14	14
20	29	29	27	26	26	24	23	21	20	20	18	17
25	37	36	34	33	32	30	29	27	25	25	23	21
32	47	46	44	42	41	39	37	34	32	32	29	27
40	59	57	54	53	52	49	46	43	40	40	36	34
50	74	72	68	66	64	61	57	54	50	50	45	43
63	93	90	86	83	81	77	72	68	63	63	57	54
80	118	114	109	106	103	98	92	86	80	80	72	68
100	147	143	136	132	129	122	115	107	100	100	90	85
125	184	179	170	166	161	152	143	134	125	125	113	106
160	235	229	218	212	206	195	184	172	160	160	144	136
200	294	286	272	265	258	244	230	215	200	200	180	170
250	368	358	340	331	332	305	287	269	250	250	225	213

For derating temperature with other configurations, see table A.

#### 6.6.2 Specific condition use

Climatic conditions

according to IEC/EN 60947-1 Annex Q, Cat. F subject to temperature, humidity, vibration, shock and salt mist.

Pollution degree

for DPX<sup>3</sup> 250 HP circuit breakers, degree 3, according to IEC/EN 60947-2

#### 6.6.3 Altitude

Altitude derating for DPX<sup>3</sup> and DPX<sup>3</sup>-I

Altitude (m)	2000	3000	4000	5000
U <sub>e</sub> (V)	690	590	520	460
I <sub>n</sub> (A) (T <sub>a</sub> = 40°C/50°C)	1 x I <sub>n</sub>	0.98 x I <sub>n</sub>	0.93 x I <sub>n</sub>	0.9 x I <sub>n</sub>

#### 6.6.4 Use in DC

See table B.



# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
4 231 80; 4 231 81;

### 7. CONFORMITY

DPX<sup>3</sup> HP range of product concerning circuit-breakers and switch-disconnectors exceed compliance with the IEC/EN standard 60947-2 and 60947-3 respectively. Certification available by IECEE CB-scheme or LOVAG Compliance scheme.

DPX<sup>3</sup> HP respect the European Directives REACH, RoHS, RAEE.

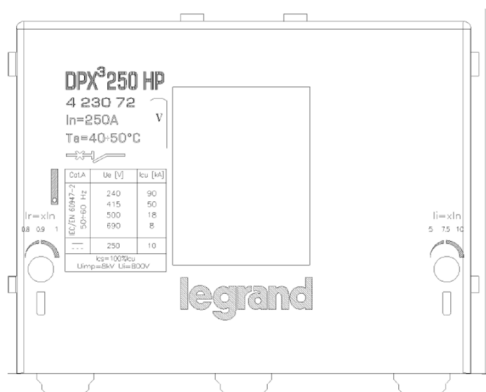
For specific information, please contact Legrand support.

### 7.1 Marking

Product (both circuit breakers and switch disconnectors) are provided with labelling in full conformity to the referred standard and directives requirements by laser or sticker labels (for illustrative purposes only) as:

#### Product laser label on front

- Manufacturer responsible
- Denomination, type product, code
- Standard conformity
- Standard characteristics declared
- Coloured identification of I<sub>cu</sub> at 415V



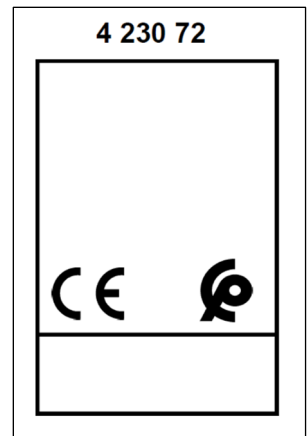
#### Product sticker label on side

- Manufacturer responsible
- Denomination and type product
- Standard conformity
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product
- Manufacturing Country



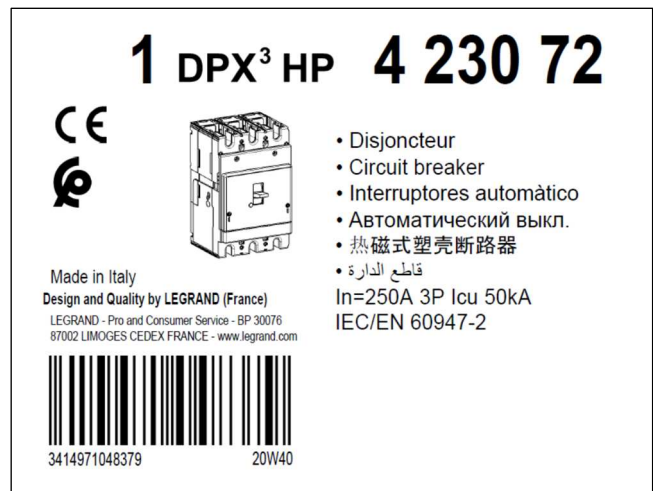
#### Mark sticker label on side

- Product code
- Mark/Licence (if any)
- Country deviation, if any



#### Packaging sticker label

- Manufacturer responsible
- Denomination and type product
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product



# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### 8. EQUIPMENTS AND ACCESSORIES

#### 8.1 Releases (for DPX<sup>3</sup> 125/250 HP and DPX<sup>3</sup> 160/250)

- shunt releases with voltage:
  - 12 Vac and dc *ref. 4 210 12*
  - 24 Vac and dc *ref. 4 210 13*
  - 48 Vac and dc *ref. 4 210 14*
  - 110÷130 Vac *ref. 4 210 15*
  - 220÷277 Vac *ref. 4 210 16*
  - 380÷480 Vac *ref. 4 210 17*

Maximum power = 400 VA / W

- undervoltage releases with voltage:
  - 12 Vac and dc *ref. 4 210 18*
  - 24 Vac and dc *ref. 4 210 19*
  - 48 Vac and dc *ref. 4 210 20*
  - 110÷130 Vac and dc *ref. 4 210 21*
  - 220÷240 Vac *ref. 4 210 22*
  - 277 Vac *ref. 4 210 23*
  - 380÷415 Vac *ref. 4 210 24*
  - 440÷480 Vac *ref. 4 210 25*

Maximum power = 4 VA  
 Circuit breaker opening time < 50 ms

UVR releases can be used on DPX<sup>3</sup> 125/250 HP starting from batch 19W15

- time-lag undervoltage releases (800 ms)  
*Time-lag modules with voltage:*
  - 230 V ac *ref. 0 261 90*
  - 400 V ac *ref. 0 261 91*

Release *ref. 4 210 98*  
 (to be equipped with a time-lag module 0 261 90/91)

#### 8.2 Auxiliary contacts

- Auxiliary contacts (1NC and 1 NO) *ref. 4 238 06*  
*(for rotary handle)*
- Changeover switch 3A – 250 VAC *ref. 4 210 11*
- Signalling contact plugged-in / draw-out version *ref. 4 210 48*

(Ref. 4 210 11 and . 4 210 48 are also for DPX<sup>3</sup> 160/250)

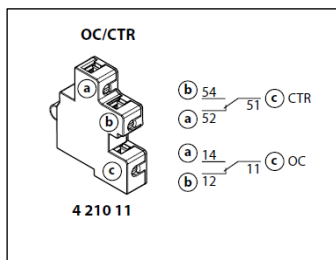
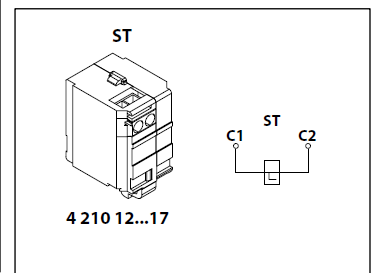
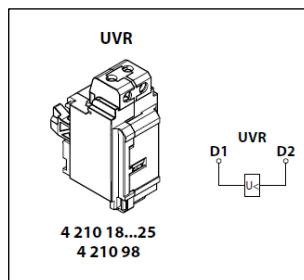
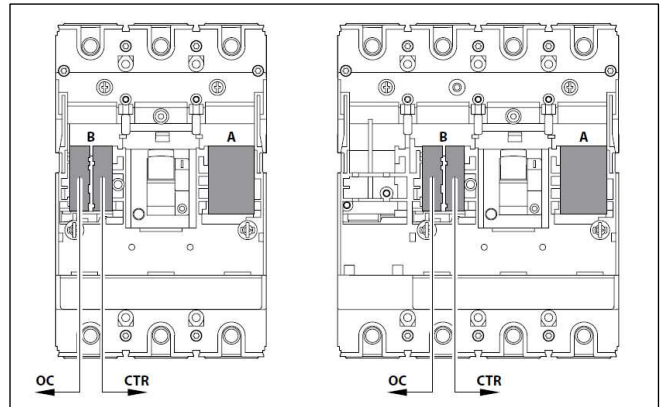
To show the state of the contacts or opening of the DPX<sup>3</sup>/DPX<sup>3</sup>-I and DPX<sup>3</sup> HP/DPX<sup>3</sup>-I HP on a fault:

- Auxiliary contact (standard) **OC**
- Fault signal **CTR**

Auxiliary contact electrical characteristics		
Rated voltage (V <sub>n</sub> )	V (ac or dc)	24 to 250
Intensity (A)	24 V dc	5
	48 V dc	1.7
	110 V dc	0.5
	230 V dc	0.25
	110 V ac	4
	230/250 V ac	3

Configurations:

DPX<sup>3</sup> 250 HP → 1 auxiliary contacts + 1 fault signal



	B	A
UVR	✗	✓
ST	✗	✓
OC/CTR	✓	✗

To get more information on auxiliary mounting procedures, please refer to product instruction sheet.

#### 8.3 Universal keylocks

These keylocks must be used for all the accessories that can be locked:

- rotary handle
- motor operator
- plug-in mechanism
- draw-out mechanism

For each of these, a specific accessory (indicated in the specific section of this datasheet) must be added in order to get the complete locking kits for the specific application.

- 1 lock + 1 flat key with random mapping *ref. 4 238 80*
- 1 lock + 1 flat key with fixed mapping (EL43525) *ref. 4 238 81*
- 1 lock + 1 flat key with fixed mapping (EL43363) *ref. 4 238 82*
- 1 lock + 1 star key with random mapping *ref. 4 238 83*

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### 8.3 Rotary handles

Direct on DPX<sup>3</sup> (with auxiliary option)

- Standard (black) ref. 4 238 00
- For emergency use (red / yellow) ref. 4 238 01

Vari-depth handle IP55 (with auxiliary option)

- Standard (black) ref. 4 238 02
- For emergency use (red / yellow) ref. 4 238 03

Locking accessories (for rotary handle with auxiliary option)

- Key lock accessory for direct rotary handle ref. 4 238 04
- Key lock accessory for vari-depth rotary handle ref. 4 238 05  
 (ref. 4 238 05 is compatible with DPX<sup>3</sup> 125 HP also)

Ref. 4 238 04 and 4 238 05 must be used with universal keylocks to get the complete locking kit for rotary handle

### 8.4 Motor operators

For synchronized operations (energy storage type):

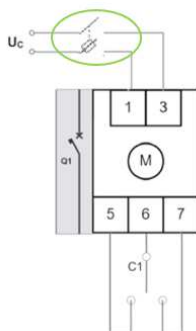
- 24 Vac and dc ref. 4 238 40
- 48 Vac and dc ref. 4 238 41
- 110 Vac ref. 4 238 42
- 230 Vac ref. 4 238 43

Technical parameters:

Voltage	Property	AC		DC	
		Opening	Closing	Opening	Closing
24V ac/dc	Maximum inrush power (VA)	75	430	55	320
	Rated power (VA)	45	-	20	-
	Absorption time (s)	2.8	0.01	3.3	0.01
	Operating current time (s)	1.1	0.03	1.2	0.03
48V ac/dc	Maximum inrush power (VA)	85	1000	70	690
	Rated power (VA)	65	-	15	-
	Absorption time (s)	3.3	0.006	3.8	0.006
	Operating current time (s)	1.1	0.02	1.3	0.02
110V ac	Maximum inrush power (VA)	95	600	-	-
	Rated power (VA)	60	-	-	-
	Absorption time (s)	3	0.02	-	-
	Operating current time (s)	1.0	0.03	-	-
230V ac	Maximum inrush power (VA)	125	460	-	-
	Rated power (VA)	70	-	-	-
	Absorption time (s)	2.5	0.08	-	-
	Operating current time (s)	0.9	0.03	-	-

It is necessary to foresee a protection device (e.g. fuse) along the motor operator power line. The correct size of the fuse depends on the motor version and on the number of users.

Here a schematic example:



Locking accessory (for motor operator)

- Padlock (for motor operator locking) ref. 4 238 46
- Key lock accessory for motor operator ref. 4 238 45

Ref. 4 238 45 must be used with universal keylocks to get the complete locking kit for motor operator

### 8.6 Mechanical accessories

- Padlock (for locking in "OPEN" position) ref. 4 210 49  
 (ref. 4 210 49 is compatible with DPX<sup>3</sup> 125 HP and DPX<sup>3</sup> 160/250)

Sealable terminal shields:

- Set of 2 (for 3P) ref. 4 238 23
- Set of 3 (for 4P) ref. 4 238 24

Insulated shields:

- Set of 2 (for 3P) ref. 4 238 34
- Set of 3 (for 4P) ref. 4 238 35  
 (ref. 4 238 34/35 are compatible with DPX<sup>3</sup> 125 HP also)

### 8.7 Connection accessories

Cage terminals

- Set of 3 terminals for cables 150 mm<sup>2</sup> max (solid) ref. 4 238 30  
 or 120 mm<sup>2</sup> max (flexible) Cu/Al

- Set of 4 terminals for cables 150 mm<sup>2</sup> max (rigid) ref. 4 238 31  
 or 120 mm<sup>2</sup> max (flexible) Cu/Al

Spreaders (incoming or outgoing):

- Set of 3 (for 3P) ref. 6 250 14
- Set of 4 (for 4P) ref. 6 250 18

Rear terminals (incoming or outgoing):

- Set of 3 (for 3P) ref. 4 238 21
- Set of 4 (for 4P) ref. 4 238 22

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
4 231 80; 4 231 81;

### 8.8 Plug-in version

(A plug-in is a DPX<sup>3</sup> 250 HP fitted with special terminals and mounted on a plug-in base)

#### Bases

(for plug-in and draw-out versions for DPX<sup>3</sup> 250 HP and DPX<sup>3</sup>-I 250 HP)

- Plug-in/draw-out base for 3P *ref. 4 238 50*
- Plug-in/draw-out base for 4P *ref. 4 238 51*
- Plug-in/draw-out mobile part kit for 3P *ref. 4 238 52*
- Plug-in/draw-out mobile part kit for 4P *ref. 4 238 53*

#### Plug-in accessories

*Locking accessory (for plug-in)*

- Key lock accessory for plug-in *ref. 4 238 63*

*Ref. 4 238 63 must be used with universal keylocks to get the complete locking kit for plug-in version*

### 8.9 Draw-out version

(A DPX<sup>3</sup> 250 HP draw-out version is a plug-in DPX<sup>3</sup> 250 HP fitted with a "Debro-lift" mechanism which can be used to withdraw the breaker while keeping it on its base)

#### "Debro-lift" mechanism

(supplied with a rigid slide and handle for drawing-out)

- transformation kit for 3P *ref. 4 238 60*
- transformation kit for 4P *ref. 4 238 61*

#### Frontal masks for draw-out version

(to provide in addition to debro-lift mechanism according to accessory mounted)

- Frontal module, with frontal mask (3P and 4P) *ref. 4 238 55*  
(if neither motor operator nor rotary handle are mounted)
- Frontal mask for motor operator (3P and 4P) *ref. 4 238 56*

#### Locking accessory (for draw-out)

- Padlock for draw-out position *ref. 4 238 64*
- Key lock accessory for draw-out *ref. 4 238 62*

*Ref. 4 238 62 must be used with universal keylocks to get the complete locking kit for draw-out version*

#### Auxiliary contacts

- Automatic auxiliary contacts for draw-out version *ref. 4 222 30*
- 6 contact connector (under sliding contacts) *ref. 0 098 19*

(Ref. 0 098 19 can be used with both plug-in and draw-out version)

### 8.10 Interlock mechanism

(for interlocking 2 DPX<sup>3</sup> 125 HP or 2 DPX<sup>3</sup> 250 HP breakers)

No frame mixing in interlock mechanism

- Interlock mechanism – standard version *ref. 4 238 27*  
(for fixed version DPX<sup>3</sup> 125 HP and DPX<sup>3</sup> 250 HP)
- Interlock mechanism – for electronic module *ref. 4 238 28*  
(for fixed version DPX<sup>3</sup> 125 HP and DPX<sup>3</sup> 250 HP)
- Interlock plate for DPX<sup>3</sup> 250 HP *ref. 4 238 26*
- Rear interlock mechanism *ref. 4 238 29*  
(for DPX<sup>3</sup> 250 HP plug-in and/or draw-out version)  
If used ref. 0 098 19, maximum 1 set

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

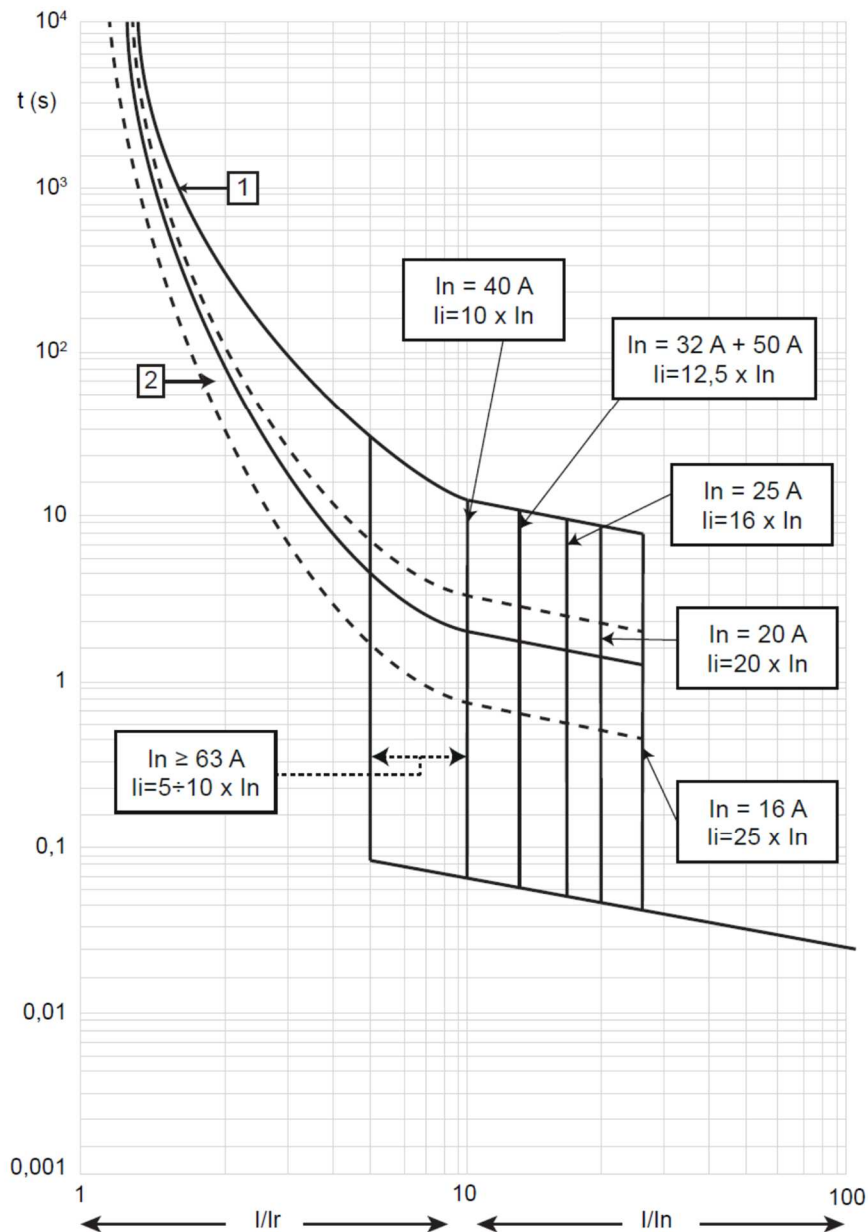
Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### 9. CURVES

#### 9.1 Thermal magnetic tripping curve

Update: 11/06/2019



$I_{cu} = 36-50-70-100 \text{ kA}$   $I_{max} = 250\text{A}$  3-4 P  $U_0 = 415\text{Vac}$  (IEC/EN 60947-2)

Value	Description
t	time
I	current
$I_n$	rated current
$I_r$	long time setting current
curve 1	characteristic with cold start
curve 2	characteristic with hot start

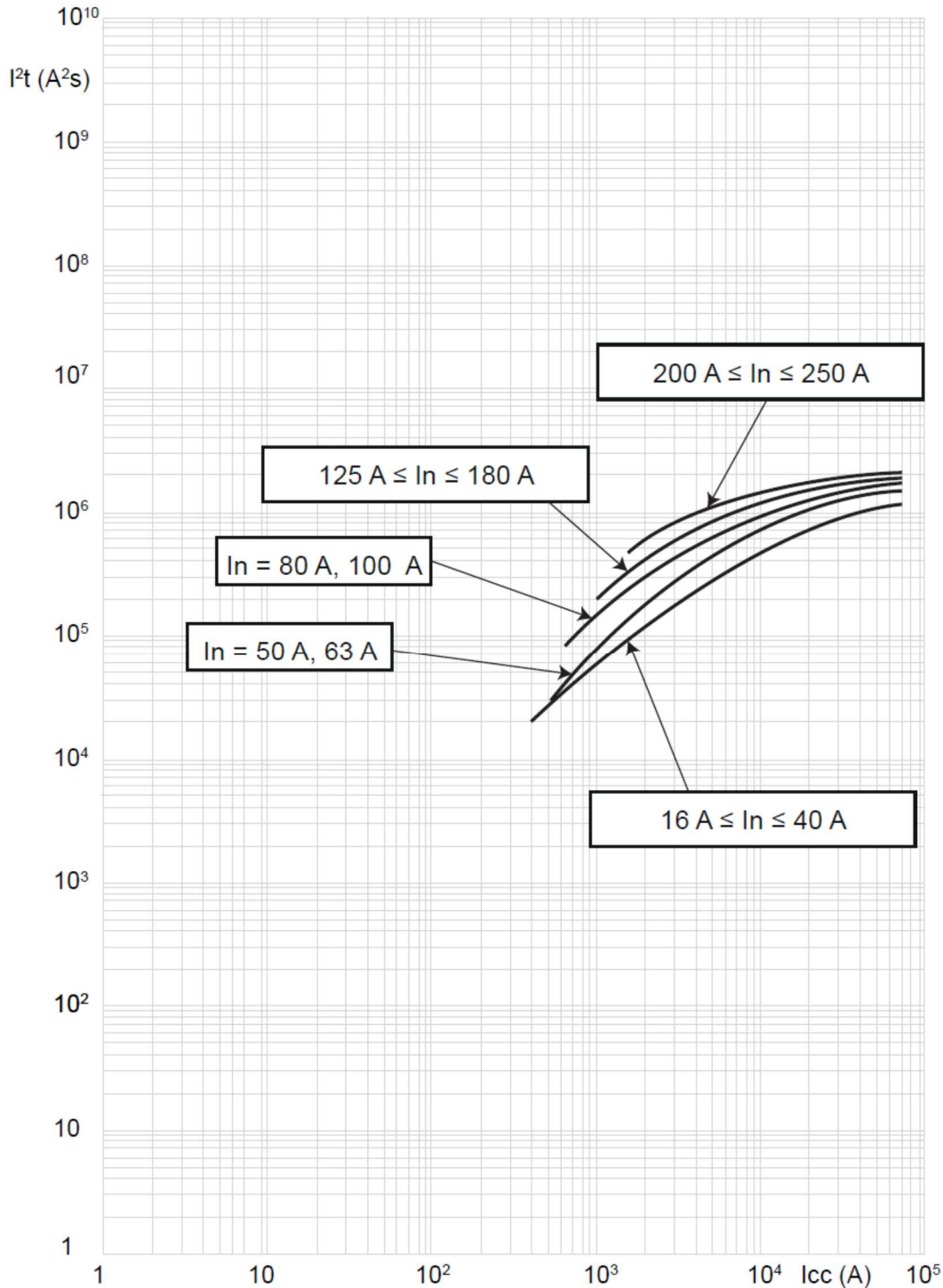
**DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers**  
**DPX<sup>3</sup>-I 250 HP switch disconnectors**

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

9.2.1 Pass-through specific energy characteristic curve (breaking capacity  $I_{cu} \leq 50\text{kA}$ )

Update: 11/06/2019



$I_{cu} = 36\text{-}50\text{ kA}$   $I_{max} = 250\text{A}$  3-4 P  $U_o = 415\text{Vac}$  (IEC/EN 60947-2)

Value	Description
$I_{cc}$	short circuit current
$I^2t$ (A <sup>2</sup> s)	pass-through specific energy

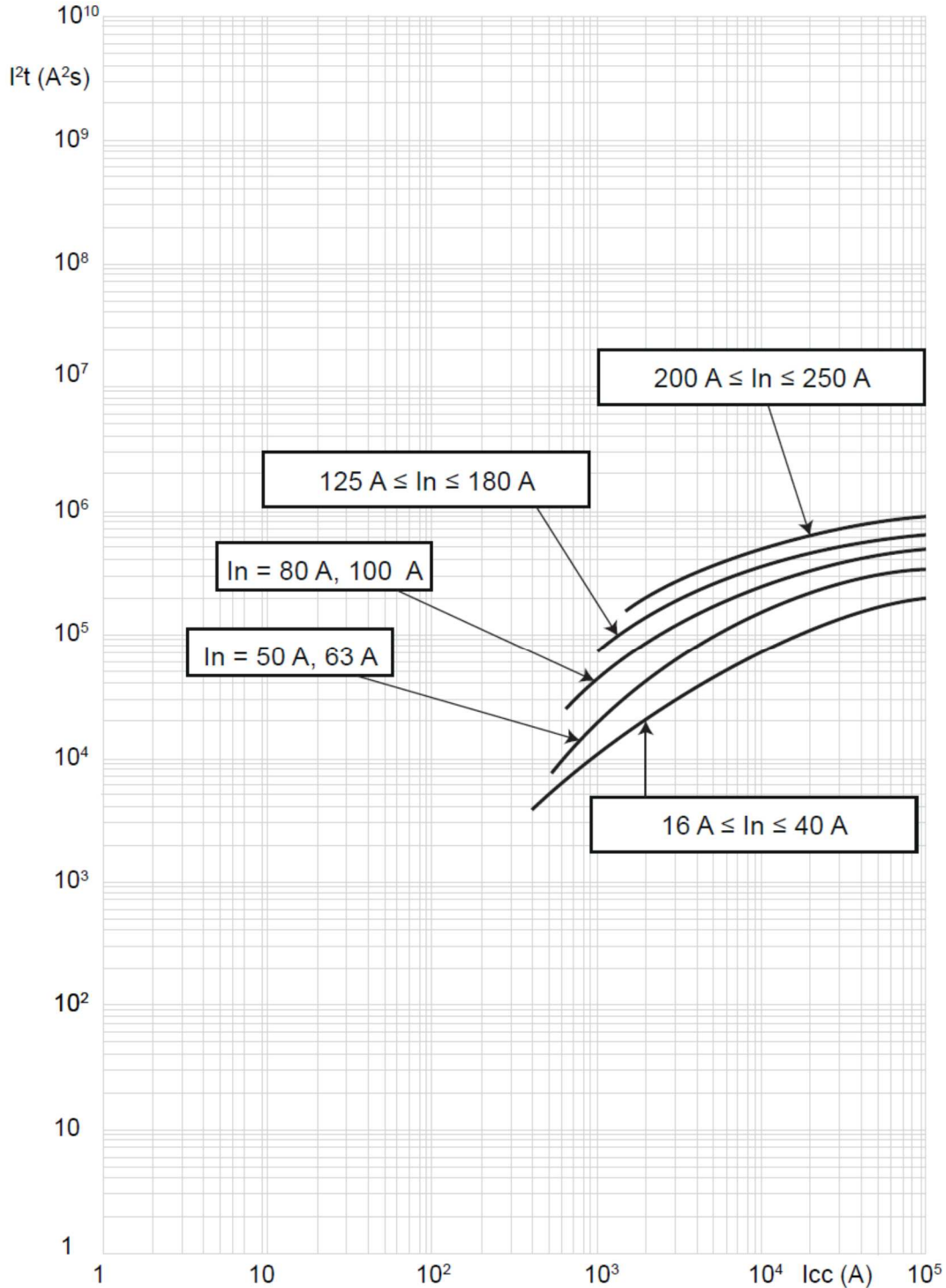
**DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers**  
**DPX<sup>3</sup>-I 250 HP switch disconnectors**

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

**9.2.2 Pass-through specific energy characteristic curve (breaking capacity  $I_{cu} > 50kA$ )**

Update: 30/08/2019



$I_{cu} = 70-100 \text{ kA}$   $I_{max} = 250A$  3-4 P  $U_o = 415V_{ac}$  (IEC/EN 60947-2)

Value	Description
$I_{cc}$	short circuit current
$I^2t \text{ (A}^2\text{s)}$	pass-through specific energy

# DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers

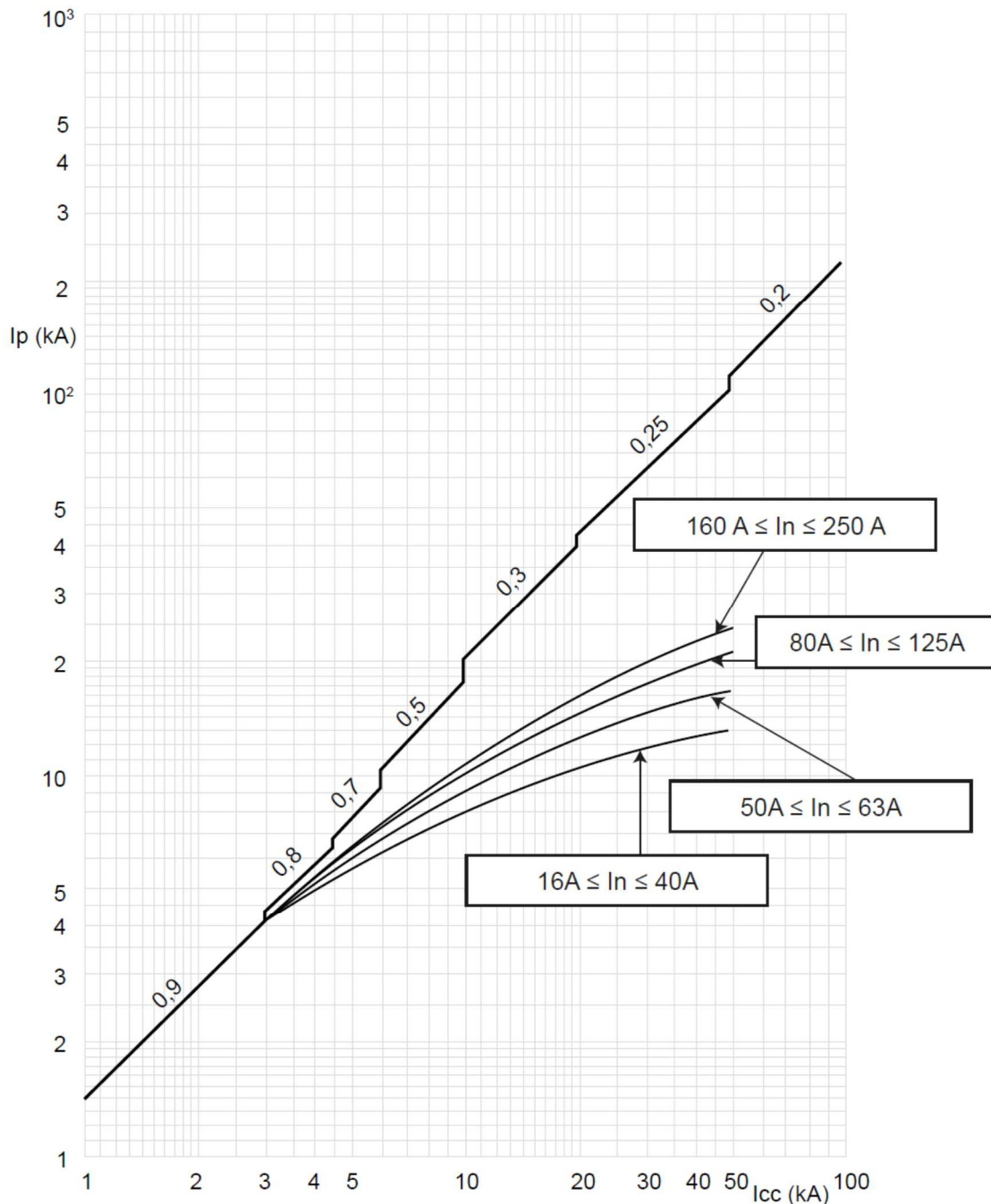
## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### 9.3.1 Cut-off peak current characteristic curve (kA) (breaking capacity $I_{cu} \leq 50\text{kA}$ )

Update: 08/01/2021



$I_{cu} = 36-50 \text{ kA}$   $I_{max} = 250\text{A}$  3-4 P  $U_o = 415\text{Vac}$  (IEC/EN 60947-2)

Value	Description
$I_{cc}$	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



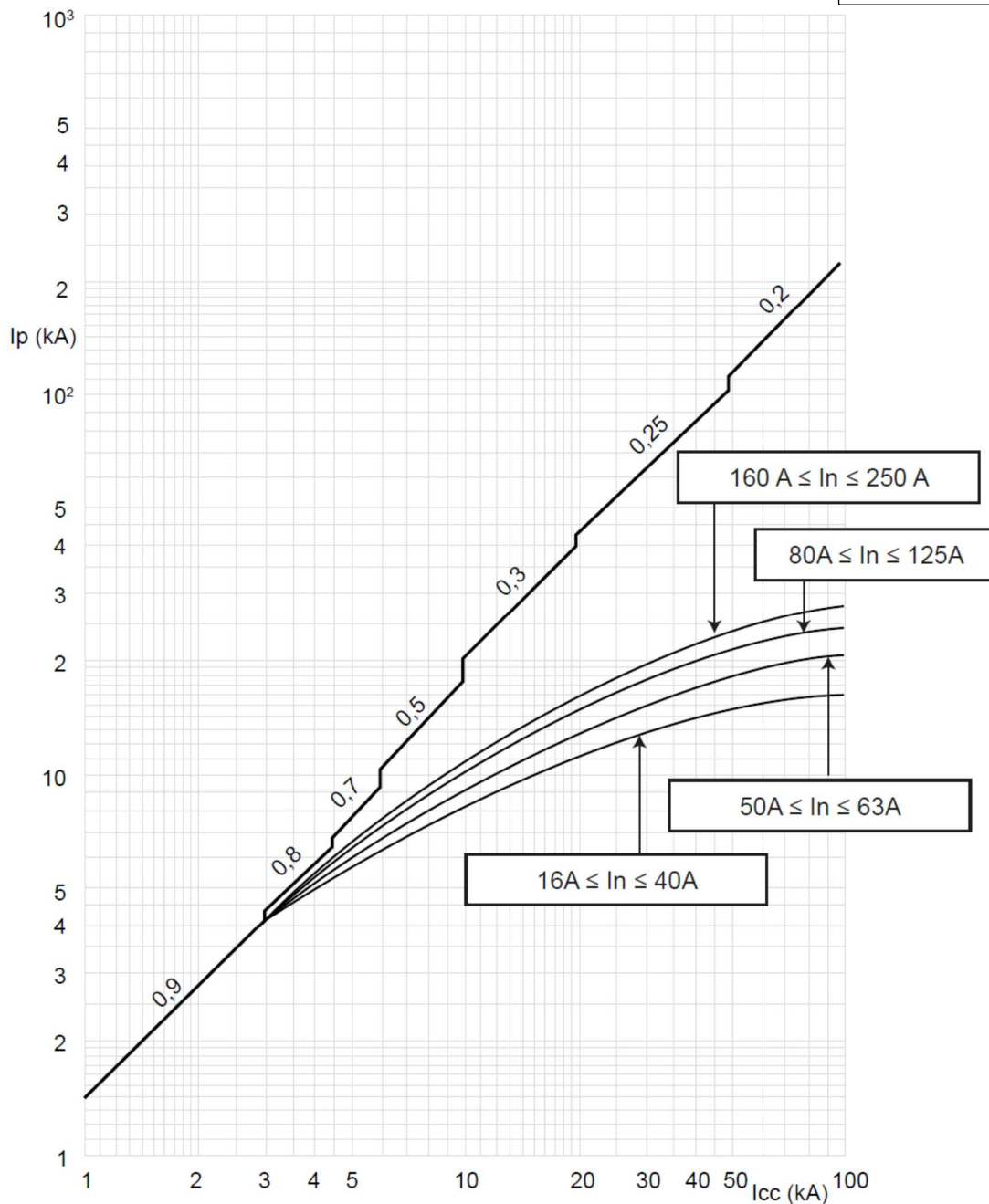
**DPX<sup>3</sup> 250 HP thermal magnetic circuit breakers**  
**DPX<sup>3</sup>-I 250 HP switch disconnectors**

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

9.3.2 Cut-off peak current characteristic curve (breaking capacity  $I_{cu} > 50\text{kA}$ )

Update: 08/01/2021



$I_{cu} = 70-100 \text{ kA}$   $I_{max} = 250\text{A}$  3-4 P  $U_o = 415\text{Vac}$  (IEC/EN 60947-2)

Value	Description
$I_{cc}$	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 HP thermal magnetic circuit breakers

## DPX<sup>3</sup>-I 250 HP switch disconnectors

Reference(s) :

from 4 230 00 to 4 230 12; from 4 230 15 to 4 230 27;  
 from 4 230 60 to 4 230 72; from 4 230 75 to 4 230 87;  
 from 4 231 20 to 4 231 32; from 4 231 35 to 4 231 47;  
 from 4 231 50 to 4 231 62; from 4 231 65 to 4 231 77;  
 4 231 80; 4 231 81;

### A) Derating Temperature and configurations

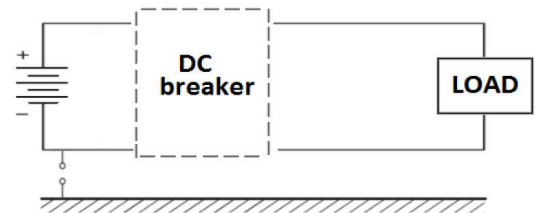
	Ambient temperature									
	30 °C		40 °C		50 °C		60 °C		70 °C	
Fixed version	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$
Cage terminals, flexible cable	250	1	250	1	250	1	255	0.90	213	0.85
Lugs, flexible cable	250	1	250	1	250	1	238	0.95	255	0.90
Spreaders, flexible cable	250	1	250	1	250	1	238	0.95	255	0.90
Plug-in/draw-out version	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$	$I_{max}$ (A)	$I_r / I_n$
Cage terminals, flexible cable	250	1	255	0.90	255	0.90	213	0.85	188	0.75

For further technical information, please contact Legrand technical support.

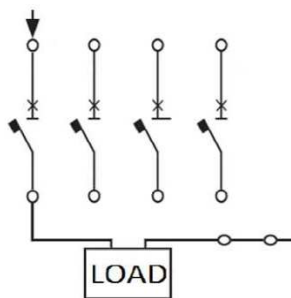
### B) Breaking capacity in DC (kA)

$I_{cu}$ (kA)	$I_n$ (A)	1 pole *				2 poles in series *			3 poles in series *		
		60 V	60 V	110 V	250 V	110 V	250 V	500 V	110 V	250 V	500 V
36	16 ÷ 250	35	36	35	10	36	10	10			
50	16 ÷ 250	35	50	35	10	50	10	10			
70	16 ÷ 250	35	50	35	10	50	10	10			
100	16 ÷ 250	35	50	35	10	50	10	10			

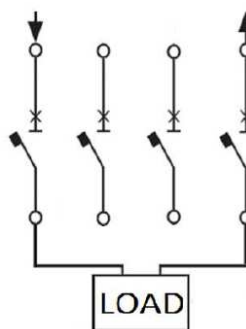
These values are applied to DC networks insulated from the ground (this diagram applies to both 3P and 4P circuit breakers):



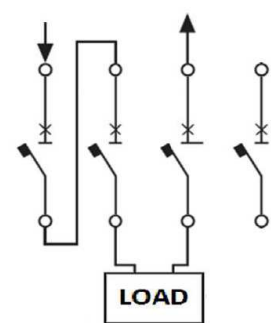
\* Connection modality of the DC breaker:



1 pole



2 poles in series



3 poles in series