

RI-F48 series RI-R48 series RI-R48N series

INSULATION MONITORING
VERSIONS FOR NETWORKS ac/dc MAX 48 V

MICROENER

GENERAL



The devices allow the insulation monitoring to earth of electric networks in alternate and direct-current till 48 V isolated (IT systems). They measure potential's variation of two polarities on earth so that provide for a signal of insulation decreasing under a fixed level. Monitoring is carried out measuring potential's variation of two polarities on earth.

Auxiliary supply is taken from under-control network.

There are different versions available: some, very cheap, with a fixed tripping threshold, others with possibility of adjustable calibration of tripping threshold and versions with indication of polarity (positive or negative, phase or neutral) on which the failure took place.

Devices have on frontal panel signal for activity ON, for tripping TRIP (low insulation), a test bottom, a reset bottom and a potentiometer (or micro switches) for setting the threshold of tripping (only for versions with adjustable threshold).

MODELS

RI-F48

fixed threshold

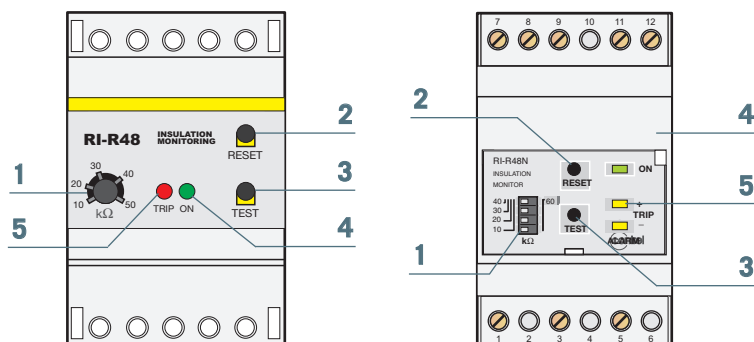
RI-R48

adjustable threshold

RI-R48N

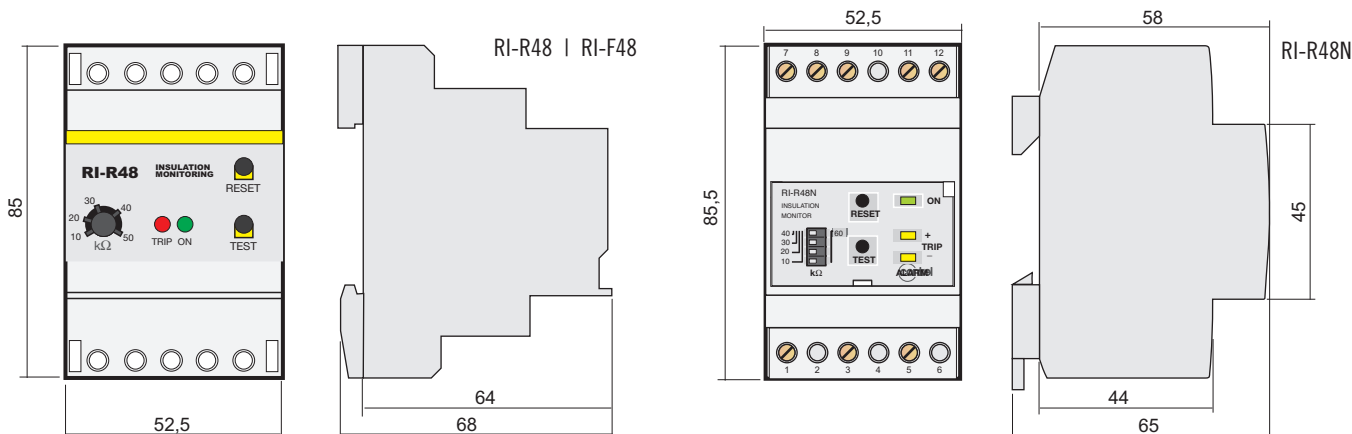
adjustable threshold, indication of broken down polarity

FUNCTIONS AND OPERATORS - LEGEND



- 1 Potentiometer/micro switches for insulation tripping setting (only for models RI-R48 and RI-R48N)
- 2 Manual reset button (only for models RI-R48 and RI-R48N)
- 3 Test button
- 4 Signal of supplied relay ON (green LED)
- 5 Signal for insulation's threshold set reached (indication of broken down polarity for RI-R48N)

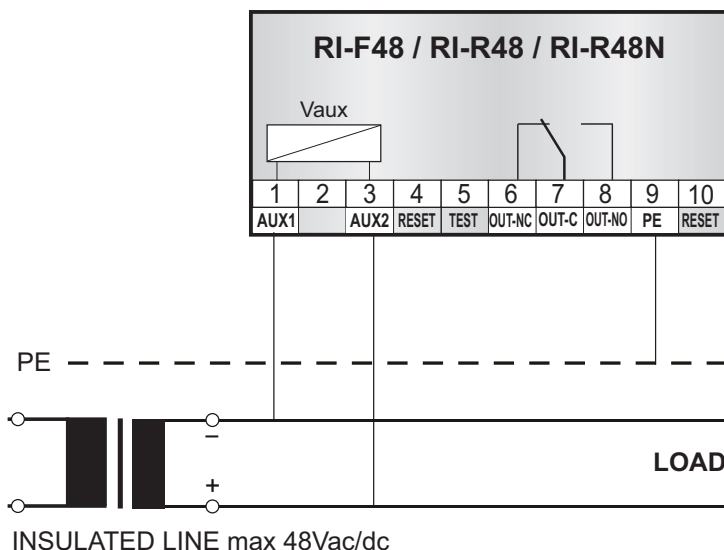
DIMENSIONS



ELECTRIC CHARACTERISTICS

Auxiliary supply voltage	24 V or 48 V 50-60 Hz $\pm 20\%$ or dc $\pm 20\%$
Self-consumption	3 VA MAX
Network voltage	24 \div 48 Vac/dc $+10\%$
Measuring voltage	24 V MAX
Measuring current	0.5 mA MAX
Internal impedance	100 kohm
Tripping threshold	RI-R48 adjustable 10 \div 50 kohm by potentiometer RI-R48N adjustable 10 \div 60 kohm by micro switches RI-F48 fixed 10 kohm
Tripping late	about 1 second
Signalling and operators	led ON - led TRIP buttons TEST and RESET (only model RI-R48 / RI-R48N)
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 imp. 1,2 / 50 μ s
Assembling position	indifferent
Connection type	by screw terminals - wire section MAX 4 mm ²
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 / VDE0413 part.8 / CEI-EN 61326-1

WIRING DIAGRAMS - LEGEND



AUXILIARY SUPPLY - TERMINALS 1-3

Auxiliary supply could be taken from under-control network.

INSULATION MONITORING - TERMINALS 1-9

Terminals have to be connected between under-control network and measure's referring earth.

Maximum voltage applicable between these terminals is 48 V

CONNECTION OUTPUT RELAY - TERMINALS 6-7-8

Connection for remote signal by relays with switch free from voltage, max 5 A 250 V on resistive load.

Eventual connection for automatic or remote **RESET** (only for models RI-R48 and RI-R48N), connect a button NC between terminals 4 and 10.

Eventual connection for remote **TEST** (only for models RI-R48 and RI-R48N), connect a button NO between terminal 5 and earth's conductor PE