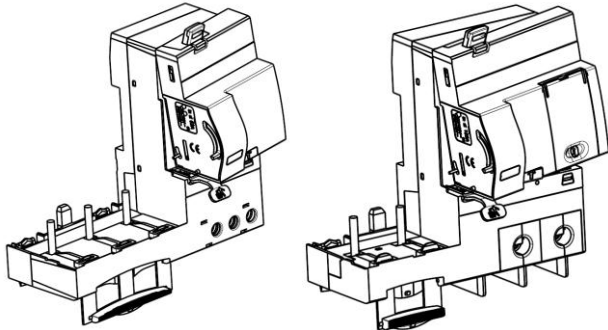


## Add-on modules DX<sup>3</sup> 63A for MCBs DX<sup>3</sup> 1,5 modules per pole

Cat. N°(s): 4 105 76, 4 105 83, 4 106 05, 4 106 08,  
4 106 11, 4 106 36, 4 106 40, 4 106 43



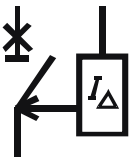
CONTENTS	PAGE
1. Description, use.....	1
2. Range .....	1
3. Overall dimensions .....	1
4. Preparation - Connection.....	2
5. General characteristics .....	3
6. Compliance and approvals .....	4
7. Curves.....	4
8. Auxiliaries and accessories.....	5

### 1. DESCRIPTION - USE

Add-on module, for MCB. DX<sup>3</sup> ≤ 63A, 1,5 modules per pole width, breaking capacity, 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

#### Polarities :

. 2 poles, 3 poles et 4 poles.

#### Width:

- . Fixed threshold version
  - Double pole – 2 modules (2 x 17,8 mm = 35,6 mm).
  - Triple / Four pole – 3 modules (3 x 17,8 mm = 53,4 mm).
- . Adjustable threshold version
  - Double pole – 4 modules (4 x 17,8 mm = 71,2 mm).
  - Triple / Four pole – 6 modules (6 x 17,8 mm = 106,8 mm).

#### Rated current:

. 63 A.

#### 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.

#### Type:

. A-Hpi: sinusoidal AC fault currents with or without DC component and immunity against unwanted tripping (Hpi type are also A types).

### 2. RANGE (continued)

#### Rated Voltage / Frequency:

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

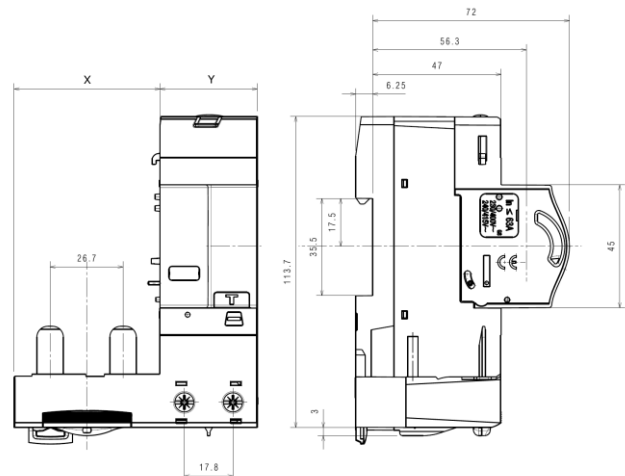
#### Maximum operating voltage:

. 440 V ~, 50 Hz with standard tolerances.

#### Minimum operating voltage:

. 185 V ~, 50 Hz.

### 3. OVERALL DIMENSIONS



N° of poles	"X"	"Y"	
		Fixed version	Adjustable version
2P	53,4 mm	35,6 mm	71,2 mm
3P	80,1 mm	53,4 mm	106,8 mm
4P	106,8 mm	53,4 mm	106,8 mm

# Add-on modules DX<sup>3</sup> 63A for MCBs DX<sup>3</sup> 1,5 modules per pole

Cat. N°(s): 4 105 76, 4 105 83, 4 106 05, 4 106 08,  
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## 4. PREPARATION - CONNECTION

. On the right side of the MCB DX<sup>3</sup> 63 A. Joins to the circuit breaker by plastic clamps and tightening of connections in the downstream terminals of the MCB.

### Mounting :

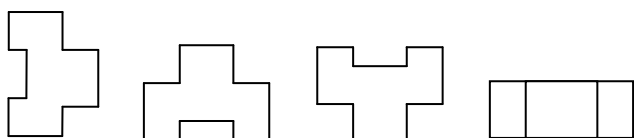
. On symmetrical EN 60.715 rail or DIN 35 rail

### Power Supply:

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

### Operating positions:

. Vertical      Horizontal      Upside down      On the side



### Screw terminals:

- . Terminals protected against accidental contacts (IP20).
- . Cage terminals, detachable and captive screw
- . Terminals depth: 14 mm.
- . Stripping length : 14 mm
- . Screw head: Pozidriv n°2.
- . Recommended tightening torque: 3 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 50 mm <sup>2</sup>	-
Flexible cable	1 x 35 mm <sup>2</sup>	1 x 35 mm <sup>2</sup>

### Recommended tools:

- . For the terminals: Pozidriv n°2 screwdriver or flat screwdriver 5,5 mm (6,5 mm maxi).
- . 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.

### Contact status display:

- . By marking of the associated MCB handle:
  - “O-Off” white on a green background = contacts opened.
  - “I-On” white on a red background = contacts closed.

### Display of differential-fault:

- . Yellow mechanical signaller into the window on front-side marking zone.

## 4. PREPARATION – CONNECTION (continued)

### Labelling:

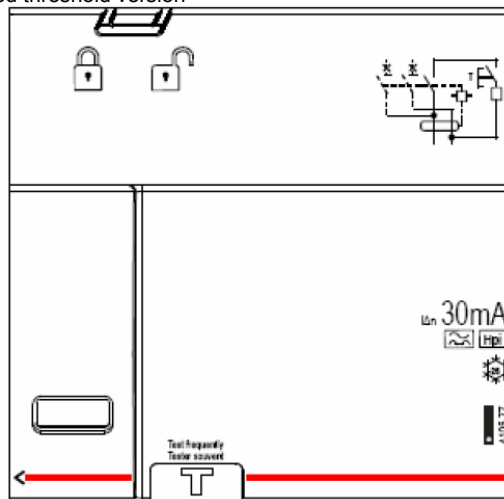
- . Circuit identification by way of a label inserted in the label holder of the associated MCB, situated on the front of the product.

## 5. GENERAL CHARACTERISTICS

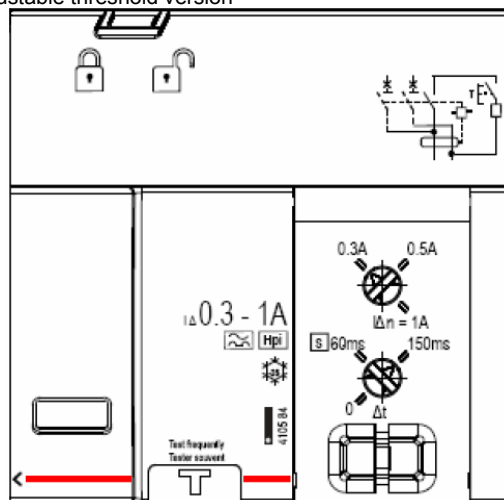
### Marking on the front side:

- . By permanent ink pad printing

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.

# Add-on modules DX<sup>3</sup> 63A for MCBs DX<sup>3</sup> 1,5 modules per pole

Cat. N°(s): 4 105 76, 4 105 83, 4 106 05, 4 106 08,  
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## 5. GENERAL CHARACTERISTICS *(continued)*

### Neutral system:

. IT – TT – TN.

### Residual breaking capacity I $\Delta$ m:

. In accordance with standard EN 61009-1 § 9.12.11.4d (I $\Delta$ m: short-circuit to ground)

I $\Delta$ m = 60% of I<sub>cu</sub> of the associated MCB.

### Insulation rated voltage:

. U<sub>i</sub> = 500 V according to IEC/EN 61009-1

### Pollution degree:

. 3.

### Dielectric strength:

. 2500 V.

### Pulse rated voltage:

. U<sub>imp</sub> = 6 kV (wave 1.5 / 50  $\mu$ s).

### Operation at 400Hz:

. The value of the threshold varies with frequency.

. See curve on page 5.

### Protection against unwanted tripping:

. Hpi type, "fixed" add-on module

held to the wave 8 / 20  $\mu$ s : 3000 A.

damped recurrent wave 0,5  $\mu$ s / 100 kHz : 200 A.

. Hpi type, "adjustable" add-on module

held to the wave 8 / 20  $\mu$ s : 5000 A.

damped recurrent wave 0,5  $\mu$ s / 100 kHz : 200 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 (in accordance with standards IEC 529, EN 60529 and NF C 20-010).

. Class II compared to conductive parts.

. Protection index against mechanical shocks: IK 02 (in accordance with standards EN 50102 and NF C 20-015).

### 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.

## 5. GENERAL CHARACTERISTICS *(continued)*

### Power dissipated and impedance per device at In:

In	Double pole		Triple / Four pole	
	Z (m $\Omega$ )	P (W)	Z (m $\Omega$ )	P (W)
6 A	1,11	0,04	1,94	0,07
10 A	1,00	0,1	1,90	0,19
16 A	1,02	0,26	1,95	0,5
20 A	1,03	0,41	1,95	0,78
25 A	1,02	0,64	1,92	1,2
32 A	1,04	1,06	1,95	2
40 A	0,43	0,68	0,55	0,88
50 A	0,43	1,07	0,55	1,37
63 A	0,43	1,7	0,55	2,17

Please note that to get the total power dissipated by the Add-on module these powers are to be added to those of the associated MCB

### Enclosure material:

. Parts of polyester.

. Characteristics of this material: self extinguishing, heat and fire resistant in accordance with standard EN 60898-1, 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).

### Volume and quantity when packed:

. Double pole 2,4 dm<sup>3</sup> per device.

. Triple / Four pole 3,7 dm<sup>3</sup> per device.

### Average weight per device:

. Double pole 0,39 kg.

. Triple pole 0,42 kg.

. Four pole 0,52 kg.

### Ambient operating temperature:

. Min. = -25°C. Max. = +70°C

### Derating according ambient temperature:

. Reference temperature: 40 °C in accordance with standards 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 and + 70 °C :

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

### Ambient storage temperature:

. Min. = -40°C. Max. = +70°C

# Add-on modules DX<sup>3</sup> 63A for MCBs DX<sup>3</sup> 1,5 modules per pole

Cat. N°(s): 4 105 76, 4 105 83, 4 106 05, 4 106 08,  
4 106 11, 4 106 36, 4 106 40, 4 106 43

## 5. GENERAL CHARACTERISTICS *(continued)*

### Resistance to sinusoidal vibrations:

- . In accordance with standard 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/s<sup>2</sup>).

### 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

## 6. COMPLIANCE AND APPROVALS

In accordance with standards:

- . NF / EN / IEC 61009-1.
- . EN / IEC 60947-2.

### Environment respect – Compliance with CEE directives:

- . Compliance with Directive 2002/95/EC of 27.1.2003 called "RoHS" provides the banishment of hazardous substances such as lead, mercury, cadmium, hexavalent chromium, brominated flame retardants polybrominated biphenyls (PBB) and polybrominated diphenylethers (PBDE) from 1 July 2006
- . Compliance with Directives 91/338/CEE of 18/06/91 and decree 94-647 of 27/07/04.
- . Compliance with Directives 73/23/CEE and 93/68/CEE (DBT).
- . Compliance with Directives 83/336/CEE, 92/31/CEE and 93/68/CEE (CEM).

### Plastic materials :

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

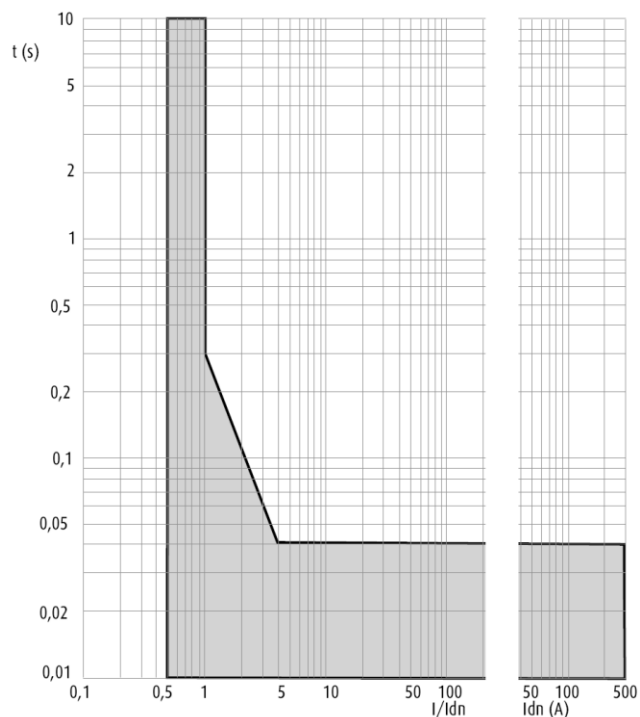
### Packaging:

- . Design and manufacture of packaging in accordance with decree 98-638 of 20.07.1998 and Directive 94/62/EC.

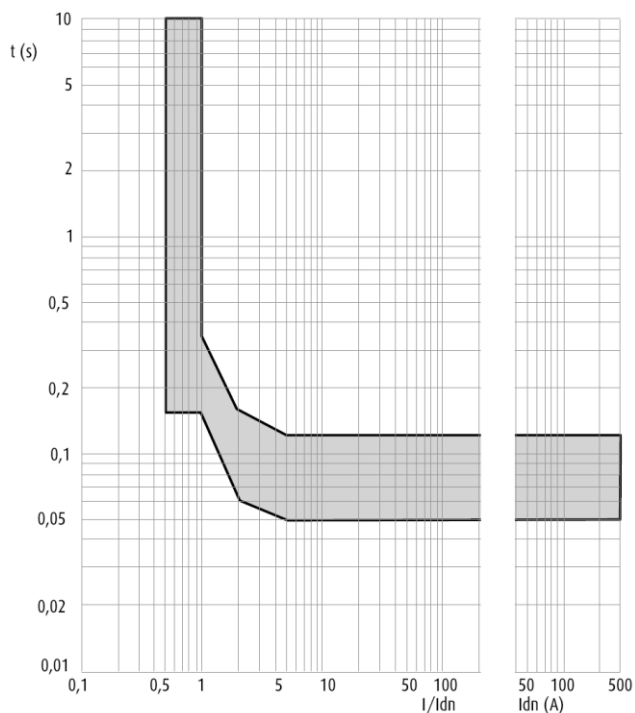
## 7. CHARACTERISTIC CURVES

### 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 (Hpi type)



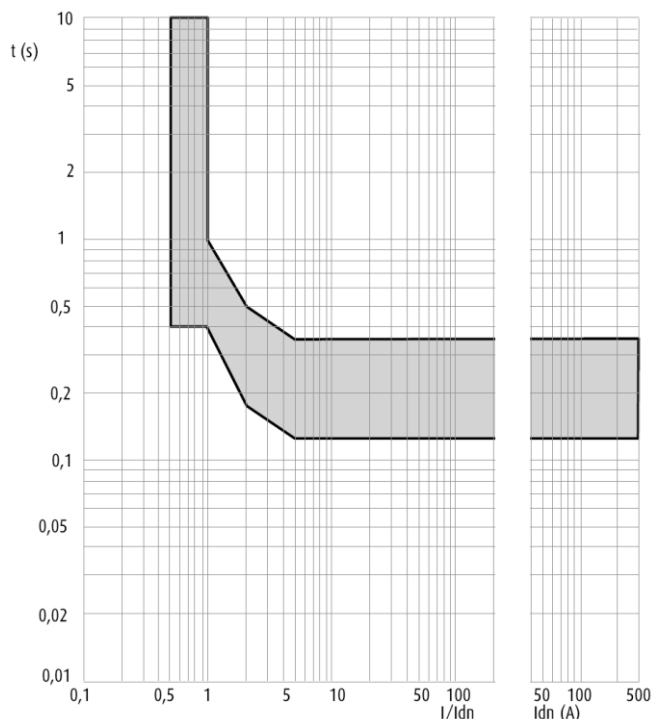
- . Sensitivities 30 mA, 300 mA, 500mA et 1000 mA Hpi type with a time delay of 60 ms (selective).



**7. CHARACTERISTIC CURVES** *(continued)*

**Residual current operating characteristic**

. Sensitivities 30 mA, 300 mA, 500mA et 1000 mA Hpi type with a time delay of 150 ms.



**8. AUXILIARIES AND ACCESSORIES**

**Installation software:**

. XL PRO<sup>3</sup>.

**Curves of variation of tripping threshold according to the frequency**

. Sensitivities 30 mA, 300 mA, 500mA and 1000mA type Hpi.

