

**RI-F22** series  
**RI-R22** series  
**RI-R38** series

INSULATION MONITORING - VERSIONS FOR NETWORKS ac MAX 400 V

**GENERAL**



**MODELS**

**RI-F22 fixed threshold**  
**RI-F22 fixed threshold**

Vaux: 230 V 50-60 Hz (standard version)  
 Vaux: 110V 50-60 Hz (optional version)

**RI-R22 adjustable threshold**  
**RI-R22 adjustable threshold**

Vaux: 230 V 50-60 Hz (standard version)  
 Vaux: 110V 50-60 Hz (optional version)

**RI-R38 adjustable threshold**  
**RI-R38 adjustable threshold**

Vaux: 230 V 50-60 Hz (standard version)  
 Vaux: 110V 50-60 Hz (optional version)

These devices allow insulation monitoring on earth of electric networks in alternating 230 V and isolated 400 V (IT systems).

Insulation resistance monitoring is carried out applying a measure's signalling in direct-current between isolated network and earth.

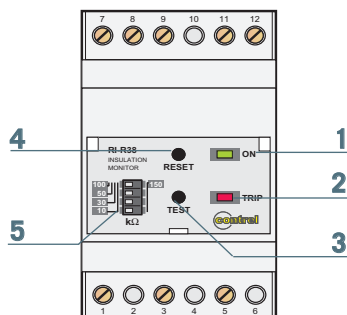
Surveying electric leakage set up on earth it's possible to measure insulation level.

Versions with fixed trip threshold are available and they are very cheap.

There are also versions with possibility of adjustable calibration of trip threshold.

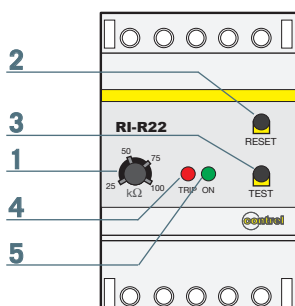
On frontal panel, devices have signal for activity ON, for TRIP (low insulation), a test button, a reset button (only for versions with adjustable threshold) and a potentiometer for setting the threshold of tripping (model RI-R22) or micro switches (model RI-R38).

**FUNCTIONS AND OPERATORS - LEGEND**



**RI-R38**

- 1 LED ON green active device's indication
- 2 LED TRIP red signal of trip for low insulation
- 3 TEST button device functioning testing
- 4 RESET button trip signalling reset (manual reset functions)
- 5 micro switches for trip threshold adjusting



**RI-F22 / RI-R22**

- 1 Potentiometer for adjusting insulation's resistance (only for model RI-R22)
- 2 Manual resetting button (only for model RI-R22)
- 3 Test button
- 4 Signalling lamp of auxiliary supply (green LED)
- 5 Signalling lamp for relay tripped (red LED)

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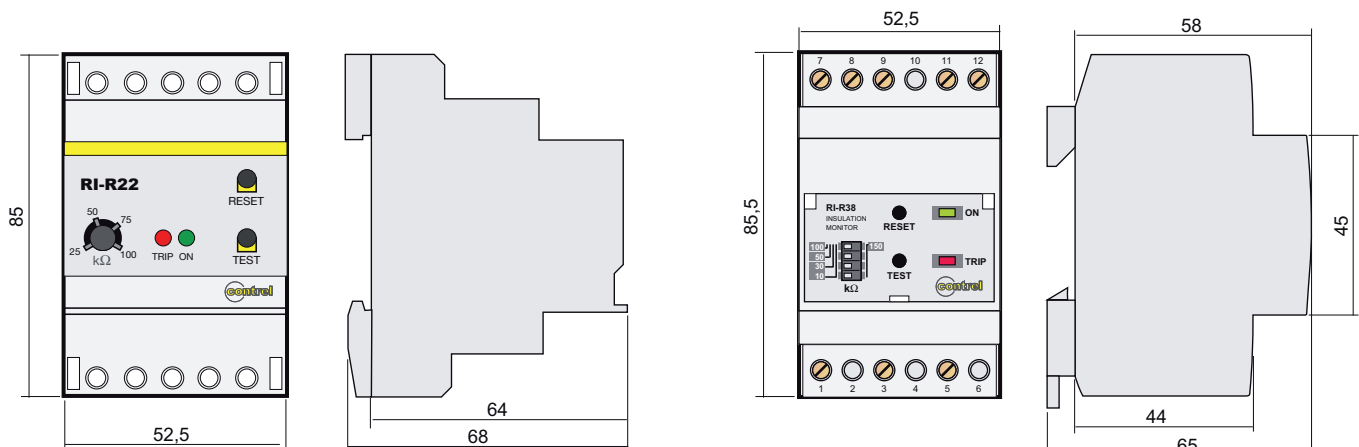
INSULATION MONITORING

VERSIONS FOR NETWORKS ac MAX 400 V

## ELECTRIC CHARACTERISTICS

Auxiliary supply voltage	230 V 50-60 Hz $\pm 20\%$ standard 110 V 50-60 Hz $\pm 20\%$ optional
Self-consumption	3 VA MAX
Network voltage	RI-F22 / RI-R22 24 $\div$ 230 Vac $+10\%$ (400 V on 3 phase network with neutral) RI-R38 24 $\div$ 440 Vac $+10\%$ (760 V on 3 phase network with neutral)
Measure's voltage	RI-F22 / RI-R22 12 V MAX RI-R38 24 V MAX
Measure's current	RI-F22 / RI-R22 0.1 mA MAX RI-R38 0.5 mA MAX
Internal impedance	RI-F22 / RI-R22 100 kohm RI-R38 250 kohm
Tripping threshold setting	RI-F22 fixed 100 kohm RI-R22 adjustable 25 $\div$ 100 kohm (by potentiometer) RI-R38 adjustable 10 $\div$ 150 kohm (4 levels by micro switches)
Tripping late	about 1 second
Signals and operators	led ON - led TRIP buttons TEST and RESET (RESET is not available for RI-F22)
Output	relay switch contact NO-C-NC MAX 5 A 250 Vac
Working temperature	- 10 ... + 60 °C
Storing temperature	- 20 ... + 70 °C
Relative humidity	< 90 %
Insulation test	3 kV 60 sec / 4 kV set 1.2 / 50 $\mu$ s
Assembling position	indifferent
Connection type	by screw terminals - wire section MAX 4 mm <sup>2</sup>
Protection's degree	IP 40 frontal with cap - IP 20 case
Mounting according with DIN 50022	easy connection snap on DIN rail 35 mm / 3 modules of 17.5 mm
Weight	approximately 300 g
Standard reference	CEI-EN 61010-1 / CEI-EN 61557-8 / VDE 0413 part.8 / CEI-EN 61326-1

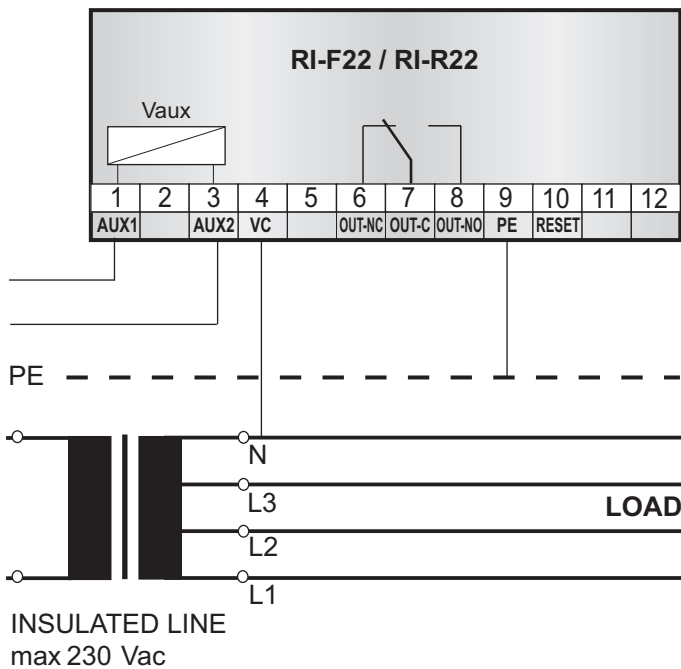
## DIMENSIONS



RI-F22 | RI-R22

RI-R38

## WIRING DIAGRAMS - LEGEND



### RI-F22 / RI-R22

#### AUXILIARY SUPPLY - terminals 1-3

auxiliary supply available from under-control network

#### INSULATION MONITORING - terminals 4-9

the two terminals have to be connected between under-control network and measure's referring earth (max. applicable voltage between these terminals is 230 V, so it's possible apply insulation monitoring on single phase networks till 230 V, three phase networks three-wires without neutral till 230 V and three phase networks with neutral till 400 V)

#### RELAYS' OUTPUT CONNECTIONS - terminals 6-7-8

#### CONNECTIONS FOR REMOTE SIGNALLING

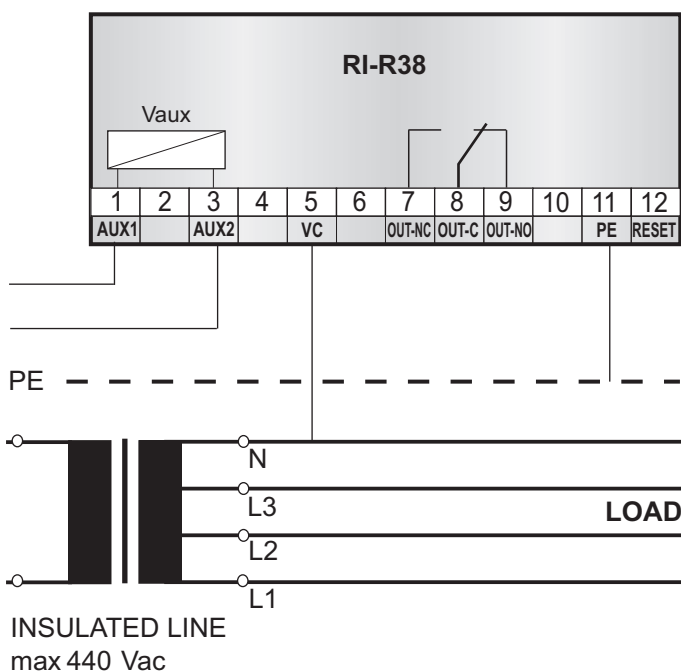
by relays in switch voltage-free max 5 A 250 V on resistive load

#### EVENTUAL CONNECTION FOR AUTOMATIC OR REMOTE RESET

(only for RI-R22) it is required to connect a NC button between terminal 10 and earth's conductor PE and to link with a bond terminals 9 and 10 themselves

#### EVENTUAL CONNECTION FOR REMOTE TEST

(only for version RI-R22) it is required to connect a NO button between terminal 5 and earth's conductor PE



### RI-R38

#### AUXILIARY SUPPLY - terminals 1-3

auxiliary supply available from under-control network

#### INSULATION MONITORING - terminals 5-11

the two terminals have to be connected between under-control network and measure's referring earth. Terminal 5 has to be connected between under-control network single phase or three phase and neutral conductor. If three phase network is three-wire, the terminal has to be connected to a phase. max. applicable voltage between these terminals is 230 V, so it's possible apply insulation monitoring on single phase networks up to 440 V, three phase networks three-wire without neutral up to 440 V and three phase networks with neutral up to 760 V

#### RELAYS' OUTPUT CONNECTIONS - terminals 7-8-9

#### CONNECTIONS FOR REMOTE SIGNALLING

by relays in switch voltage-free max 5 A 250 V on resistive load

#### CONNECTION FOR AUTOMATIC OR REMOTE RESET - terminal 12