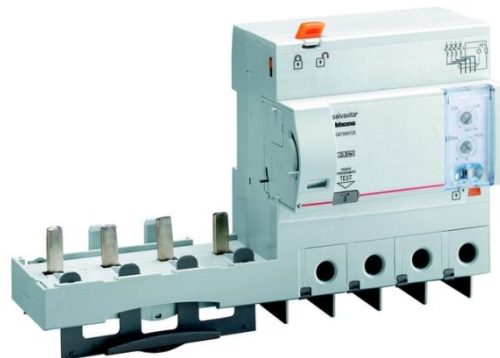
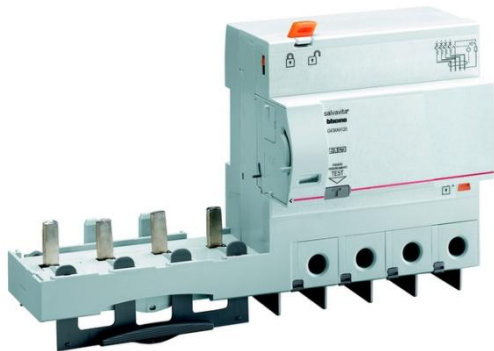


**Btdin RCD Add-on modules 125A for
MCBs 1,5 modules per pole****Cat N° (s):**G23XAC125 - G23XF125 - G27XF125 - G43XAC125 -
G43XF125 - G44XAC125 - G47XF125

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

Cat N° (s):

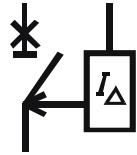
G23XAC125 - G23XF125 - G27XF125 - G43XAC125 - G43XF125 - G44XAC125 - G47XF125

1. DESCRIPTION - USE

RCD Add-on module, for MCBs. $\leq 125A$, 1,5 modules per pole width, breaking capacity 16kA, 25kA 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:

- . Double pole (2P).
- . Four pole (4P).

Width:

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

Rated Current:

- . 125 A.

Types :

- . 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.

Rated Voltage / Frequency:

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

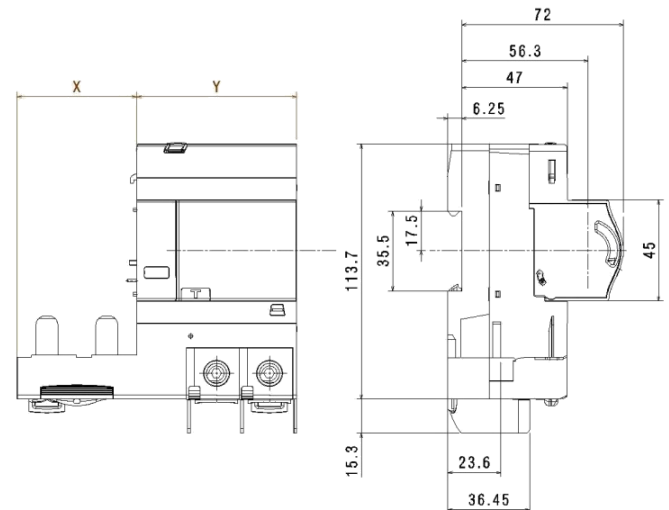
Maximum operating voltage:

- . 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
4P	106,8 mm	106,8 mm

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4. FIXING - CONNECTION:

Assembling:

. On the right side of the MCBs 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 1.5 modules per pole up to 63A breaking capacity 16kA, 25 kA and 50 kA, in this case the rated current of the add-on module is 63 A.

Mounting:

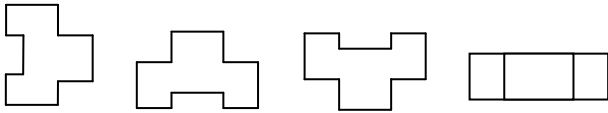
. On symmetrical IEC/EN 60715 rail or DIN 35 rail.

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



Upstream connection :

. To the terminals of the associated MCB
 . Cage terminals, with release and captive screw
 . Terminal depth: 19 mm.
 . MCB upstream terminals separated by integrated insulating shields (IP20).

Downstream connection :

. By the terminals of differential block.
 . Cage terminals, with release and captive screw
 . Terminal depth: 19 mm.
 . Stripping length : 17 mm
 . Downstream terminals separated by integrated insulating shields (IP20).

Screw head :

. Allen screw 4 mm.

Recommended tightening torque:

. 5.5 Nm.

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 mm ² + 2,5 mm ²	-
Flexible cable	0,75 mm ² + 2,5 mm ²	0,75 mm ² + 1,5 mm ²

4. FIXING – CONNECTION (continued)

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).

Display of contacts status:

. 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.
 - "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.

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5. GENERAL CHARACTERISTICS

Front side marking :

- . By permanent ink pad printing showing:
- . Cat No: G43XF125.
- . Trade name: ground fault interrupter
- . Differential rated current.
- . Electrical diagram.
- . Bticino mark.

Code structure:

G	4	3
---	---	---

. Initial code root composed of three elements:

- Letter "G" shows the device type: Add-on module (BDA).
- Numbers of poles :
 - "2" = Two.
 - "3" = Three.
 - "4" = Four.

- Sensitivity, $I_{\Delta n}$ (mA):
 - N "3" = 30mA.
 - N "4" = 300mA.
 - N "7" = adjustable.

X	F
---	---

. Central part composed by two elements:

- Letter "X" is the modularity (1,5 moduls for pole).
- Indication of the type:
 - "F" = F type.
 - "AC" = AC type.

125

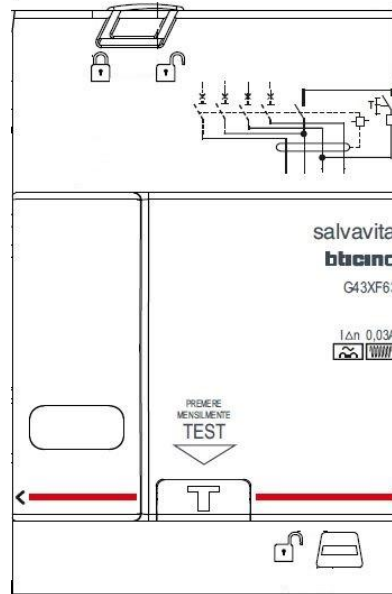
. Numerical part composed of one element:

- Rated current of RCD., I_n (A).

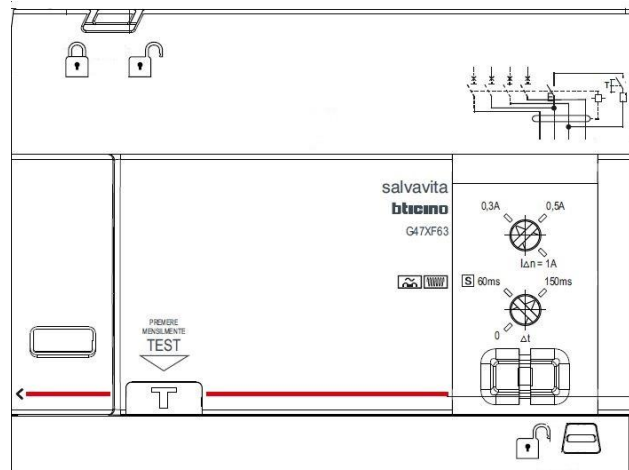
5. GENERAL CHARACTERISTICS (continued)

. Marking example :

Fixed threshold version



Adjustable threshold version



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

5. GENERAL CHARACTERISTICS *(continued)*

"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.

Residual breaking capacity $I_{\Delta m}$:

. In accordance with standard IEC/EN 61009-1 and IEC/EN 60947-2 ($I_{\Delta m}$: short-circuit to ground)
 $I_{\Delta m} = 60\%$ 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: IP 20 (in accordance with standards IEC/EN 60529 et NF C 20-010).
 . Protection index of the box against solid and liquid bodies: IP 40 (in accordance with standards, IEC/ EN 60529 et NF C 20-010).
 . Class II compared to conductive parts.
 . Protection index against mechanical shocks:
 IK 02 (in accordance with standards EN 50102 et NF C 20-015).

Mechanical endurance: (with MCB associated) :

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

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5. GENERAL CHARACTERISTICS *(continued)*

Power dissipated and impedance per pole at I_n :

$I_n \leq 125$ A

I_n	Double-Pole		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

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	Four-pole
MJ	4.73	6.64

Average weight per device:

. Double pole 0,44 kg.
 . Four pole 0,71 kg.

Volume and quantity when packed:

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

Ambient operating temperature:

. Min. = -25°C. Max. = +70°C.

Ambient storage temperature:

. Min. = -40°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
% I_n	100 %	95 %	90 %	85 %

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5. GENERAL CHARACTERISTICS *(continued)*

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

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.

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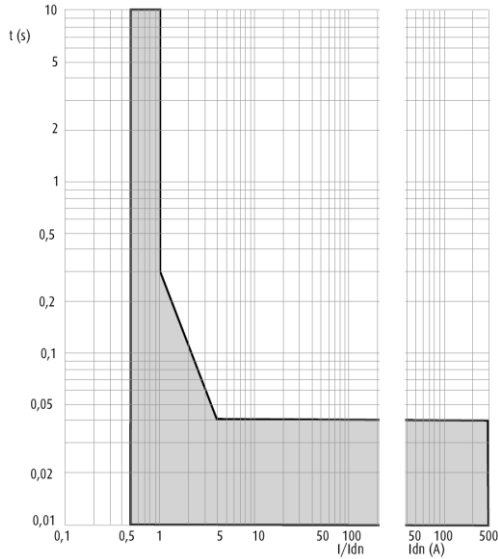
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7. CURVES

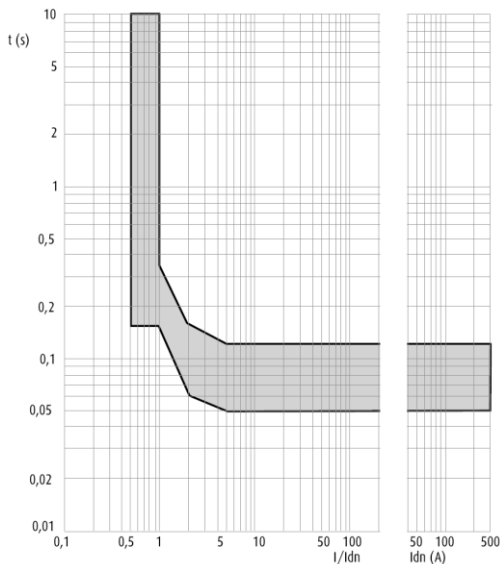
Residual current operating characteristic

. 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)

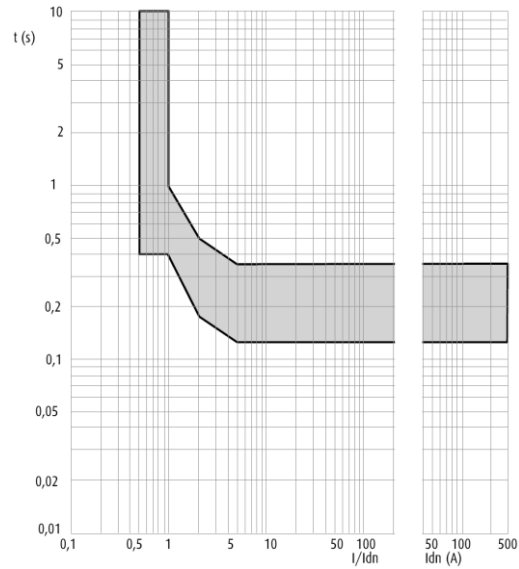


. Sensitivities 300 mA, 500mA et 1000 mA F type with a time delay of 60 ms (selective).



7. CURVE CARATTERISTICHE (continua)

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



8. AUXILIARIES AND ACCESSORIES

Installation software:

. TiQuadri

Wiring accessories:

. Terminal for Aluminium cable 95mm²(F80ALU).

. Terminal for Aluminium cable 50mm²(F80ALU63).