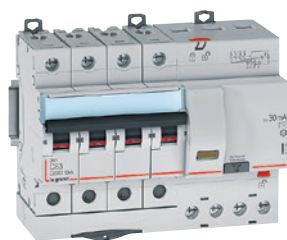


RCBOs DX³ 6000 - 10 kA - residual current circuit breakers from 10 A to 63 A - AC, A and Hpi types (continued)



4 111 92



4 112 41

Technical characteristics **see e-catalogue**

Conform to IEC 61009-1

Breaking capacity:

6000 - IEC 61009-1 - 10 kA / IEC 60947-2 for single pole + neutral, 2 and 4-pole

- AC type : detect AC component faults
- A type : detect AC and DC component faults
- Hpi type (High immunity) : detect AC and DC component faults

Enhanced immunity to unwanted tripping in disturbed environments

Can be equipped with DX³ signalling and remote tripping auxiliaries and motorised controls (p. 64)

Pack	Cat.Nos	4-pole - 400 V _~	
		4-module RCBOs are compatible with prong-type and fork type supply busbars 7-module RCBOs are compatible with prong-type supply busbars only	
		AC Type 30 mA	
		Nominal rating I _n (A)	Number of modules
	C curve		
1	4 111 85	10	4
1	4 111 86	16	4
1	4 111 87	20	4
1	4 111 88	25	4
1	4 111 89	32	4
1	4 111 90	40	7
1	4 111 91	50	7
1	4 111 92	63	7
		AC Type 300 mA	
1	4 112 04	10	4
1	4 112 05	16	4
1	4 112 06	20	4
1	4 112 07	25	4
1	4 112 08	32	4
1	4 112 09	40	7
1	4 112 10	50	7
1	4 112 11	63	7
		A Type 30 mA	
1	4 112 33	10	4
1	4 112 34	16	4
1	4 112 35	20	4
1	4 112 36	25	4
1	4 112 37	32	4
		A Type 300 mA	
1	4 112 38	10	4
1	4 112 39	16	4
1	4 112 40	20	4
1	4 112 41	25	4
1	4 112 42	32	4
		Hpi Type 30 mA	
1	4 112 44	16	4
1	4 112 45	20	4
1	4 112 46	25	4
1	4 112 47	32	4

AUXILIARIES AND REMOTE CONTROL

Common auxiliaries & remote control

The signalling and remote tripping auxiliaries and the motorised controls are common for DX³ MCBs, RCBOs and RCCBs and TX³ MCBs. Signalling auxiliaries are available in two versions, adapted to the pin or fork type supply busbars.



1 module motorised controls p. 64

COMPACT SIZE

1 module motorised controls for remote tripping of 1-pole to 4-pole modular devices.



Auxiliaries p. 64

EASY TO INSTALL

Perfect fitting to protection devices
Easy access and visible terminals
Allow insertion of supply busbars



Power overvoltage protection p. 64
Motorised control with automatic resetting p. 64

AVAILABLE FUNCTIONS

- auxiliary or fault signal contact
- current shunt trips
- undervoltage releases
- power overvoltage protection
- motorised controls with or without automatic resetting

For detailed dimensions, **see e-catalogue**



DX³ RCDS

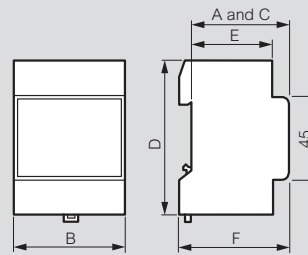
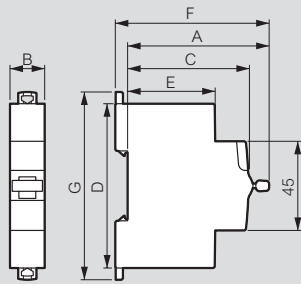
Technical data for DX³ RCDs

	RCCB		
	Type AC	Type A-S	Type Hpi
Specification	IS 12640 (part 1) 2008 IEC 61008 - 1	IEC 61008 - 1 EN 61008 - 1	EN 61008 - 1 IEC 61008 - 1
No. of modules	- Double pole - Four pole	2 4	2 4
Electrical characteristics			
Nominal rating I_n (A)	- Double pole - Four pole	25, 40, 63, 80, 100 25, 40, 63, 80, 100	63, 80 25, 40, 63, 80
Rated sensitivity (mA)	- Double pole - Four pole	30, 100, 300 30, 100, 300	300 300
Rated frequency (Hz)		50 / 60	50 / 60
Rated operating voltage U_e (V AC)	- Double pole - Four pole	230 230 / 415	230 400
Minimum operating voltage (V AC)		12	12
Minimum operating voltage for test button (V AC)⁽¹⁾	- Double pole - Four pole	170 196	170 196
Rated insulation voltage U_i (V AC)	- Double pole - Four pole	250 500	250 500
Rated impulse withstand voltage U_{imp} (kV)		6	6
Breaking capacity	As per IS 12640 (part 1) 2008, IEC 61008 - 1		
Rated making & breaking capacity (I_m)	- Up to 40 A - From 63 A and above	500 A 10 x I _n	- 630 A
Rated residual making & breaking capacity (I_{Δm})	- Up to 40 A - From 63 A and above	1000 A 1000 A	- 1000 A
Rated conditional short circuit current (I_{nc})		10000 A	10000 A
Rated conditional residual short circuit current (I_{Δc})		10000 A	10000 A
Rated service short circuit capacity (I_{cs})		-	-
Rated short circuit capacity (I_{cn})		-	-
Operating temperature (°C)		- 25 to 70	- 25 to 70
Endurance (0.C cycle)	- Mechanical - On load at in X cos φ 0.9 - Via test button - By fault current (sensitivity)	20,000 10,000 2,000 2,000	20,000 10,000 2,000 2,000
Testing	By pressing test button grey dolly will come to OFF position It is recommended to test RCCB once a month	By pressing test button grey dolly will come to OFF position It is recommended to test RCCB once a month	By pressing test button, grey dolly will come to OFF position It is recommended to test RCCB once a month
Fault indication	- Earth leakage - Overload and shortcut	Grey dolly will come to OFF position -	Grey dolly will come to OFF position -
Resetting		Switch on grey dolly	Switch on grey dolly
Terminals	- Rigid - Flexible	1 - 35 sq. mm 1 - 25 sq. mm	1 - 35 sq. mm 1 - 25 sq. mm
Type of protection			
Earth leakage		•	•
Overload		-	-
Short circuit		-	-
Add on electrical accessories*			
Auxiliary		•	•
Fault signaling		•	•
Shunt trip		•	•
Under voltage		•	•
Over voltage		•	•

* - Accessories are mounted on the left hand side of the product.
At a time a maximum of three accessories can be mounted.
(1) - Between phase and neutral

RCBO				
Type AC	Type AC - 2 & 4 modules	Type Hpi	Type A	
IS 12640 (part 2) 2008 IEC 61009 - 1	NFC 61 - 410 EN 61009 - 1 IEC 61009 - 1	EN 61009 - 1 IEC 61009 - 1	EN 61009 - 1 IEC 61009 - 1	
4	2	2	-	
7	4	-	4	
6, 10, 16, 25, 32, 40, 63				
6, 10, 16, 25, 32, 40, 63	6, 10, 16, 20, 25, 32	25, 32, 40	25, 32, 40	
16, 25, 32, 40, 63	10, 16, 20, 25, 32	-	-	
30, 100, 300	30, 300	30	30, 300	
30, 100, 300	-	-	-	
50	50	50 / 60	50 / 60	
230	230	230	-	
415	415	-	415	
12	12	12	12	
170				
170	170	170	-	
196	196	-	196	
500	250	250	-	
500	500	-	500	
4	6	6	6	
As per IS 12640 (part 2) 2008, IEC 61009 - 1				
10000 A	6000 A	6000 A	6000 A	
10000 A	-	-	-	
10000 A	3000 A	3000 A	3000 A	
10000 A	-	-	-	
-	-	-	-	
-	-	-	-	
7500 A	6000 A	6000 A	6000 A	
10000 A	6000 A	6000 A	6000 A	
- 25 to 70	- 25 to 70	- 25 to 70	- 25 to 70	
20,000	20,000	20,000	20,000	
10,000	10,000	10,000	10,000	
1,000	1,000	1,000	1,000	
1,000	1,000	1,000	1,000	
By pressing test button, black dolly will come to OFF position It is recommended to test RCBO once a month	By pressing test button, black dolly will come to OFF position It is recommended to test RCBO once a month	By pressing test button, black dolly will come to OFF position It is recommended to test RCBO once a month	By pressing test button, black dolly will come to OFF position It is recommended to test RCBO once a month	
Black & blue dolly will come to OFF position	Black dolly will come to OFF position & blue indicator will appear on front face window	Black dolly will come to OFF position & blue indicator will appear on front face window	Black dolly will come to OFF position & blue indicator will appear on front face window	
Black dolly will come to OFF position	Black dolly will come to OFF position	Black dolly will come to OFF position	Black dolly will come to OFF position	
Switch on black dolly	Switch on black dolly	Switch on black dolly	Switch on black dolly	
1 - 35 sq. mm	0.75 - 16 sq. mm	0.75 - 16 sq. mm	0.75 - 16 sq. mm	
1 - 25 sq. mm	0.75 - 10 sq. mm	0.75 - 10 sq. mm	0.75 - 10 sq. mm	
•				
•				
•				
•				
•				
•				
•				
•				
•				
•				

Dimensions of din-rail equipment



Product	A		B				C	D	E	F	G
	1P	1P+ N	2P	3P	4P						
RX³ MCBs	71.7	17.7	35.4	35.4	53.1	70.8	61	83	44	77.8	88.9
RX³ RCCBs	71.7			35.6		71.2	61	83	44	77.8	88.9
TX³ MCBs	71.7	17.7	35.4	35.4	53.1	70.8	61	83	44	77.8	88.9
TX³ RCCBs	71.7			35.6		71.2	61	83	44	77.8	88.9
Isolating switches DX³	71.7	17.8		17.8/ 35.4	35.6/ 53.1	70.8	61	83	44	77.8	94.8
Remote trip head isolating switches DX³ up to 63A - 1 mod/pole	71.7			35.4	53.1	70.8	61	83	44	77.9	94.8
Remote trip head isolating switches DX³ 100/125A - 1.5 mod/pole	73				80.1	106.8	61	96	47	79	104.3
DX³ RCCBs	71.7			35.6		71.2	61	83	44	77.8	94.8
1P DX³ RCBOs (up to 45A)	68	17.7					60	115	48	74	126.8
1P+N DX³ RCBOs (up to 40A) & 4P (up to 32A)	71.7		35.6			71.2	61	83	44	77.8	94.8
2P & 4P DX³ RCBOs (40A to 63A)	72			71.2		124.6	61	96	44	78.2	107.8
1P+N DX³ MCBs 1 mod	71.7		17.8				61	83	44	77.8	94.8
DX³ MCBs - 1 mod/pole	71.7	17.7	35.4	35.4	53.1	70.8	61	83	44	77.8	94.8
DX³ MCBs - 1,5 mod/pole	73.1	26.7		53.4	80.1	106.8	61	100	47	79	104.3
DX³ add-on modules up to 63A - 1 mod/pole	72			35.6	53.4	53.4	61	96	44	78.2	107.8
DX³ add-on modules up to 63A - 1.5 mod/pole	72			35.6	53.4	53.4	61	96	47	78.2	116.7
DX³ add-on modules 80 to 125A - 1.5 mod/pole	72			71.2	106.8	106.8	61	114	47	78.2	129
DX³ auxiliaries	71.5			8.8 / 17.7			61	83	44	77.7	84.5
DX³ remote control	74.3			17.7 / 35.4			61	83	44	80.5	98.8
DX³ Stop&Go automatic resetting	74.3			35.4			61	83	44	80.5	113.7
Change-over switches	68	17.7		35.6			60	83	44	74	94
CX³ latching relays	64	17.8		17.8	35.6	35.6	61	84.5	44	70.2	94.8
CX³ contactors up to 25A	66.3/ 61	17.8		17.8	35.6	35.6	61	84.5	44	72.6/ 67.3	94.8
CX³ contactors 40A & 63A	62			35.6	53.4	53.4	60	83	44	68	94
Auxiliaries for CX³ contactors and latching relays	61			9/17.8			61	84.5	44	67	84.5
Push-buttons / control switches	68			17.7			60	83	44	74	94
Indicators	68			17.7			60	83	44	69	94
Bells and buzzers	60			17.7			60	76	44	66	85
Light sensitive switches											
Cat.Nos 0 037 21, 4 126 23	60			35.6			60	85	37.5	66	70
Socket outlets	60			44.5			60	83	44	66	92
Time delay relays	60			17.7			60	83	44	66	94
Remote control dimmers											
Cat.No 0 036 58	60			36			60	83	44	66	94
Cat.No 0 036 60	60			72			60	83	44	66	94
Cat.No 0 036 71	60			108			60	83	44	66	94

Description	A	B	C	D	E	F
Programmable time switches						
0 037 05	60	17.8	60	83	44	66
4 127 80/90/94	60	17.8	60	83	44	66
4 127 95, 4 128 12/13	60	53	60	83	44	66
4 126 31/33/41	60	35.6	60	83	44	66
4 126 54/57	60	35.6	60	83	44	66
0 047 70	60	90	60	83	44	66
Transformers and power supplies						
0 042 10/30/31	60	72	60	83	44	66
4 130 91	60	35.8	60	83.5	44	66
4 130 92/93/96	60	71.5	60	83.5	44	66
4 130 98	60	89	60	94	44	66
0 047 91/92	60	105	60	95	44	66
4 131 05/06/07/08	60	89	60	95	44	66
0 047 93	60	70	60	95	44	66
Residual current relay						
0 260 88	60	35.5	60	89	44	66

DX³ 4-pole RCBO 6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81



CONTENTS

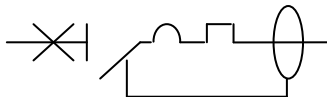
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1. DESCRIPTION - USE

Residual Current Operated Circuit Breaker (RCBO) with positive contact indication for control, protection against short circuits and overload and isolation of electrical circuits, protecting people from direct and indirect contact and protecting installations from insulation faults.

Symbol:



Technology:

- . Limiting device
- . Simultaneous control of all poles for closing and opening (trip-free mechanism)

2. RANGE

Polarity:

- 4 protected poles

Width:

- . 4 modules (4 x 17.8 mm = 71,2 mm)

Rated currents In:

- 10 / 13 / 16 / 20/ 25/ 32 A

Magnetic tripping curve:

- . C (between 5 and 10 In)
- . B (between 3 and 5 In)

Type:

- . AC (sinusoidal differential alternating current)
- . A (residual current with a DC component)
- . HPI (immunised against false tripping). HPI products are also A type.

Sensitivity – Operating time:

- . 30 mA - instantaneous
- . 300 mA - instantaneous
- . 1,000 mA - instantaneous

2. RANGE (continued)

Rated voltage and frequency:

- . 230/400 V~, 50 Hz with standard tolerances
- . 240/415 V~, 50 Hz with standard tolerances

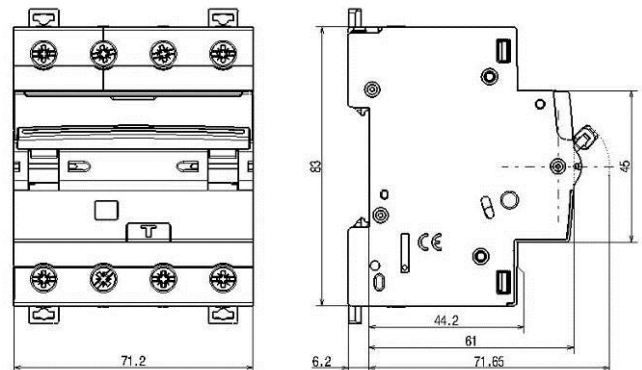
Maximum operating voltage:

- . 440 V~, 50 Hz with standard tolerances

Breaking capacity:

- . Icn = 6000 A in accordance with standard EN/IEC 61009-1
- . Icu = 10 kA in accordance with standard EN/IEC 60947-2

3. OVERALL DIMENSIONS:



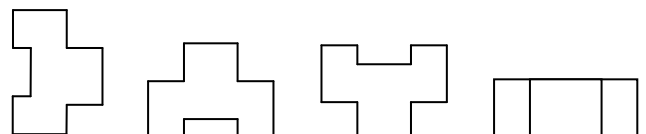
4. PREPARATION - CONNECTION

Mounting:

- . On symmetrical EN 60.715 rail or DIN 35 rail

Operating positions:

- . Vertical horizontal upside down On the side



Power supply:

- . Either from the top or the bottom

DX³ 4-pole RCBO

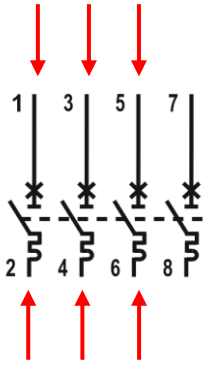
6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

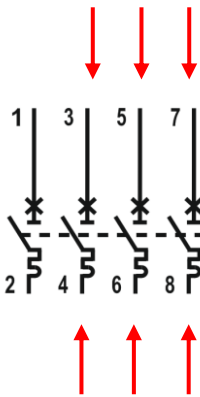
4. PREPARATION - CONNECTION *(continued)*

400V three-phase network wiring without neutral:

connect the 3 phases as indicated by the arrows in below diagram



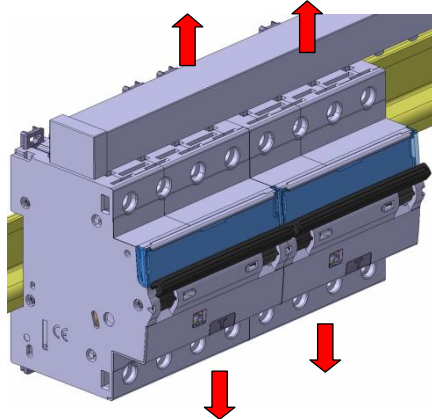
OR



Module maintenance :

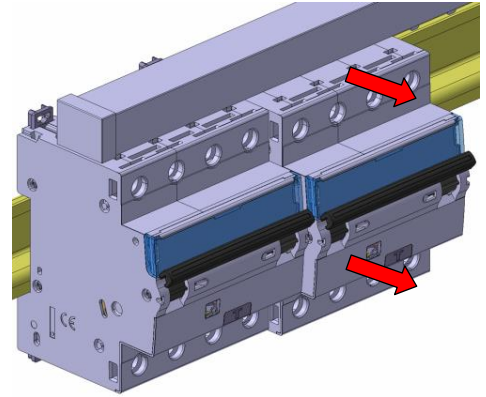
. A RCBO may be replaced in the middle of a row supplied with busbars without disconnecting the other products

Put the clamp in the unlocking position

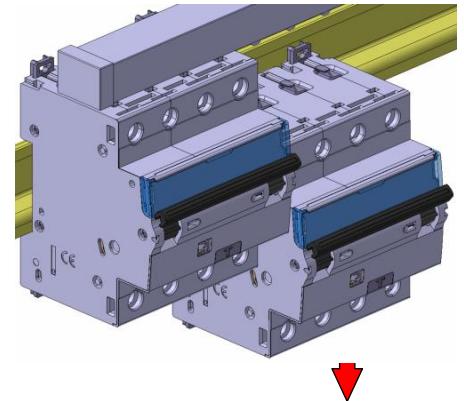


Unscrew the four upper terminals completely

Pull the device forward in order to release it from the rail



Pull the device downward in order to release it completely from the prongs of the busbar



Connection:

- . Terminals protected against direct contact IP20, when device wired
- . Cage terminals, with release and captive screws
- . Terminals fitted with shutters preventing a cable being placed under the terminal, with the terminal partly open or closed
- . Alignment and spacing of the terminals permitting connection with the other products via prong and fork-type (biconnect) supply busbars
- . Terminal depth: 13 mm upstream and 13 mm downstream
- . Screw head: mixed, slotted and Pozidriv no. 2
- . Tightening torque:
 - Recommended: 2.5 Nm
 - Min.: 1.2 Nm
 - Max.: 3.5 Nm

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07, 4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51, 4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

4. PREPARATION - CONNECTION *(continued)*

Conductor type:

- . Copper cable
- . Cable cross-section:

	Without ferrule	With ferrule
Rigid cable	1 x 0.75 mm ² to 35 mm ² 2 x 0.75 mm ² to 16 mm ²	-
Flexible cable	1 x 0.75 mm ² to 25 mm ² 2 x 0.75 mm ² to 16 mm ²	1 x 0.75 mm ² to 25 mm ²

- . Prong supply busbar at the top or the bottom of the product, alone or with a 16 mm² flexible wire (without ferrule) or a connection terminal in the same terminal.
- . Fork supply busbar at the bottom of the product

Recommended tools:

- . For the screw terminals, screwdriver with 5.5 mm to 6.5 mm blade or Pozidriv no. 2 screwdriver
- . For attaching or removing the DIN rail, screwdriver with 5.5 mm to 6.5 mm blade or Pozidriv no. 2 screwdriver

Manual actuation of the RCBO

- . Ergonomic 2-position handle:
- "O-OFF": Device open
- "I-ON": Device closed

Contact status display:

- . By marking of the handle:
- "O-OFF" in white on a green background = contacts open
- "I-ON" in white on a red background = contacts closed

Trip indication on residual current fault:

- . Yellow indicator on the front

Locking:

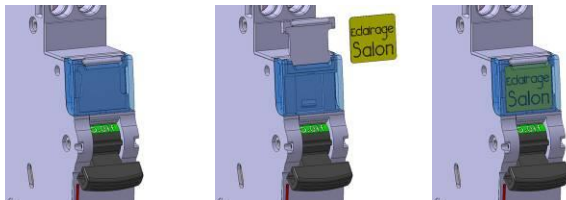
- . Padlocks possible in the open or closed positions with padlock support (Cat. No. 4 063 03) and Ø 5 mm padlock (Cat. No. 4 063 13) or Ø6 mm padlock (Cat. No. 227 97)

Sealing:

- . Possible in the open or closed positions

Labelling:

- . Circuit identification by way of a label inserted in the label holder situated on the front of the product



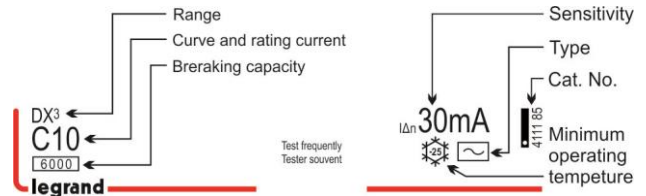
5. GENERAL CHARACTERISTICS

Neutral earthing system:

- . IT, TT, TN

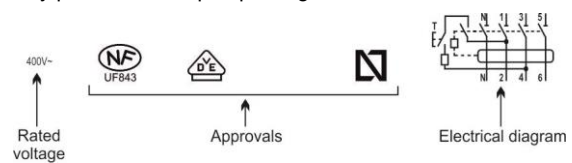
Marking on the front side:

- . By permanent ink pad printing



Marking on the upper panel:

- . By permanent ink pad printing



Test operating voltages:

IΔn	30 mA	300 mA	1000 mA
min. U	320 V~	220 V~	230 V~
max. U	440 V~	440 V~	440 V~

Breaking capacity:

- . With a three-phase network + neutral (with alternating current 50 Hz)

Standard	Voltage between poles	Breaking capacity	
		Icn	Icu
EN 61009-1	230 V	Icn	6 kA
	400 V		6 kA
EN 60947-2	230 V	Icu	10 kA
	400 V		10 kA
	230 V	Ics	50 % Icu
	400 V		50 % Icu

Residual breaking capacity:

- . IΔm = 4.5 kA in accordance with EN 61009-1 section 9.12.11.4d (IΔm: short-circuit to earth)

Breaking capacity on one single pole (phase pole):

- . In accordance with I_{TT} EN60947-2 – Appendix H (double fault in IT system): 3 kA at 400 V ~ and 6 kA at 230 V ~
- . In accordance with Icn1 EN60898-1: 10 kA at 230 V ~

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07, 4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51, 4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Isolation distance:

. The distance between the contacts is greater than 5.5 mm with the handle in the open position. The RCBO is suitable for isolation in accordance with standard EN/IEC 61009-1

Insulation voltage:

. $U_i = 500$ V in accordance with standard EN/IEC 61009-1

Degree of pollution:

. 2 in accordance with standard EN/IEC 61009-1

Dielectric strength:

. 3,500 V

Rated impulse withstand voltage:

. $U_{imp} = 4$ kV (wave 1.2/50 μ s)

Protection from false tripping:

. 8/20 μ s wave resistance: 250 A
 . 0.5 μ s/100 kHz damped recurring wave resistance: 200 A

Degree or class of protection:

. Terminals protected against direct contact, Class of protection against solid objects and liquids (wired device): IP20 in accordance with standards IEC 529 – EN 60529 and NF 20-010
 . Front panel protected against direct contact: IP 40
 . Class II in relation to metallic conductive parts
 . Class of protection against mechanical impacts IK 02 in accordance with standard EN 62262.

Plastic materials:

. Polyamide and P.B.T.

Enclosure heat and fire resistance:

. Resistance to glow wire tests at 960°C, in accordance with standard IEC/EN 61009-1
 . Classification V0, in accordance with standard UL94

Higher heating potential:

. The heat potential of a 30 mA AC type C16 device is estimated at: 4.73 MJ

Closing and opening force via the handle:

. 6 N on opening
 . 20 N on closing

Mechanical endurance:

Compliant with standard EN/IEC 61009-1
 . Tested with 20,000 operations with no load

Electrical endurance:

Compliant with standard EN/IEC 61009-1
 . Tested with 10,000 operations with load (at $I_n \times \cos \phi$ 0.9)
 . Tested with 2,000 residual current trip operations using the Test button or the fault current

Sinusoidal vibration resistance (in accordance with IEC 60068.2.6):

. Axes: x - y - z
 . Frequency: 10 to 55 Hz
 . Acceleration: 3g ($1g = 9.81$ m.s⁻²)

Resistance to tremors:

. In accordance with standard EN/IEC 61009-1

Ambient temperatures:

. Operation: from – 25°C to + 60°C
 . Storage: from – 40°C to + 70°C

DC operation:

. Cannot be used with DC

Frequency:

. Operation at 400 Hz: No
 . Operation at 60 Hz: Yes., except sensitivities 30mA, A and AC types, which can be replaced, only for ratings 16A,20A,25A,32A, by HPI types of equivalent ratings and sensitivity.

Packaged volume:

	Volume (dm ³)	Packaging
For all ratings	0.7	Per 1

Average weight per device:

. 30mA RCBOs= 0,48 kg
 . 300mA RCBOs= 0,45 kg
 . 1 A RCBOs= 0,45 kg

Derating of RCBOs function of the number of devices placed side by side:

When several RCBOs are installed side by side and operate simultaneously, the heat dissipation of one pole is limited. This results in an increased operating temperature for the RCBOs causing false tripping. Applying the following additional coefficients to the operating currents is recommended.

Number of RCBOs side by side	Coefficient
2 - 3	0.9
4 - 5	0.8
6 - 9	0.7
≥ 10	0.6

These values are provided by recommendation IEC 60439-1 and the standards NF C 63421 and EN 60439-1.

In order to avoid having to use these coefficients there must be good ventilation and the devices must be kept apart using the spacing elements Cat. No. 4 063 07 (0.5 module).

Specific use: Appropriate to operate in humid atmosphere and polluted by a chlorinated environment (pool-type)

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07, 4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51, 4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Derating of RCBOs in the event of use with fluorescent tubes:

Electronic or ferromagnetic ballasts provide a high inrush current for a very short time. These currents are liable to cause tripping of the RCBOs.

The maximum number of ballasts per RCBOs stated by the lamp and ballast manufacturers in their catalogues should be taken into account during installation.

Impact of height:

	≤2,000 m	3,000 m	4,000 m	5,000 m
Dielectric strength	3,500 V	2,500 V	2,000 V	1,500 V
Maximum operating voltage	400 V	400 V	400 V	400 V
Derating at 30°C	none	none	none	none

Dissipated power for the phase pole in In:

. B and C curve RCBOs, all types and all sensitivities

Rated current	10 A	13 A	16 A	20 A	25 A	32 A
Power (W)	4.7	5.7	8.9	9.3	10.4	12.3

Derating of RCBOs depending on the ambient temperature:

. The nominal characteristics of a RCBO are modified depending on the ambient temperature which prevails in the cabinet or enclosure where the RCBO is located.

. Reference temperature: 30°C in accordance with standard IEC/EN 60947-2.

In (A)	Ambient Temperature/In								
	- 25°C	- 10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C
10	13	12	12	11	11	10	10	10	10
13	17	16	15	14	14	13	13	13	13
16	20	19	18	18	18	16	16	16	16
20	26	24	23	22	21	20	20	20	20
25	32	30	29	28	26	25	25	25	25
32	41	38	37	35	34	32	32	32	32

Association and coordination with upstream fuses:

. Three-phase network (+N) 400/415 V, in accordance with standard IEC 60947-2

. TT neutral earthing or TNS system

Downstream RCBO		Upstream fuse									
		gG and aM types									
		≤20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A	125 A	160 A
DX ³ 6000 A B and C curves	≤13 A	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	16 A	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	20 A	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	25 A	-	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	32 A	-	-	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS (continued)

Association and coordination with upstream MCBs:

- . Three-phase network (+N) 400/415 V, in accordance with standard IEC 60947-2
- . TT neutral earthing or TNS system

		Upstream MCB			
		DX ³ 10 kA B and C curves DX ³ 6000/10 kA B, C and D curves			
Downstream RCBO		≤32 A	40 A	50 A	63 A
DX ³ 6000 A B and C curves	≤25 A	10 kA	10 kA	10 kA	10 kA
	32 A	-	10 kA	10 kA	10 kA

		Upstream MCB											
		DX ³ 10000 16 kA B/C/D curves			DX ³ 25 kA B/C/D curves			DX ³ 36 kA C curve			DX ³ 50 kA B/C/D curves		
Downstream RCBO		≤15 A	32 A	40 to 125 A	≤25 A	32 A	40 to 125 A	≤25 A	32 A	40 to 80 A	≤25 A	32 A	40 to 63 A
DX ³ 6000 A B and C curves	≤20 A	16 kA	16 kA	16 kA	25 kA	25 kA	25 kA	36 kA	36 kA	36 kA	50 kA	50 kA	50 kA
	25 A	-	16 kA	16 kA	-	25 kA	25 kA	-	36 kA	36 kA	-	50 kA	50 kA
	32 A	-	-	16 kA	-	-	25 kA	-	-	36 kA	-	-	50 kA

Association and coordination with upstream Moulded Case Circuit Breakers (MCCBs):

- . Three-phase network (+N) 400/415 V, in accordance with standard IEC 60947-2
- . TT neutral earthing or TNS system

		Upstream MCCBs											
		DPX ³ 160 16 kA			DPX ³ 160 25 kA			DPX ³ 160 36 kA			DPX ³ 160 50 kA		
Downstream RCBO		16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A
DX ³ 6000 A B and C curves	≤13 A	16 kA	16 kA	16 kA	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA
	16 A	-	16 kA	16 kA	-	25 kA	25 kA	-	25 kA	25 kA	-	25 kA	25 kA
	20 A	-	16 kA	16 kA	-	25 kA	25 kA	-	25 kA	25 kA	-	25 kA	25 kA
	25 A	-	-	16 kA	-	-	25 kA	-	-	25 kA	-	-	25 kA
	32 A	-	-	16 kA	-	-	25 kA	-	-	25 kA	-	-	25 kA

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS (continued)

Association and coordination with upstream Moulded Case Circuit Breakers (MCCBs):

. Three-phase network (+N) 400/415 V, in accordance with standard IEC 60947-2

. TT neutral earthing or TNS system

Downstream RCBO		Upstream MCCB			
		DPX ³ 250 25 kA	DPX ³ 250 36 kA	DPX ³ 250 50 kA	DPX ³ 250 70 kA
DX ³ 6000 A B and C curves		25 to 250 A	25 to 250 A	25 to 250 A	25 to 250 A
≤32 A	25 kA	25 kA	25 kA	25 kA	25 kA

Downstream RCBO		Upstream MCCB				
		DPX 250 36 kA DPX-H 250 70KA	DPX / DPX-H 630	DPX / DPX-H 1250	DPX / DPX-H 1600	
DX ³ 6000 A B and C curves		25 A	40 to 250 A	250 to 630 A	500 to 1,250 A	630 to 1600 A
≤20 A	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA
25 A	-	25 kA	25 kA	25 kA	20 kA	20 kA
32 A	-	25 kA	25 kA	25 kA	15 kA	15 kA

Downstream RCBO		Upstream MCCB	
		DPX 250 ER AB	DPX 400 AB
DX ³ 6000 A B and C curves	≤32 A	25 kA	25 kA

Association and coordination with upstream fuses only for sensitivities 300mA and 1000mA :

. Three-phase network (+N) 230/240, in accordance with standard IEC 60947-2

. TT neutral earthing or TNS system

Downstream RCBO		Upstream fuse									
		gG and aM types									
		≤20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A	125 A	160 A
DX ³ 6000 A B and C curves	≤13 A	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	16 A	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	20 A	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	25 A	-	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA
	32 A	-	-	-	-	100 kA	100 kA	100 kA	100 kA	100 kA	40 kA

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Association and coordination with upstream MCBs, only for sensitivities 300mA and 1000mA :

- . Three-phase network (+N) 230/240 V, in accordance with standard IEC 60947-2
- . TT neutral earthing or TNS system

		Upstream MCB			
		DX ³ 6000/10 kA B, C and D curves			
Downstream RCBO		≤32A	40A	50A	63A
DX ³ 6000 A B and C curves	≤ 25 A	25 kA	25 kA	25 kA	25 kA
	32 A	-	25 kA	25 kA	25 kA

		Upstream MCB											
		DX ³ 10000 16 kA B/C/D curves			DX ³ 25 kA B/C/D curves			DX ³ 36 kA C curve			DX ³ 50 kA B/C/D curves		
Downstream RCBO		≤25 A	32 A	40 to 120 A	≤25 A	32 A	40 to 125 A	≤25 A	32A	40 to 80 A	≤25 A	32 A	40 to 63 A
DX ³ 6000 A B and C curves	≤20 A	32 kA	32 kA	25 kA	50 kA	50 kA	25 kA	50 kA	50 kA	50 kA	50 kA	50 kA	50 kA
	25 A	-	32 kA	25 kA	-	50 kA	25 kA	-	50 kA	50 kA	-	50 kA	50 kA
	32 A	-	-	25 kA	-	-	25 kA	-	-	50 kA	-	-	50 kA

Association and coordination with upstream Moulded Case Circuit Breakers (MCCBs), only for sensitivities 300mA and 1000mA :

- . Three-phase network (+N) 230/240 V, in accordance with standard IEC 60947-2
- . TT neutral earthing or TNS system

		Upstream MCCB											
		DPX ³ 160 16 kA			DPX ³ 160 25 kA			DPX ³ 160 36 kA			DPX ³ 160 50 kA		
Downstream RCBO		16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A	16 A	25 A	40 to 160 A
DX ³ 6000 A B and C curves	≤13 A	25 kA	25 kA	25 kA	40 kA	40 kA	40 kA	50 kA	50 kA	50 kA	50 kA	50 kA	50 kA
	16 A	-	25 kA	25 kA	-	40 kA	40 kA	-	50 kA	50 kA	-	50 kA	50 kA
	20 A	-	25 kA	25 kA	-	40 kA	40 kA	-	50 kA	50 kA	-	50 kA	50 kA
	25 A	-	-	25 kA	-	-	40 kA	-	-	50 kA	-	-	50 kA
	32 A	-	-	25 kA	-	-	40 kA	-	-	50 kA	-	-	50 kA

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Association and coordination with upstream Moulded Case Circuit Breakers (MCCBs), only for sensitivities 300mA and 1000mA:

- . Three-phase network (+N) 230/240 V, in accordance with standard IEC 60947-2
- . TT neutral earthing or TNS system

		Upstream MCCB			
		DPX ³ 250 25 kA	DPX ³ 250 36 kA	DPX ³ 250 50 kA	DPX ³ 250 70 kA
Downstream RCBO		≤ 250A	≤ 250A	≤ 250A	≤ 250A
DX ³ 6000A B and C curves	≤32A	40 kA	50 kA	50 kA	50 kA

		Upstream MCCB				
		DPX / DPX-H 250	DPX / DPX-H 630	DPX / DPX-H 1250	DPX / DPX-H 1600	
Downstream RCBO		25 A	40 to 250A	≤ 630A	≤ 1250A	≤ 1,600A
DX ³ 6000A B and C curves	≤20 A	50 kA	50 kA	50 kA	50 kA	50 kA
	25A	-	50 kA	50 kA	50 kA	50 kA
	32A	-	50 kA	50 kA	50 kA	50 kA

		Upstream MCCB	
		DPX 250 ER AB	DPX 400 AB
DX ³ 6000A B and C curves	≤32 A	50 kA	50 kA

Selectivity between two levels of protection

- . The downstream MCB must always have a magnetic threshold and a rated current lower than those of the upstream protection.
- . Selectivity or Discrimination is said to be total (T) if there is discrimination up to the value of breaking capacity (in accordance with standard EN/IEC 60947-2) of the downstream MCB.

Discrimination with upstream fuses, only for sensitivities 300mA and 1000mA:

- . Discrimination limit with a voltage of 230 V ~ (Values in A)

		Upstream fuse gG type							
		32A	40A	50A	63A	80A	100A	125A	160A
DX ³ 6000A B and C curves	10 A	-	1600	2200	3200	3000	T	T	T
	13A	-	1400	1800	2600	3000	5600	T	T
	16A	-	1400	1800	2600	3000	5600	T	T
	20A	-	1200	1500	2200	2500	4600	T	T
	25A	-	-	1300	2000	2200	4100	5500	T
	32A	-	-	1200	1700	1900	3500	4500	T

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Discrimination with upstream fuses, only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

Downstream RCBO		Upstream fuse aM type								
		25A	32A	40A	50A	63A	80A	100A	125A	160A
DX ³ 6000A B and C curves	10A	-	1100	1700	2500	5000	T	T	T	T
	13A	-	1000	1400	2100	4000	T	T	T	T
	16A	-	1000	1400	2100	4000	T	T	T	T
	20A	-	-	1300	1800	3400	5100	T	T	T
	25A	-	-	1100	1600	3000	4500	T	T	T
	32A	-	-	-	1300	2400	3800	5000	T	T

Discrimination with upstream MCBs , only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

Downstream RCBO		Upstream MCB											
		DX ³ 4500/6 kA - DX ³ 6000/10 kA - DX ³ 10000/16 kA B curve											
		10A	13A	16A	20A	25A	32A	40A	50A	63A	80A	100A	125A
DX ³ 6000A B and C curves	10A	-	-	-	80	100	128	160	200	252	3000	5000*	T*
	13A	-	-	-	-	100	128	160	200	252	2500	4000	6000*
	16A	-	-	-	-	-	128	160	200	252	2000	3600	5500*
	20A	-	-	-	-	-	-	160	200	252	1600	3000	4000
	25A	-	-	-	-	-	-	-	200	252	1300	2400	3300
	32A	-	-	-	-	-	-	-	-	252	1000	1800	2700

Downstream RCBO		Upstream MCB											
		DX ³ 3000 - DX ³ 4500/6 kA - DX ³ 6000/10 kA - DX ³ 10000/16 kA C curve											
		10A	13A	16A	20 A	25A	32A	40A	50A	63A	80A	100A	125A
DX ³ 6000A B and C curves	10A	-	98	120	150	187	240	300	375	472	3000	5000*	T*
	13A	-	-	120	150	187	240	300	375	472	2500	4000*	6000*
	16A	-	-	-	150	187	240	300	375	472	2000	3600*	5500*
	20A	-	-	-	-	187	240	300	375	472	1600	3000	4000*
	25A	-	-	-	-	-	240	300	375	472	1300	2400	3300*
	32A	-	-	-	-	-	-	300	375	472	1000	1800	2700

. T = Total discrimination

. *: If the discrimination value stated in the table is greater than the breaking capacity of the upstream circuit breaker then the breaking capacity of the upstream device must be taken as the discrimination value (the discrimination value may not exceed the breaking capacity of the upstream device).

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Discrimination with upstream modular MCBs , only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

		Upstream MCB											
		DX ³ 4500/6 kA - DX ³ 6000/10 kA - DX ³ 10000/16 kA D curve											
Downstream RCBO		10A	13A	16A	20A	25A	32A	40A	50A	63A	80A	100A	125A
DX ³ 6000A B/C curves	10A	-	-	192	240	300	384	480	600	756	3000	5000	T
	13A	-	-	-	240	300	384	480	600	756	2500	4000	6000
	16A	-	-	-	240	300	384	480	600	756	2000	3600	5500
	20A	-	-	-	-	300	384	480	600	756	1600	3000	4000
	25A	-	-	-	-	-	384	480	600	756	1300	2400	3300
	32A	-	-	-	-	-	-	480	600	756	1100	1450	2700

		Upstream MCB										
		DX ³ 25 kA B curve										
Downstream RCBO		10A	16A	20A	25A	32A	40A	50A	63A	80 A	100A	12 A
DX ³ 6000A B and C curves	10A	-	-	80	100	500	700	1000	1800	3000	5000	T
	13A	-	-	-	100	400	600	1200	1500	2500	4000	T
	16A	-	-	-	-	300	500	700	1300	2000	3600	5500
	20A	-	-	-	-	-	400	500	1000	1600	3000	4000
	25A	-	-	-	-	-	-	500	800	1300	2400	3300
	32A	-	-	-	-	-	-	500	600	1000	1800	2700

		Upstream MCB										
		DX ³ 25 kA C curve										
Downstream RCBO		10A	16A	20A	25A	32A	40A	50A	63A	80A	100 A	125 A
DX ³ 6000A B and C curves	10A	-	120	150	187	500	700	1000	1800	3000	5000	T
	13A	-	120	150	187	400	600	1200	1500	2500	4000	T
	16A	-	-	150	187	300	500	700	1300	2000	3600	5500
	20A	-	-	-	187	300	400	500	1000	1600	3000	4000
	25 A	-	-	-	-	240	400	500	800	1300	2400	3300
	32A	-	-	-	-	-	300	500	600	1000	1800	2700

T = Total discrimination

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Discrimination with upstream MCBs, only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

		Upstream MCB										
		DX ³ 25 kA D curve										
Downstream RCBO		10A	16A	20A	25A	32A	40A	50A	63A	80A	10 A	125 A
DX ³ 6000A B and C curves	10A	-	192	240	300	500	700	1000	1800	3000	5000	T
	13A	-	-	240	300	400	600	1200	1500	2500	4000	T
	16A	-	-	240	300	384	500	700	1300	2000	3600	5500
	20A	-	-	-	300	384	480	600	1000	1600	3000	4000
	25A	-	-	-	-	384	480	600	800	1300	2400	3300
	32A	-	-	-	-	-	480	600	756	1100	1450	2700

		Upstream MCB									
		DX ³ 36 kA/DX ³ 50 kA C curve									
Downstream RCBO		10A	16A	20A	25A	32A	40A	50A	63A	80A	
DX ³ 6000A B and C curves	10A	-	120	150	210	500	700	1000	1800	3000	
	13A	-	120	150	200	400	600	1200	1500	2500	
	16A	-	-	150	187	300	500	700	1300	2000	
	20A	-	-	-	187	300	400	500	1000	1600	
	25A	-	-	-	-	240	400	500	800	1300	
	32A	-	-	-	-	-	300	500	600	1000	

		Upstream MCB														
		DX ³ 50 kA B curve							DX ³ 50 kA D curve							
Downstream RCBO		≤16A	2 A	25A	32A	40A	50A	63A	10A	16A	20A	25A	32A	40A	50A	63A
DX ³ 6000A B and C curves	10A	-	150	210	500	700	1000	1800	-	192	240	300	500	700	1000	1800
	13A	-	-	200	400	600	1200	1500	-	-	240	300	400	600	1200	1500
	16A	-	-	-	300	500	700	1000	-	-	240	300	384	500	700	1300
	20A	-	-	-	-	400	500	1000	-	-	-	300	384	480	600	1000
	25A	-	-	-	-	-	500	800	-	-	-	-	384	480	600	800
	32A	-	-	-	-	-	500	600	-	-	-	-	-	480	600	756

T = Total discrimination

Discrimination is said to be total if there is discrimination up to the value of the breaking capacity (in accordance with EN 60947-2) of the

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Discrimination with upstream Moulded Case Circuit Breakers (MCCBs) , only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

		Upstream MCCB							
		DPX ³ 160 16 kA to 50 kA							
Downstream RCBO		16A	25A	40A	63A	80A	100A	125A	160A
DX ³ 6000A B and C curves	10A	5	T	T	T	T	T	T	T
	13A	-	T	T	T	T	T	T	T
	16A	-	T	T	T	T	T	T	T
	20A	-	5	5	5	5	6	T	T
	25A	-	-	4.5	4.5	4.5	4.5	T	T
	32A	-	-	-	3	4	4	T	T

		Upstream MCCB		
		DPX ³ 250		
Downstream RCBO		40A	100A	160 to 250A
DX ³ 6000A B and C curves	10A	T	T	T
	13A	T	T	T
	16A	T	T	T
	20A	5	T	T
	25A	4	T	T
	32A	-	5	T

		Upstream MCCB				
		DPX 250 / DPX-H 250 Thermal-magnetic				
Downstream RCBO		25A	40A	63A	100A	160 to 250A
DX ³ 6000A B and C curves	10A	5	5	5	T	T
	13A	4	4	4	T	T
	16A	4	4	4	T	T
	20A	-	4	4	T	T
	25A	-	3	3	T	T
	32A	-	-	2	5	T

T = Total discrimination

DX³ 4-pole RCBO

6000 A / 10 kA

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4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

5. GENERAL CHARACTERISTICS *(continued)*

Discrimination with upstream Moulded Case Circuit Breakers (MCCBs) , only for sensitivities 300mA and 1000mA :

. Discrimination limit with a voltage of 230 V ~ (Values in A)

		Upstream MCCB				
		DPX 250 / DPX-H 250 Electronic				DPX / DPX-H 630 / 1250 / 1600 DMX ³ 2500 / 4000
Downstream RCBO		40A	100A	160A	250A	160 to 4000A
DX ³ 6000A B and C curves	10A	T	T	T	T	T
	13A	T	T	T	T	T
	16A	T	T	T	T	T
	20A	5	T	T	T	T
	25A	4	T	T	T	T
	32A	-	5	T	T	T

		Upstream MCCB		
		DPX 250 ER AB		DPX 400 AB
Downstream RCBO		90A	130 to 240A	320 and 400A
DX ³ 6000A B and C curves	10A	T	T	T
	13A	T	T	T
	16A	T	T	T
	20A	T	T	T
	25A	T	T	T
	32A	5	T	T

T = Total discrimination

DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

6. COMPLIANCE AND APPROVALS

In accordance with standards:

. EN/IEC 61009-1 (NF C 61440)

Usage in special conditions:

. Category C compliant (testing temperature range range from -25°C to +70°C, resistant to salt spray) in accordance with the classification defined in Appendix Q of standard IEC/EN 60947-1

Respect for the environment – Compliance with European Union Directives:

. Compliance with Directive 2002/95/EC of 27/01/03 known as "RoHS" which provides for a restriction on the use of dangerous substances such as lead, mercury, cadmium, hexavalent chromium and polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) brominated flame retardants from 1st July 2006

. Compliance with the Directive 91/338/EEC of 18/06/91 and decree 94-647 of 27/07/04

Plastic materials:

. Halogen free plastic materials

. Labelling of parts compliant with ISO 11469 and ISO 1043.

Packaging:

. Design and manufacture of packaging compliant with decree 98-638 of 20/07/98 and Directive 94/62/EC

Approvals obtained:

. France: NF

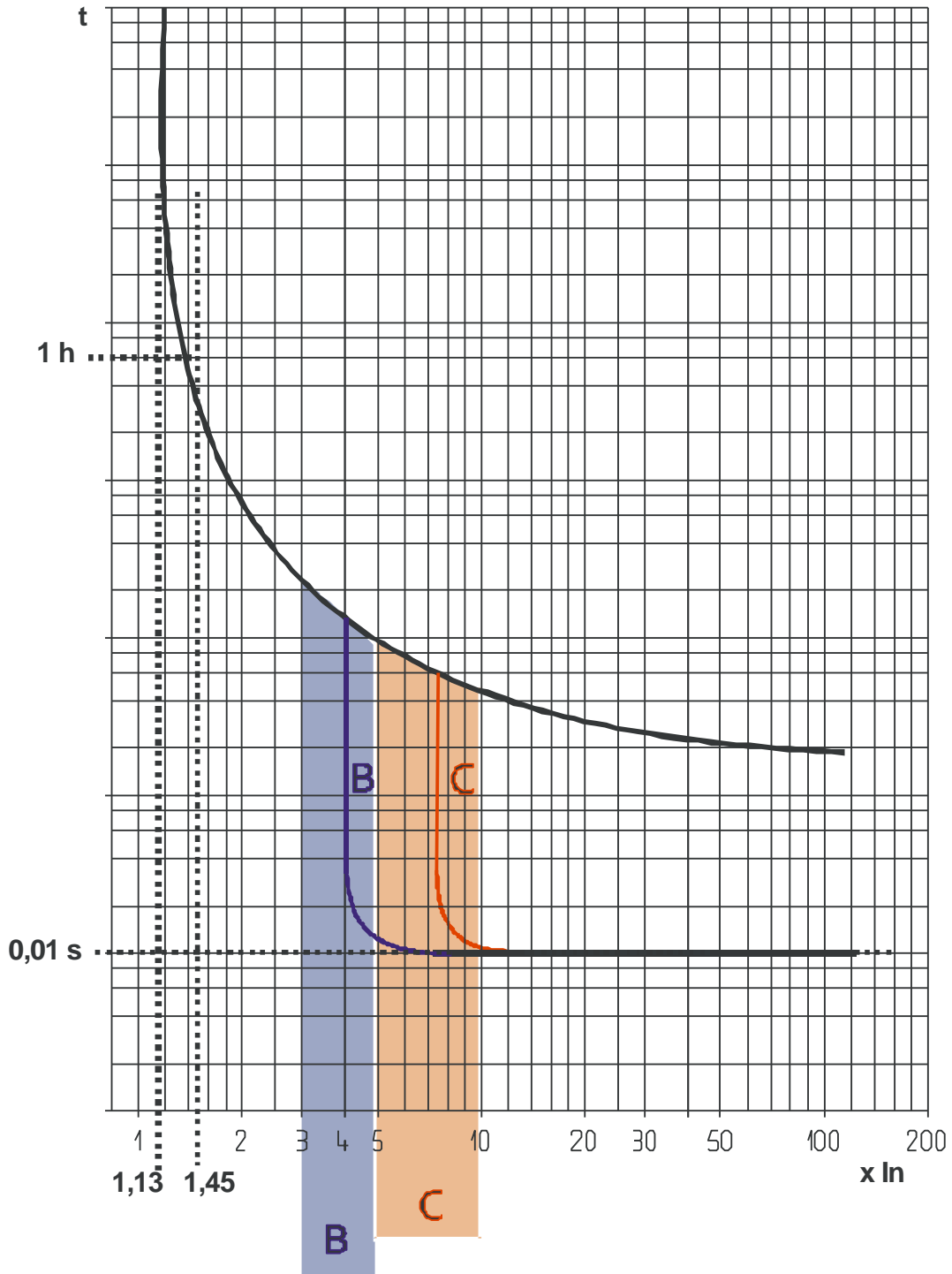
DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES

Thermal-magnetic tripping curve range typical of B and C curve RCBOs:



Thermal tripping at ambient temperature = 30°C
 I_n = RCBO rated current

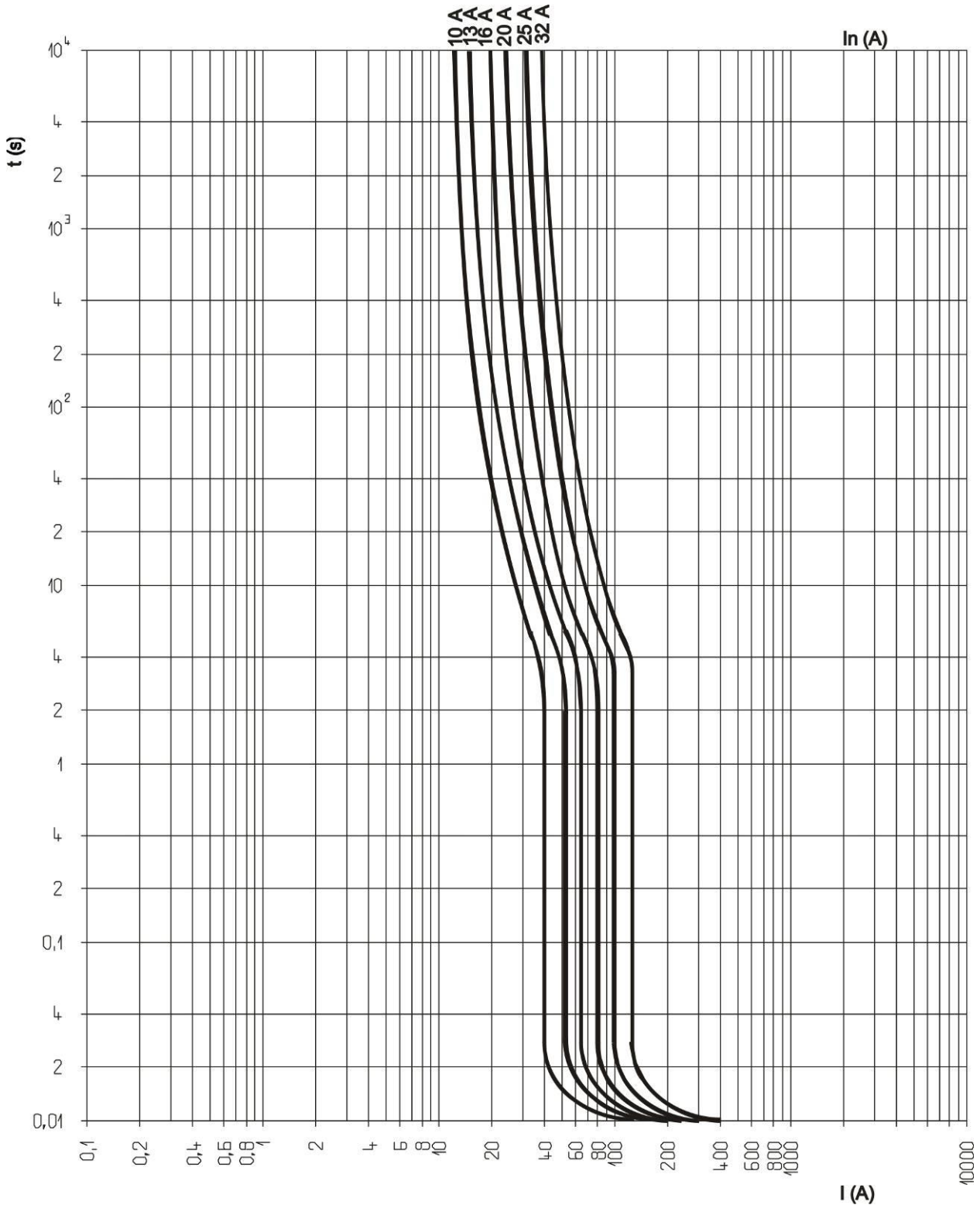
DX³ 4-pole RCBO

6000 A/10 kA

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4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Average thermal-magnetic tripping curves range typical of B curve RCBOs:



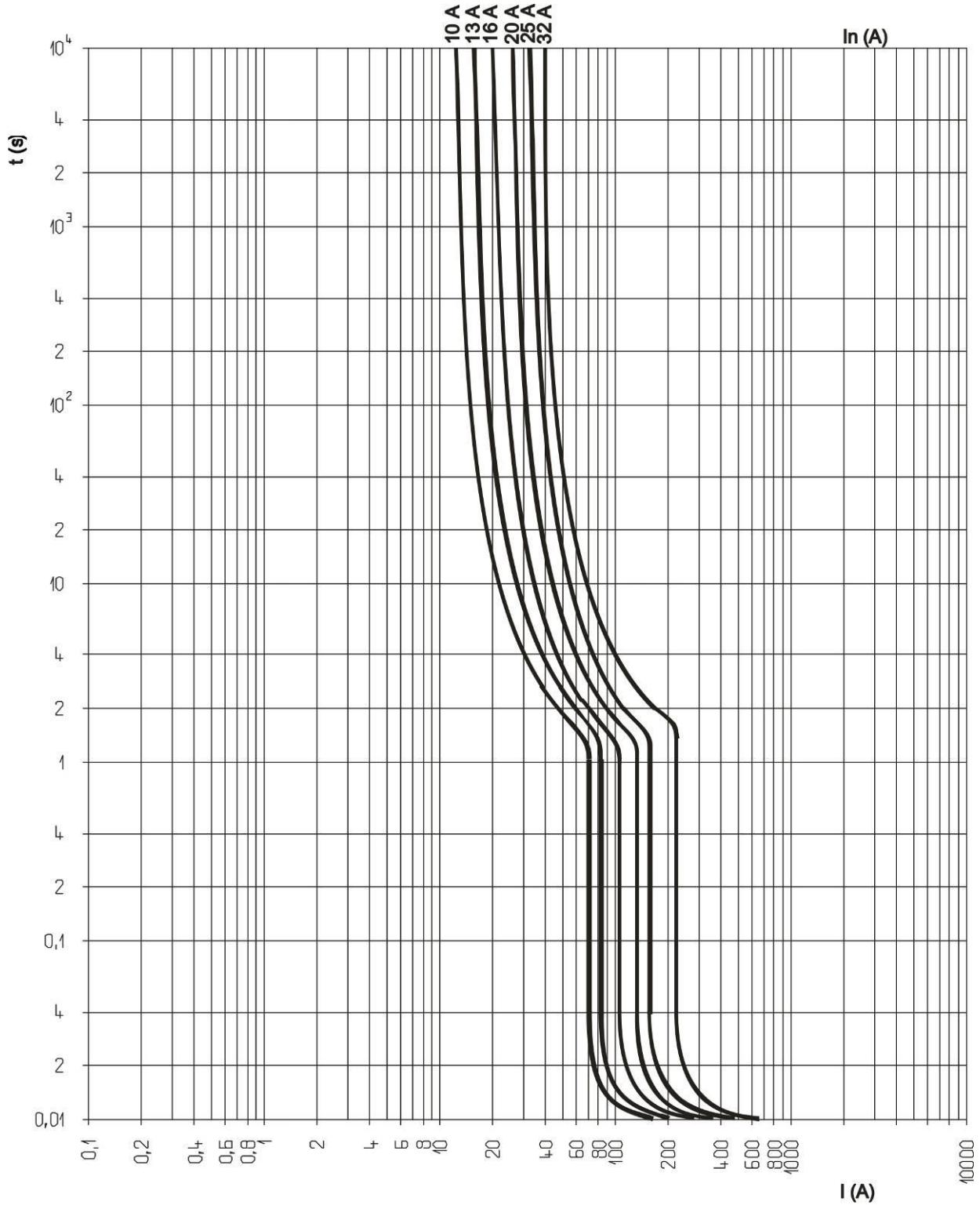
DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
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4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Average thermal-magnetic tripping curves range typical of C curve circuit RCBOs:



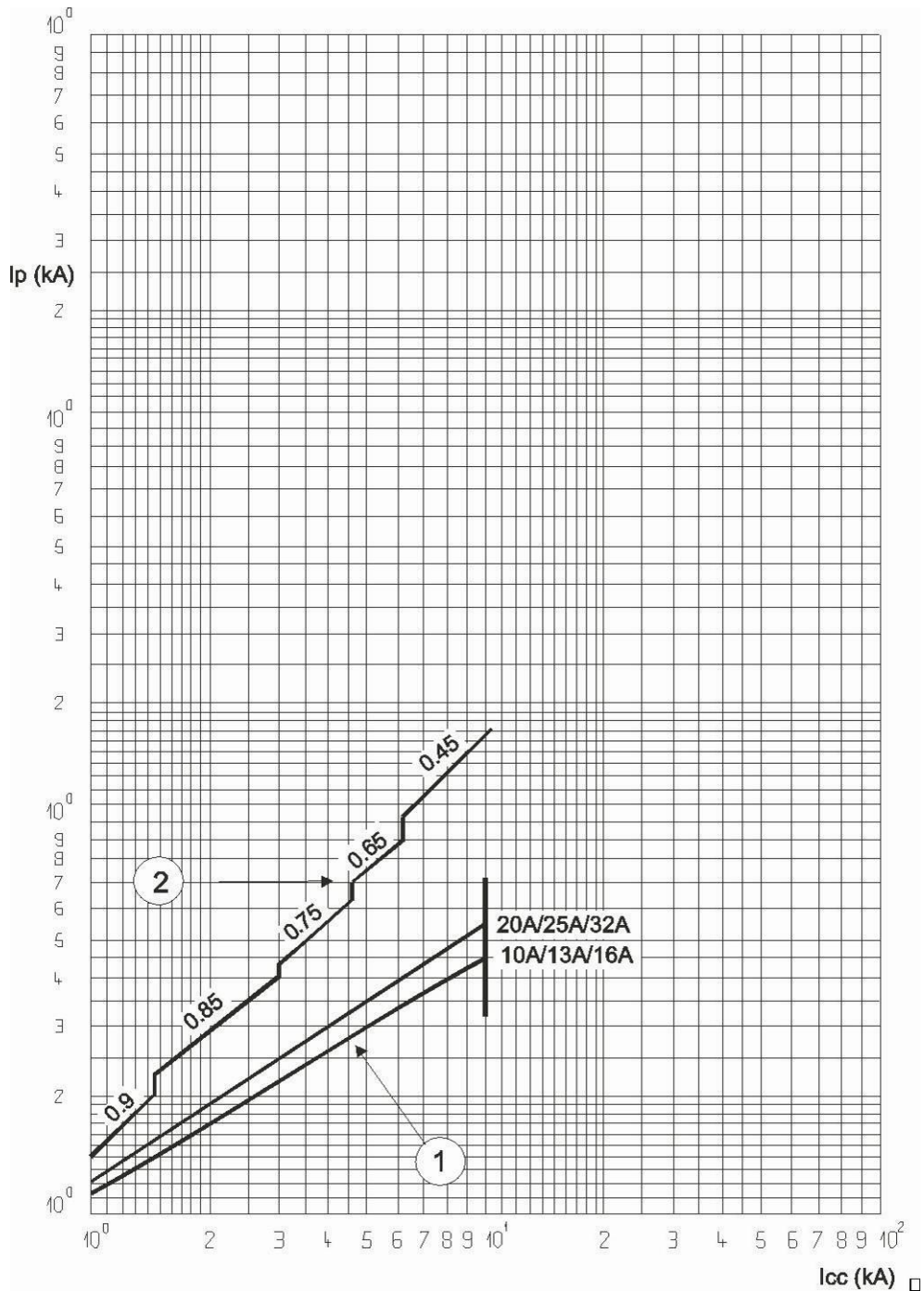
DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
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 4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
 4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Current limiting curves:



I_{cc} = Prospective short-circuit symmetrical current (rms value in kA)

I_p = Maximum peak value (kA)

① = Short-circuit rms currents (max. peak)

② = Unlimited peak currents (max), corresponding to power factors shown above (0.15 to 0.9)

DX³ 4-pole RCBO

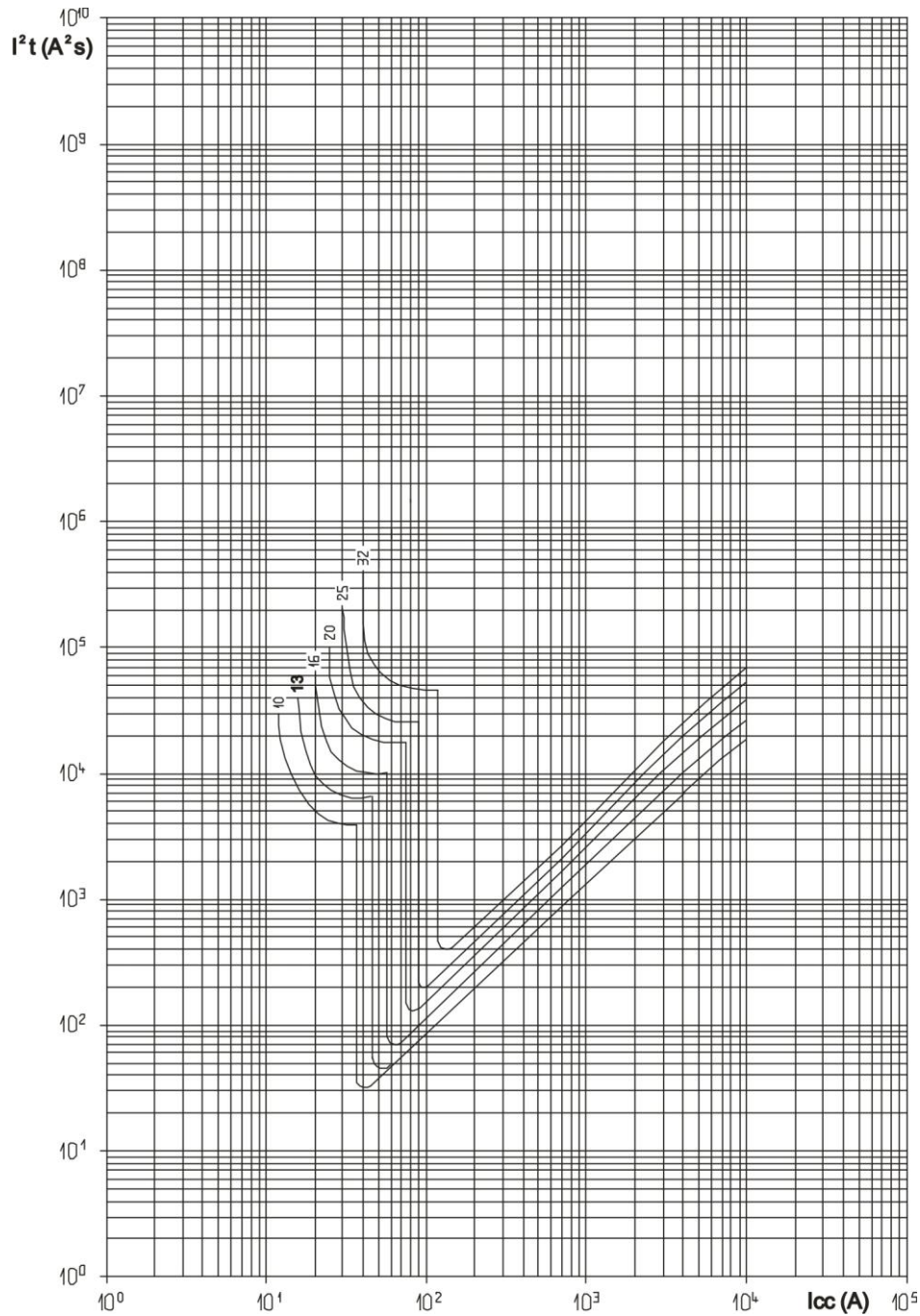
6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Thermal stress limiting curves:

. B curve 4-pole RCBO



I_{cc} = Prospective short-circuit symmetrical current (rms value in kA)

I^2t = Limited thermal stress (in A^2s)

DX³ 4-pole RCBO

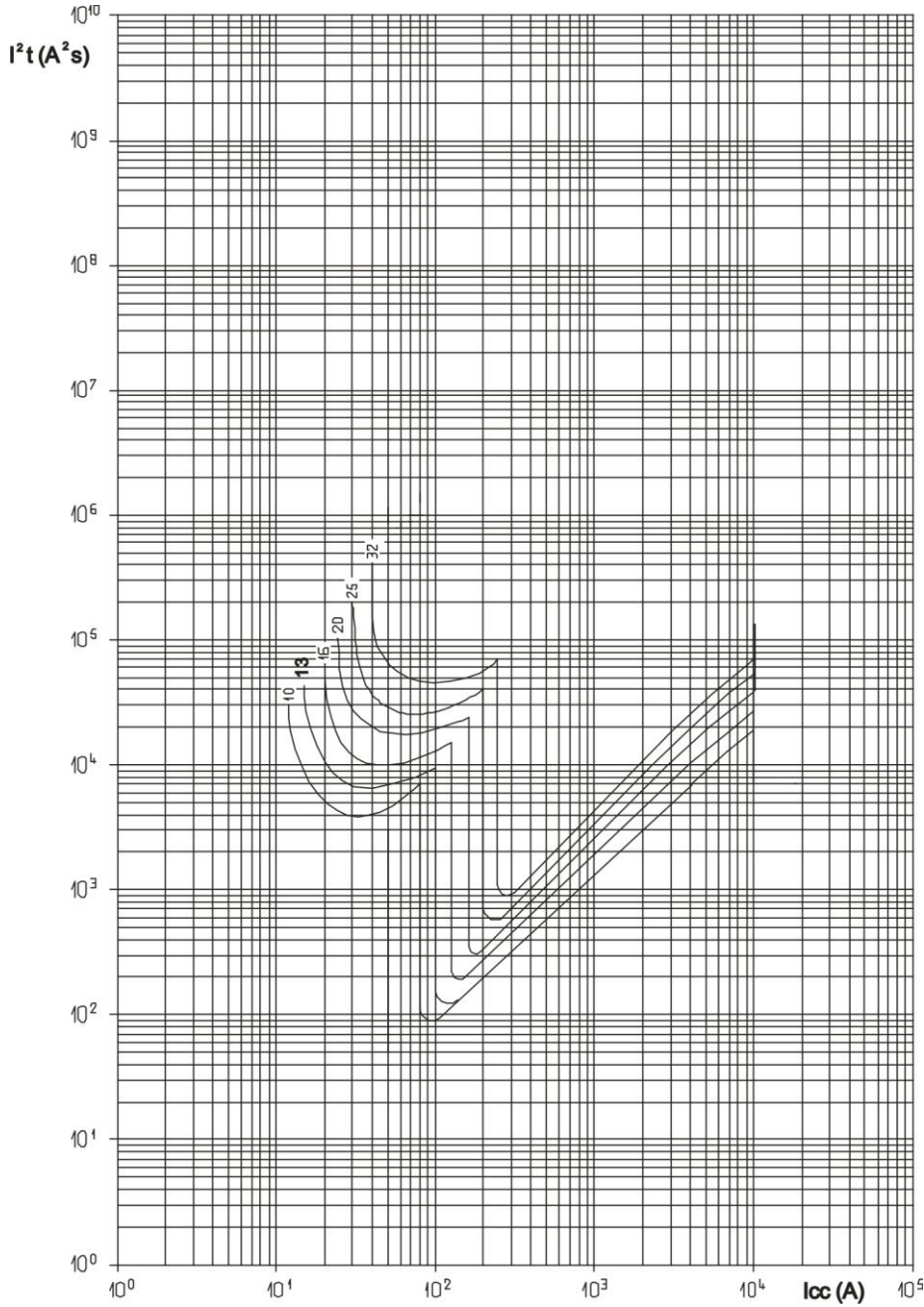
6000 A/10 kA

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4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Thermal stress limiting curves:

. C curve 4-pole RCBO



I_{cc} = Prospective short-circuit symmetrical current (rms value in kA)

I^2t = Limited thermal stress (in A^2s)

DX³ 4-pole RCBO

6000 A/10 kA

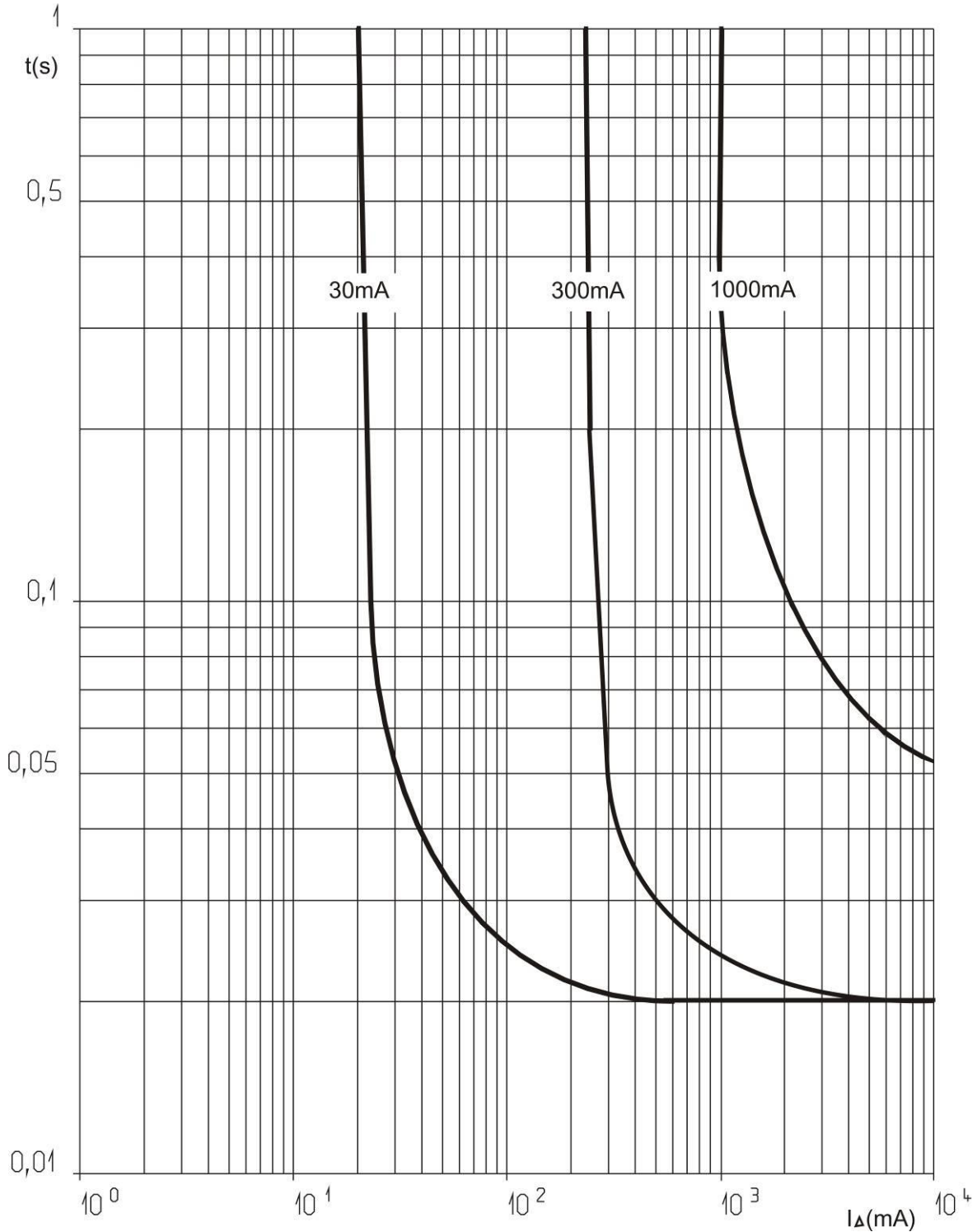
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4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Tripping current curves:

. Tripping time curve depending on the value of the fault current:

AC TYPE



DX³ 4-pole RCBO

6000 A/10 kA

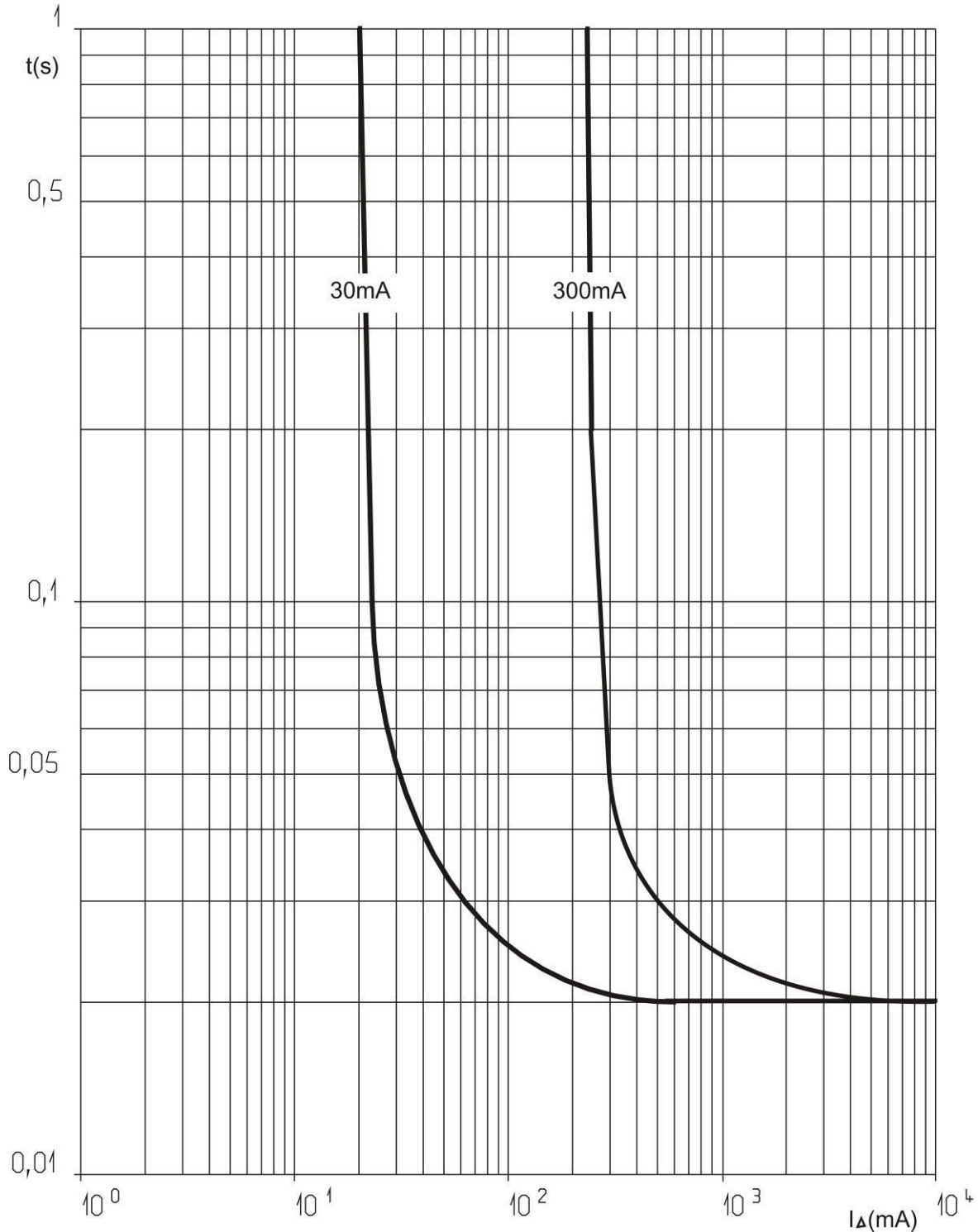
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4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Tripping current curves:

. Tripping time curve depending on the value of the fault current:

A TYPE



DX³ 4-pole RCBO

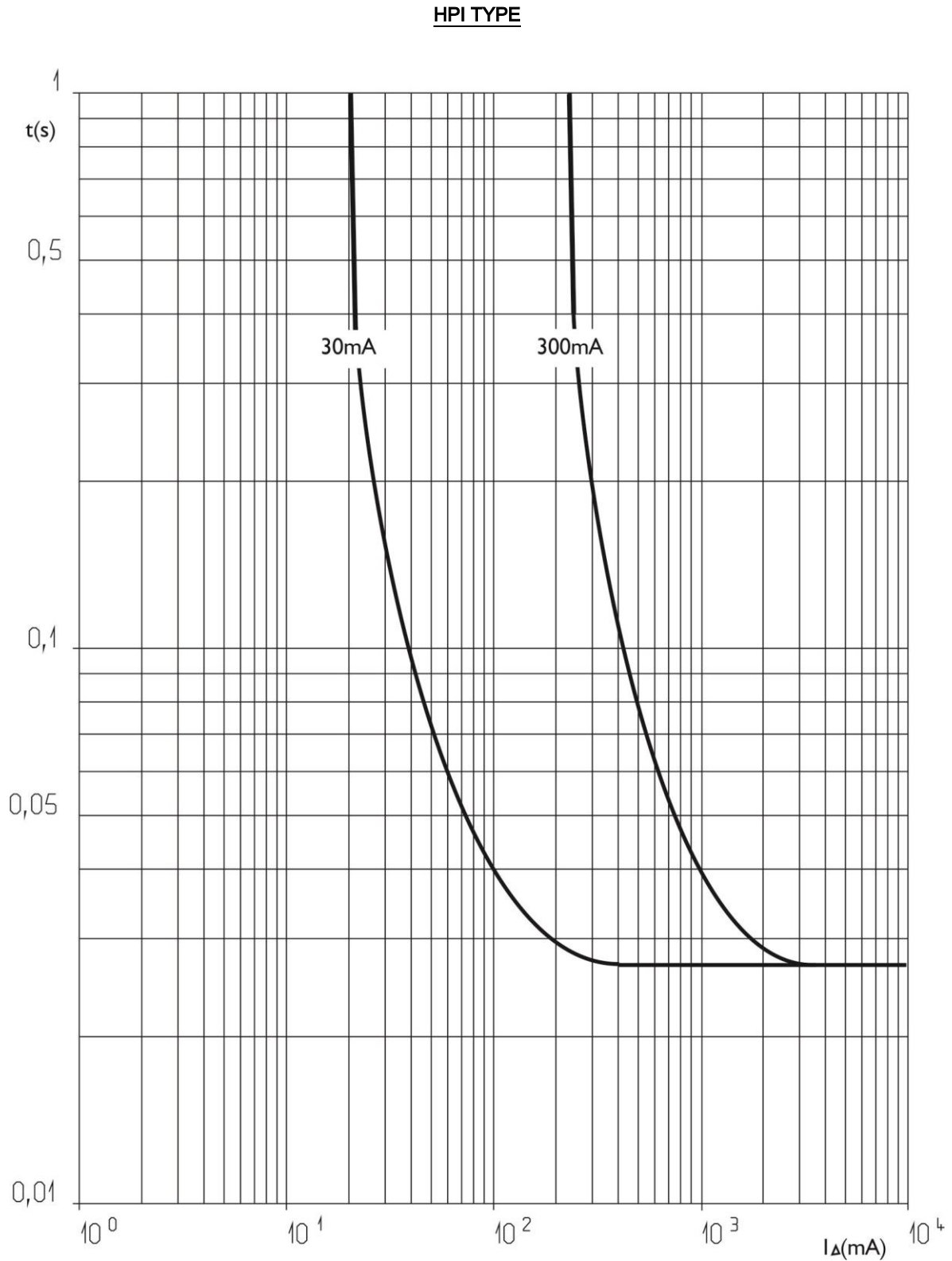
6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

7. CURVES (continued)

Tripping current curves:

. Tripping time curve depending on the value of the fault current:



DX³ 4-pole RCBO

6000 A/10 kA

Cat. N°(s) : 4 111 85, 86, 87, 88, 89 / 4 112 04, 05, 06, 07,
4 112 08, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
4 112 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 49, 50, 51,
4 112 52 / 4 113 50, 56, 57, 59, 60, 61, 62, 80, 81

8. AUXILIARIES AND ACCESSORIES

Wiring accessories:

- . Supply busbar:
 - HX³ 4-pole universal supply busbar (Cat. No. 4 049 44, 9 45)
- . Connection Terminals for aluminium cable with max. 50 mm² cross-section (Cat. No. 4 063 10)
- . Sealable screw cover (Cat. No. 4 063 04)

Signalling auxiliaries:

- . Auxiliary contact (0.5 module, Cat. No. 4 062 58)
- . Fault signalling contact (0.5 module, Cat. No. 4 062 60)
- . Auxiliary contact that can be changed into fault signalling contact (0.5 module, Cat. No. 4 062 62)
- . Auxiliary contact + fault signalling contact that can be changed into 2 auxiliary contacts (1 module, Cat. No. 4 062 66)

Control auxiliaries:

- . Shunt trip (1 module, Cat. No. 4 062 76, 2 78)
- . Undervoltage release (1 module, Cat. No. 4 062 80, 82)
- . Stand-alone release for N/C push-button (1.5 module, Cat. No. 4 062 87)

Motor driven control modules:

- Motor-driven control module (1 module, Cat. No. 4 062 91)
- . Motor-driven control module with integrated automatic reset (2 modules, Cat. Nos. 4 062 93, 95)

Possible combinations of auxiliaries and RCBOs:

- . The auxiliaries are installed to the left of the RCBOs
- . Maximum number of auxiliaries = 3
- . Maximum number of 1 module signalling auxiliaries = 2
- . Maximum number of control auxiliaries (Cat. Nos. 4 062 76 to 4 062 87) = 1
- . The control auxiliary trip (Cat. Nos. 4 062 76 to 4 062 87) must mandatorily be placed to the left of the signalling auxiliaries (Cat. Nos. 4 062 58 to 4 062 66) where the auxiliaries from these 2 families are connected to the same RCBO

Sealing:

- . Possible in the open or closed positions

Locking options:

- . Via padlock 5 mm in diameter (Cat. No. 4 063 13) or padlock 6 mm in diameter (Cat. No. 227 97) and padlock support (Cat. No. 4 063 03)

Installation software:

- . XL PRO³

9. SAFETY

. For your safety your electrical installation is equipped with residual current protection and this must be tested periodically. In the absence of any national regulations on the time period required for this, Legrand recommends that this test be carried out every month: press the "T" test button, the device should trip. Please call an electrician immediately if this does not happen as the safety level of your installation has been reduced

. The presence of residual current protection does not remove the need to observe all the precautions associated with using electrical energy.