

Iso-DIN

User Manual

1 channel Earth Fault Monitoring



WARNING!

- Carefully read the manual before the installation or use.
- This device is to be installed by qualified personnel, complying to current standards, to avoid damages.
- Before any maintenance operation on the device, remove supply inputs.
- Products illustrated herein are subject to alteration and changes without prior notice.

Description

- Earth leakage relay type A
- DIN modular box (2 modules)
- Backlighted LCD display
- True RMS
- External residual current transformer
- Fail safe function (settable)
- Visualization of the differential current and the instrument's status
- Modbus-RTU RS485 interface communication
- On the front panel, TEST and RESET button

Display functions

- Thanks to LCD display, the user can view very quickly the measurements, the alarms and can access to all settings.
- Green: detected current lower than set threshold
- Yellow: detected current higher than WARNING threshold but lower than ALARM threshold
- Flashing yellow: short circuit on residual current transformer
- Red: detected current higher than ALARM threshold and relay activation
- Flashing red: open residual current transformer circuit (or not connected)
- Blue: device setting menu

Keyboard functions

RESET key – To reset the relay after tripping

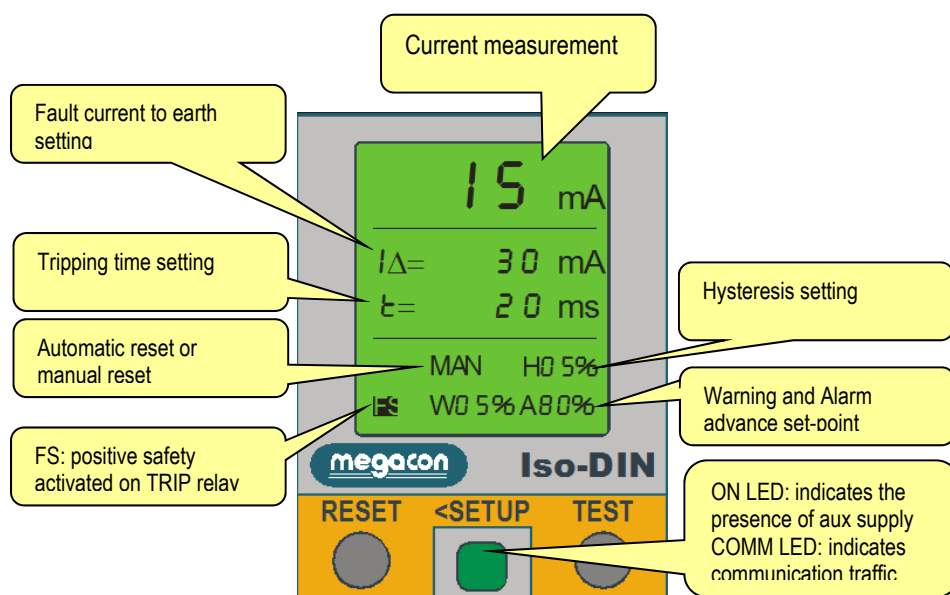
TEST key – Causes tripping of the relay

Press RESET key at least 2 seconds – Used to enter settings menu.

Into menu setting the RESET key – Used to scroll menu pages.

Into menu setting the TEST key – Used to select among possible choices and to modify settings (increment-decrement).

Viewing



Main menu

The following table lists the available sub-menus:

MENU	DESCRIPTION
ACTION	Tripping delay time, fault current to earth setting, automatic or manual reset, positive safety on TRIP relay, hysteresis setting, warning and alarm advance set-point
SER COM	Communication ports parameters
UTILITY	Language, display, access code enabling
RESET	All setup parameters are reset to factory default values

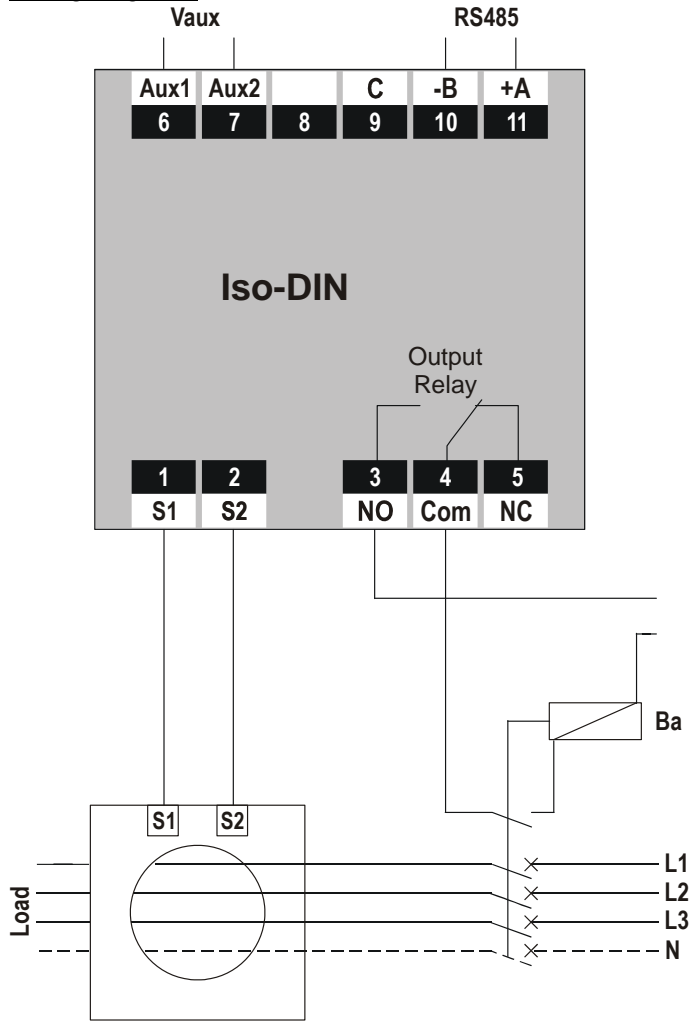
ACTION – CURRENT	Default	Range
I Δ	300mA	30mA – 30A
Warning	33%	OFF – 25% \pm trip value
Alarm	90%	25% \pm 90%
Hysteresis	5%	0% \pm 25%
I Δ – Constant selection for fault current to earth. Warning – Above this value the device is in alarm (yellow color display). Alarm – Above this value we will have a tripping relay (red color display). Hysteresis – Percentage of the alarm current. Under this value the relay come back to the rest (after one reset).		
ACTION – TIME	Default	Range
Time	20mS	20ms – 10s
Time – Constant selection for tripping delay time.		
ACTION – RELAY	Default	Range
Failsafe	OFF	OFF - ON
Failsafe – OFF = positive failsafe deactivated. Output relay normally de-energized. ON = positive failsafe activated. In this condition the output relay energized.		
ACTION – RESET	Default	Range
Reset mode	MANUAL	AUTO - MANUAL
Reset mode – AUTO = automatic reset. MANUAL = manual reset through RESET key on the front.		
ACTION – FILTER	Default	Range
Filter	NO	NO - YES
Filter – NO = no filter applied. YES = filter applied.		

SER COM	Default	Range
Address	01	01 - 247
Baud rate	38400 bps	4800 - 9600 - 19200 - 38400 - 57600 - 115200
Parity	no parity	no parity – odd - even
Stop bit	1	1 - 2
Address – Serial address for the communication protocol. Baud rate – Serial communication speed. Parity – Data format. Bit stop – Number of stop bits.		

UTILITY	Default	Range
Language	English	English - Italiano - Francais - Espanol - Deutch
T. LCD on	1 m	ON / 15 s – 1h
T. exit	1 m	NO / 15 s – 1h
Password	0	0 - 9999
Language – Set language menu. T. LCD on – Turn-on time of the display after the last press of a key; with ON it remains always ON. T. exit – Permanence time in the Setup after the last press of a key. Password – Value to be specified to access at setup parameter.		

RESET	Default	Range
Setup	NO	NO - YES
Setup – All setup parameters are reset to factory default value.		

Wiring diagrams



Auxiliary power supply

Power supply is connected to terminals (6) and (7).

Relay output

Relay output to the terminals (3), (4) and (5).

Communication interface

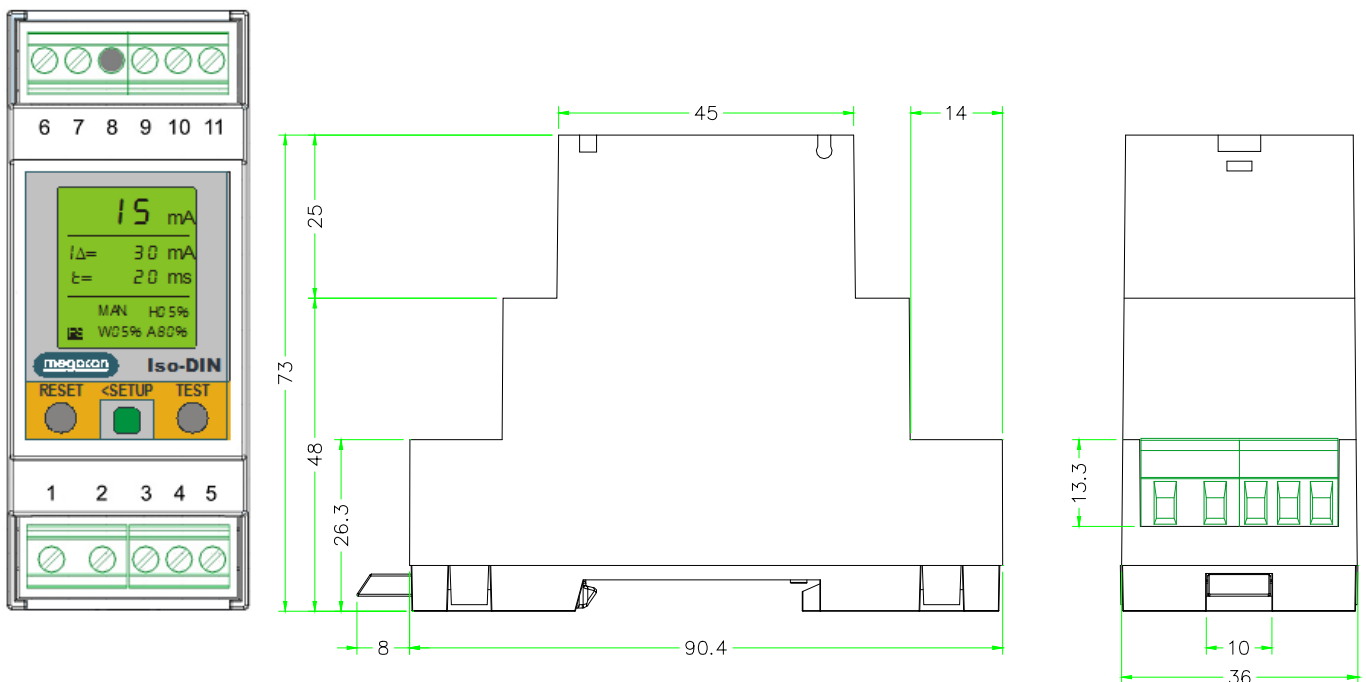
The RS485 serial interface is connected to the terminals (9), (10) and (11).

Connection to the residual current transformer:

The current transformer is connected to the S1 (1) and S2 (2) terminals.

Ba: Shunt coil

Mechanical dimensions (mm)



Technical characteristics

Auxiliary supply	
Rated voltage	230VAC \pm 20% 115VAC \pm 20% (option)
Frequency	50 – 60Hz
Power consumption	2VA max
Output	
Relay status	Normally de-energized (Fail Safe OFF)
Configuration contacts	1 changeover contact SPDT (NO, C, NC)
Maximum load user outputs	5A – 250 VAC
Insulation	
Insulation test	2,5kV for 1 minute
RS485 serial interface	
Baud-rate	Programmable 4800÷115200 bps
Ambient operating conditions	
Operating temperature	-10÷60°C
Storage temperature	-20÷80°C
Relative humidity	\leq 90%
Housing	
Version	2 DIN modules
Degree of protection	IP40 on front (with cover) IP20 housing and terminals
Weight	200g
Certifications and compliance	
Reference standards	CEI EN60947-2 annex M