

RCD Add-on modules DX³ 125A for MCBs DX³ 1,5 modules per pole

Cat. N°(s): 4 105 77, 4 105 84, 4 106 06, 4 106 12, 4 106 24, 4 106 28, 4 106 37, 4 106 44

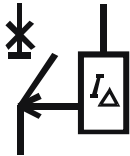
CONTENTS	PAGES
1. Description – Use	1
2. Range	1
3. Overall Dimensions	1
4. Fixing - Connection	2
5. General characteristics	2
6. Conformities and approvals	4
7. Characteristic curves	4
8. Auxiliaries and accessories	4



1. DESCRIPTION - USE

RCD Add-on module, for MCB. DX³ ≤ 125A, 1,5 modules per pole width, breaking capacity 10000A/16kA, 25kA 36kA or 50kA. Assure the protection of people against direct and indirect electric shocks and protection of installations against insulation faults.

Symbol:



Technology:

. Electromagnetic residual current operating by sensitive relay

2. RANGE

Number of poles:

. 2 poles, 3 poles et 4 poles.

Width:

. Double pole – 4 modules (4 x 17,8 mm = 71,2 mm).
. Triple and Four pole – 6 modules (6 x 17,8 mm = 106,8 mm).

Rated Current:

. 125 A.

Type:

. AC (sinusoidal AC fault currents).
. F: (Same as the AC type + currents with or without DC component + Composite currents applied both suddenly and slowly, pulsed unidirectional currents overlapped with continuous currents without ripple and immunity against unwanted tripping).

Sensitivities and Tripping time:

. 30 mA instantaneous.
. 300 mA instantaneous.
. Adjustable sensitivity from 300 mA to 1000 mA with instantaneous or delayed tripping of 60 ms or 150 ms.

2. RANGE (continued)

Rated Voltage / Frequency:

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

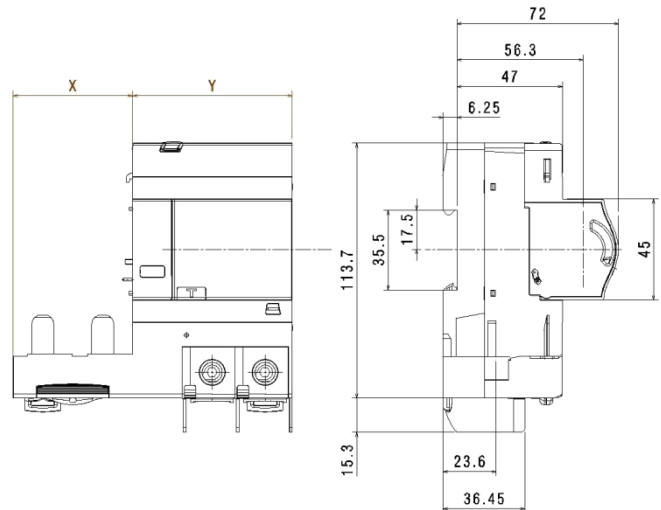
Maximum operating voltage:

. 440 V ~, 50 Hz with standard tolerances.

Minimum operating voltage:

. 170 V ~, 50 Hz with standard tolerances.

3. OVERALL DIMENSIONS



N° of poles	"X"	"Y"
2P	53,4 mm	71,2 mm
3P	80,1 mm	106,8 mm
4P	106,8 mm	106,8 mm

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4. FIXING - CONNECTION

Assembling:

. On the right side of the MCBs DX³ 80 A to 125 A. Clipped on the device by mean of plastic clamps and tightening of connections in the downstream terminals of the MCB.

Can be mounted on the right of the MCBs DX³ 1.5 modules per pole up to 63A breaking capacity 25 kA, 36 kA and 50 kA, in this case the rated current of the add-on module is 63 A.

Mounting:

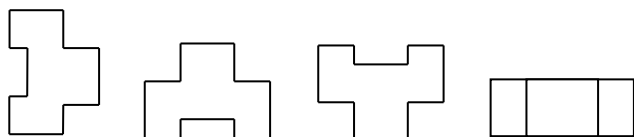
. On symmetrical IEC/EN 60715 rail or DIN 35 rail.

Power supply:

. From the top trough the associated MCB or from the bottom directly on the add-on module.

Operating position:

. Vertical Horizontal Upside down On the side



Screw terminals:

- . Terminals protected against accidental contact (IP20).
- . Cage terminals, with release and captive screw
- . Terminal depth: 19 mm.
- . Stripping length : 17 mm
- . Screw head: Allen screw 4 mm.
- . Recommended tightening torque: 5,5 Nm.
- . The screw terminals are separated by built-in shields.

Connectable section:

- . In the power terminals in the lower part of the product.
- . Copper cable.

	Without ferrule	With ferrule
Rigid cable	1 x 70 mm ²	-
Flexible cable	1 x 50 mm ²	1 x 50 mm ²

- . In the automatic terminals in the lower part of the product.

. Copper cable.

	Without ferrule	With ferrule
Rigid cable	0,75 to 2,5 mm ²	-
Flexible cable	0,75 to 2,5 mm ²	0,75 to 1,5 mm ²

Recommended tools:

- . For the terminals: Allen wrench 4 mm.
- . For fixing on the DIN rail: flat screwdriver 5.5 mm (from 4 to 6 mm).

Manual actuation of the add-on module:

- . By the 2-positions ergonomic handle of the associated MCB.
 - I / ON : Closed circuit.
 - O / OFF : Open circuit.

Display of contacts status:

- . By marking of the associated MCB. handle:
 - "O-Off" white on a black background = contacts opened.

4. FIXING - CONNECTION (continued)

- "I-ON" white on a black background = contacts closed.

Display of differential-fault:

- . Yellow mechanical signaller on front-side marking zone.

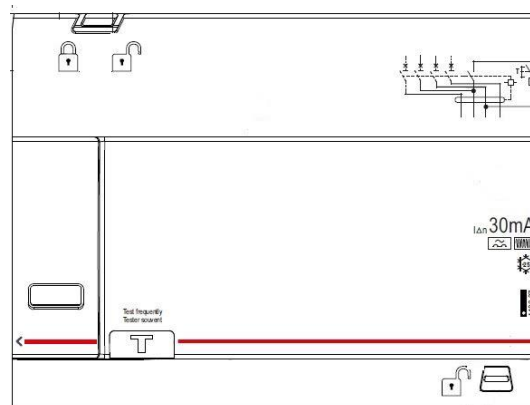
Labelling:

- . Circuit identification by insertion of a label in the label holder of the associated MCB.

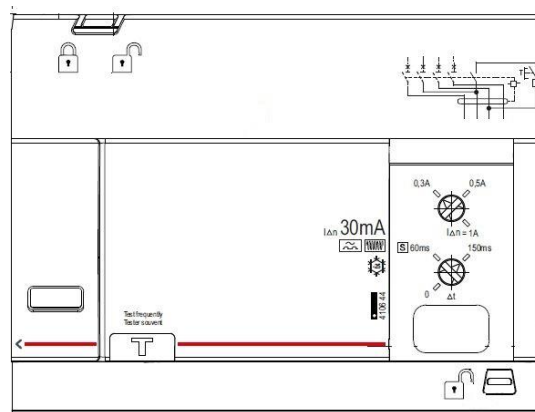
5. GENERAL CHARACTERISTICS

Marking on front side marking:

- . By permanent ink pad printing and laser marking
- Fixed threshold version



Adjustable threshold version



"Test" key operating voltages:

U min	170 V ~
U max	440 V ~

This voltage range gives the possibility to use double-pole differential blocks in 230 V or 400 V, and triple / four pole differential blocks in three phase network with or without neutral 230 V and 400 V. For the wiring of a four-pole differential block in a three phase network without neutral, make sure to properly wired three consecutive poles to supply the test key (connected on the two central poles)

Neutral system:

- . IT - TT - TN.

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5. GENERAL CHARACTERISTICS (continued)

Residual breaking capacity I Δ m:

- . In accordance with standard IEC/EN 61009-1 and IEC/EN 60947-2 (I Δ m: short-circuit to ground)
- I Δ m = 60% of I_{cu} of the associated MCB.

Insulation rated voltage:

- . U_i = 500 V according to IEC/EN 61009-1 and IEC/EN 60947-2.

Pollution degree:

- . 3.

Dielectric strength:

- . 2500 V.

Pulse rated voltage:

- . U_{imp} = 6 kV (wave 1.5 / 50 μ s).

Protection against unwanted tripping:

- . Damped recurrent wave – 0.5 μ s/100kHz : 200A for all types
- . Held to the wave 8/20 μ s :

Type	AC	F	F-Adjustable
Corrent	250 A	3000 A	5000 A

Protection class:

- . Protection index of terminals against solid and liquid bodies (wired device):
IP 20 (in accordance with standards IEC 529, EN 60529 and NF C 20-010).
- . Protection index of the box against solid and liquid bodies:
IP 40 (accordance with standards IEC 529, EN 60529 et NF C 20-010).
- . Class II compared to conductive parts.
- . Protection index against mechanical shocks:
IK 02 (accordance with standards EN 50102 et NF C 20-015 june 95).

Mechanical and electrical endurance (associated to MCB):

- . 20000 operations without load.
- . 10000 operations with load.
- . 750 differential tripping operations by the Test key.
- . 750 differential tripping operations for fault current.

Power dissipated and impedance per pole at I_n:

I_n ≤ 125A

I _n	Double-Pole		Triple/Four-Pole	
	Z(m Ω)	P(W)	Z(m Ω)	P(W)
80 A	0.223	1.42	0.245	1.57
100 A	0.223	2.23	0.245	2.45
125 A	0.223	3.48	0.245	3.83

Note: to obtain total power dissipated by the assembly Add-on module + MCB, these powers should be added to those of the associated MCB

5. GENERAL CHARACTERISTICS (continued)

Enclosure material:

- . Parts of polycarbonate.
- . Characteristics of this material: self extinguishing, heat and fire resistant in accordance with standard IEC/EN 61009-1, glow-wire test at 960°C for external parts made of insulating material necessary to retain in position current-carrying parts and parts of protective circuit (650°C for all other external parts made of insulating material).

Calorific value :

	Double-pole	Triple-pole	Four-pole
MJ	4.73	6.09	6.64

Volume and quantity when packed:

- . Double pole 2,4 dm³ per device.
- . Triple / Four pole 3,7 dm³ per device.

Average weight per device:

- . Double pole 0,44 kg.
- . Triple pole 0,65 kg.
- . Four pole 0,71 kg.

Ambient operating temperature:

- . Min. = -25°C. Max. = +70°C.

Specific use:

- . Appropriate to be used in humid environment and polluted by chlorine (pool-type)

Derating according ambient temperature:

- . Reference temperature: 40 °C in accordance with standard IEC/EN 60947-2.
- . No derating of the differential block depending on the ambient temperature between - 25 °C and +40 °C.
- . Derating between + 40 °C to + 70 °C:

Temperature	40 °C	50 °C	60 °C	70 °C
% of I _n	100 %	95 %	90 %	85 %

Ambient storage temperature:

- . Min. = -40°C. Max. = +70°C

Resistance to sinusoidal vibrations:

- . According to IEC 60068-2-6.
- . Axis : x, y, z.
- . Frequency range: 5÷100 Hz ; duration 90 minutes
- . Displacement (5÷13,2 Hz) : 1mm
- . Acceleration (13,2÷100 Hz) : 0,7g (g=9,81 m/s²).

Influence of the altitude :

	2000 m	3000 m	4000 m	5000 m
Dielectric strength	3000 V	2500 V	2000 V	1500 V
Max operating voltage	400 V	400 V	400 V	400 V
Derating at 30°C	none	none	none	none

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6. COMPLIANCE AND APPROVALS

In accordance with standards:

- . IEC/EN 61009-1.
- . IEC/EN 60947-2.
- . IEC/EN 62423 (F type)
- . Compliance with Directives 2014/35/UE (LVC), subsequent modifications and additions.
- . Compliance with Directives 2014/30/UE (EMC), subsequent modifications and additions.

Environment respect – Compliance with CEE directives:

- . Compliance with Directive 2011/65/UE called "RoHS" provides the banishment of hazardous substances, subsequent modifications and additions.
- . Compliance with Directives 91/338/CEE of 18/06/91 and decree 94-647, subsequent modifications and additions.

Plastic materials :

- . Halogen-free plastic materials.
- . Marking of parts according to ISO 11469 and ISO 1043.

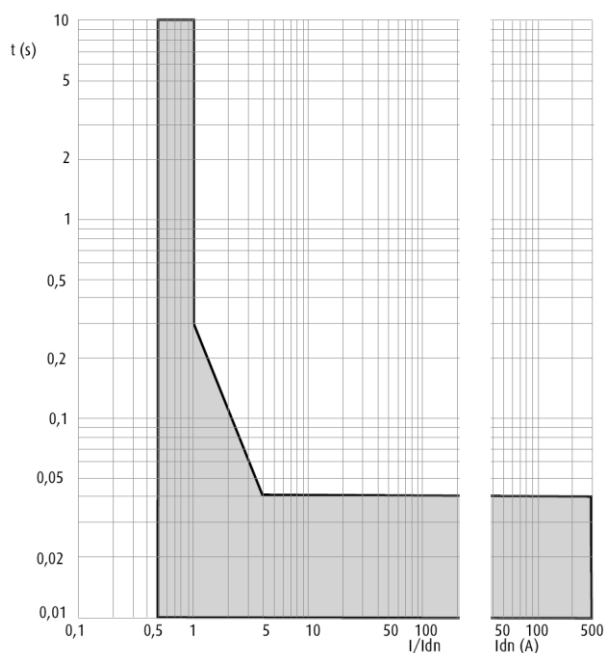
Packaging:

- . Design and manufacture of packaging in accordance with decree 98-638 and Directive 94/62/EC, subsequent modifications and additions.

7. CURVES

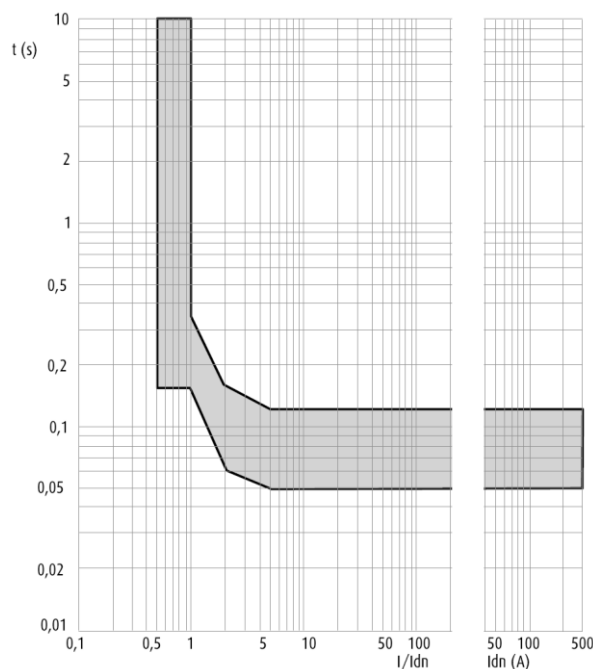
Residual current operating characteristic

- . Average tripping time depending on the intensity of the fault current.
- . Sensitivities 30 mA, 300 mA, 500mA et 1000 mA instantaneous (AC and F types)

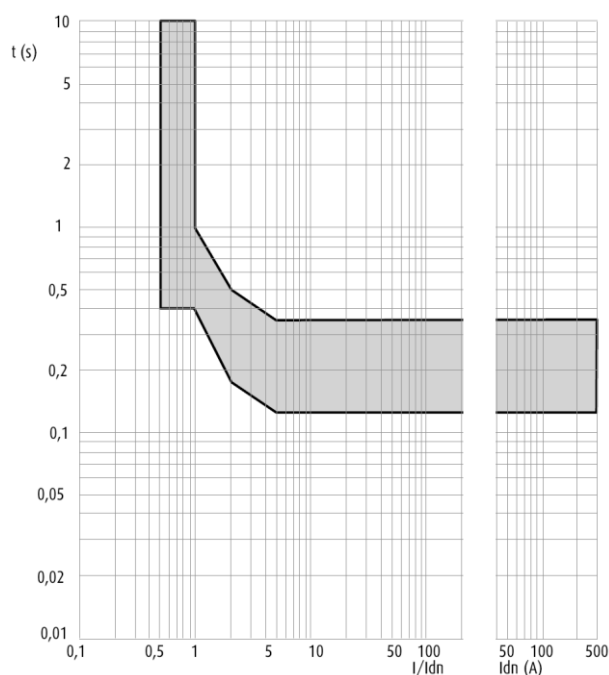


7. CURVES (continued)

- . Sensitivities 300 mA, 500mA et 1000 mA F type with a time delay of 60 ms (selective).



- . Sensitivities 300 mA, 500mA et 1000 mA F type with a time delay of 150 ms.



8. AUXILIARIES AND ACCESSORIES

Installation software:

- . XL PRO³.

Wiring accessories:

- . Terminal for Aluminium cable 95mm² (406311).
- . Terminal for Aluminium cable 50mm² (406310).