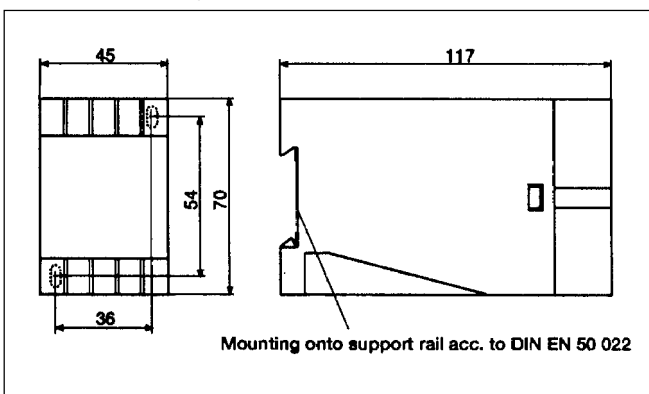




- Insulation monitoring device for IT AC distribution systems (isolated power) AC 230V
- output relay with one change over contact
- external alarm LED
- external test button
- principle of measurement: superimposed measuring DC voltage

Dimension diagramm



Product description

The A-Isometers monitor the insulation resistance of IT AC distribution systems (isolated power). In addition DC supplied components, such as electromagnetic valves, may be connected to the system to be monitored.

The devices are designed for single phase or 3 NAC systems with nominal voltages of AC 50 ... 60 HZ 230 V.

The supply voltage for the device is taken from the network to be monitored.

An external alarm LED can be connected, if required. The A-Isometers provide a DC supply voltage output for the LED.

The devices are fitted into plastic casings for quick assembly onto support rail according to DIN EN 50 022 or for screw mounting.

Function

Within the A-Isometer a DC measuring voltage is generated and the positive pole is connected to the system via coupling elements. The negative pole is connected to earth via an electronic circuitry. The measuring circuit is closed via ohmic insulation faults between system and earth.

When the reset response value is reached, the output relay (2) switches.

Earth faults in directly connected DC circuits are indicated with an increased response sensitivity. The preset response values apply to the pure AC system only. In order to avoid complex network conditions, DC supplied components should be isolated galvanically from the network to be monitored.

Please note

In order to check the proper connection of device, it is recommended to carry out a functional test using a genuine earth fault, e.g. via a suitable resistance, before starting the operation.

Please check correct mains voltage !

Only one insulation monitoring device may be used in each interconnected system. When isolation and voltage tests are to be carried out, the device must be isolated from the system for the test period

Standards

The a-Isometers correspond to DIN 57 413 BI2/VDE 0413 T.2/01.73.

Technical data IRG700AT, IRG700RT

Insulation

Insulation coordination acc. to VDE 0110, T.1:	
Rated insulation voltage	AC 250V
Rated impulse withstand voltage/ contamination level	4 kV/3
Operation class	permanent operation

Network being monitored

Rated mains voltage U_N	AC 50 ... 60 Hz 230 V
Operating range	0.8 ... 1.15 U_N

Supply voltage

Self consumption	3 VA
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Response values

Response value R_{AN}	23 k Ω
R_{AN} for earth faults behind rectifiers	440 k Ω
Response delay	< 1 sec
Max. mains leakage capacitance	1 μ F

Measuring circuit

Measuring voltage U_M	DC 22 V
Measuring current I_M	DC 0.28 mA
Internal DC resistance R_i acc. to DIN VDE 0413	
Internal measuring resistance	78 k Ω
Impedance Z_i , 50 Hz DIN VDE 0413	63 k Ω
Max. admissible stray DC voltage	1.2 U_N

Contact circuit

Switching components	1 change over contact
Contact class acc. to DIN IEC 255 Teil 0-20	IIB
Rated contact voltage	AC 250 V/DC 300 V
Admissible number of operations	12000 cycles
Limited making capacity	UC 5 A
Limited breaking capacity	
AC 230 V and $\cos \phi = 0.4$	AC 2 A
DC 110 V and $L/R = 0,04$ s	DC 0.2 A
Operating principle	
IRG700AT	N/O operation
IRG700RT	N/C operation

Tests acc. to DIN VDE 0435 T.303/IEC 255

Dielectric test:	
Test voltage	1.5 kV

Output

External LED supply DC	12 V/10 mA
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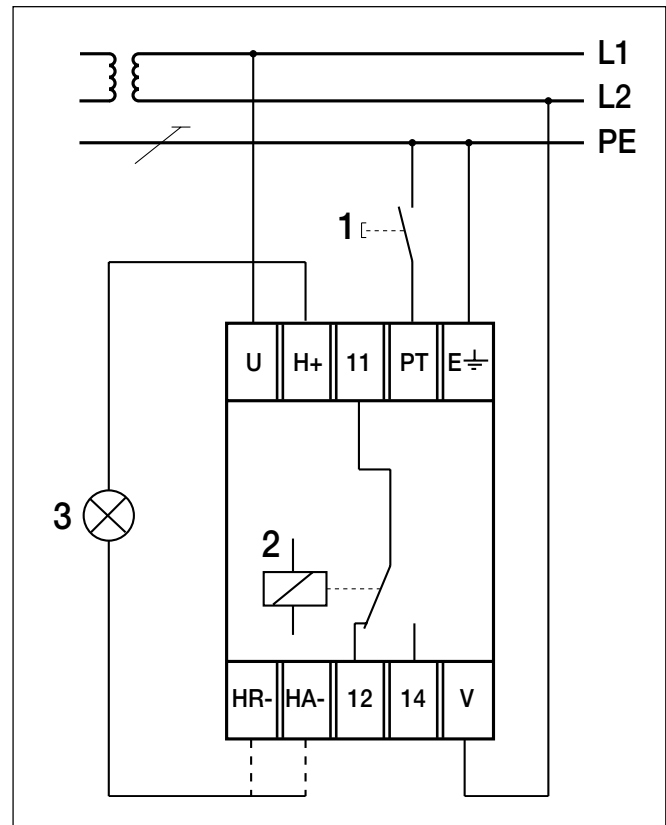
Environmental conditions

Ambient temperature, during operation	-10°C ... +50°C
Storage temperature range	-20°C ... +60°C
Climatic class acc. to DIN 40 040	F
Vibration test	5 ... 150 Hz; 1.6 mm/4g

General data

Mounting	as desired
Type of connection	terminal screws
with self-lifting clamp-washers	
Wire cross section	
single wire	2x(... 1.5 mm ²)
fine braid	2x(0.75 ... 1.5mm ²)
Rapid mounting	DIN EN 50022
Screw mounting	M4
Protection class acc. to DIN 40050	
Internal components	IP 50
Terminals	IP 10
Type of casing	X700
Weight approx.	300g
Wiring diagramm	Z 120 063

Wiring diagramm



Legend to wiring diagram

- external test button, if required
- output relay with one change over contact
Operating principle
IRG700RT N/C operation
IRG700AT N/O operation
- external alarm LED. Depending on the setting of the operating principle it has to be connected between H+ and HR- (N/C operation) or between H+ and HA- (N/O operation).

Ordering details

Type	Rated mains voltage U_N	Art.-No.
IRG700AT	AC 50...60 Hz 230 V	B 912 177
IRG700RT		B 912 176