**Product description**

The A-ISOMETERs IRG700AS and IRG700RS monitor the insulation resistance of unearthed single phase AC networks (IT networks).

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

The devices are encapsulated in an epoxy resin block. A 0.5-metre-long cable is provided for connection.

In addition DC supplied loads may be connected to the system to be monitored. Note that DC faults are indicated with a continuously increasing response sensitivity in both current directions. The preset response values apply to the pure AC network only.

Function

A DC measuring voltage is superimposed on the network by the device. The positive pole is connected to the system via coupling elements. The negative pole is connected to earth by means of an electronic circuitry. The measuring circuit is closed by an insulation fault between network and earth.

When the preset response value is reached, the output relay K1 will either energize (N/O operation) or deenergize (N/C operation).

Type IRG700AS: N/O operation.

Type IRG700RS: N/C operation.

Please note

In order to check the proper connection of the 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 monitor may be used in each interconnected system. When insulation and voltage tests are to be carried out, the device must be isolated from the system for the test period.

Standards

The A-ISOMETERs IRG700AS and IRG700RS correspond to DIN VDE 0413, Teil 2.

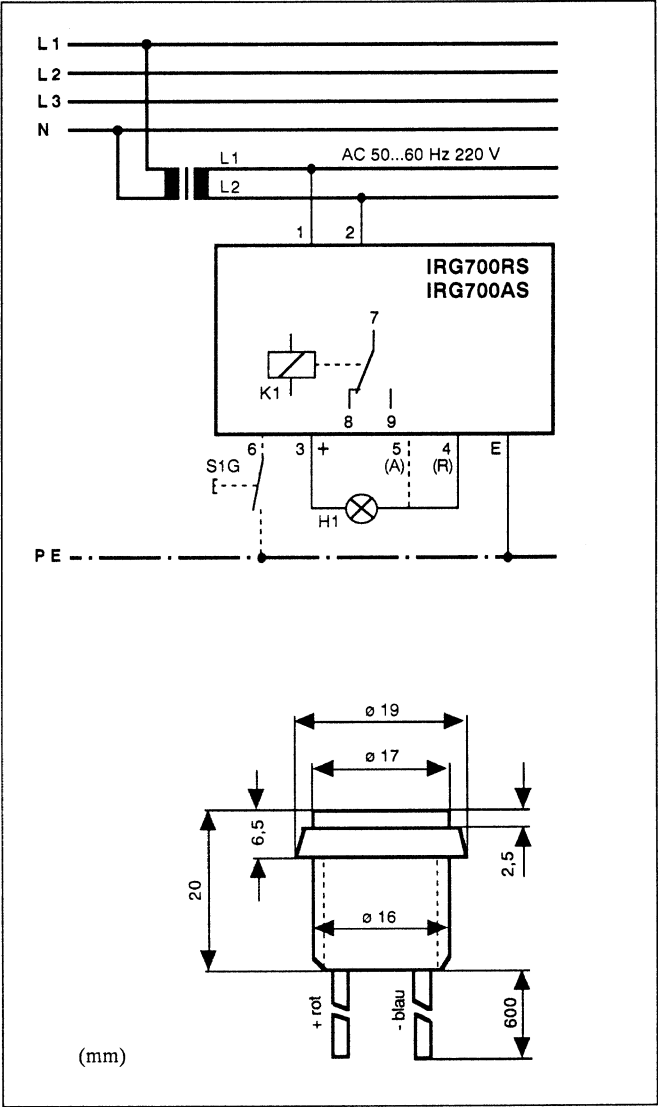
- ⇒ **insulation monitors for unearthed 1 and 3 phase AC networks**
- ⇒ **electronic encapsulated in epoxy resin, shock and vibration proof**
- ⇒ **external test button**
- ⇒ **principle of measurement: superimposed measuring DC voltage**
- ⇒ **output relay with one change-over contact selectable in N/C or N/O operation**
- ⇒ **drives one external alarm LED**

Technical data IRG700AS, IRG700RS

Insulation	
Nominal insulation voltage	250 V
Insulation class acc. to DIN VDE 0110	C
Dielectric test	1500 V
Operation class	permanent operation
Network being monitored	
Rated mains voltage U_N	AC 50 ... 60 Hz 220 V
Operating range	0.8 ... 1.2 U_N
Supply voltage	
Supply voltage	-
Operating range	-
Self-consumption	3 VA
Response values	
Response value R_{AN1} , fixed	22 k Ω
Response value R_{AN2} * approx.	440 k Ω
Hysteresis	-
Response delay	≤ 1 sec
Max. mains leakage capacitance	-
Adjustment by factory	-
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	78 k Ω
Internal measuring resistance	-
Impedance Z_P , 50 Hz DIN VDE 0413	63 k Ω
Max. admissible stray DC voltage	1.2 U_N
Outputs	
Meter output SKMP	-
Current output (max. load)	-
Terminal AK for coupling device	-
Contact circuit	
Switching components	one change-over contact
Switching capacity max.	1100 VA
Rated contact voltage	220 V
Permanent current	5 A
Break capacity	-
AC 220 V and cos phi = 0.4	3.8 A
DC 110 V and L/R = 0	0.38 A
Operating principle	IRG700AS N/O operation IRG700RS N/C operation
Adjustment by factory	-
Tests acc. to DIN VDE 0435/IEC 255	
Impulse voltage test	-
Electrical disturbance test	-
Vibration test	-
Environmental conditions	
Ambient temperature, during operation	-10°C ... +50°C, 263 K 323 K
Storage temperature range	-20°C ... +60°C, 253 K ... 333 K
Climatic class acc. to DIN 40040	-
General data	
Mounting	as desired
Front plate width	-
Type of connection	0.5 -metre-long cable
shock and vibration proof	electronic encapsulated in epoxy resin
Wire cross section	-
single wire	-
fine braid	-
Rapid mounting	-
Screw mounting	-
Protection class acc. to DIN 40050	-
Internal components	IP 65
Terminals/with terminal covers	-
Type of casing	X 700
Weight approx.	400 g
Wiring diagram	Z 120 329

*higher value for earth faults behind rectifiers

Wiring diagram



Legend to wiring diagram

- S1G external test button, if required
- K1 output relay with one change-over contact.
IRG700RS: N/C operation
IRG700AS: N/O operation
- H1 external alarm LED, 12 V/10 mA
(only one can be connected)

Accessories:

Light emitting diode type: LED 16-12-10 DC 12 V,
silicon stranded conductor 600 mm long (included in package).

Ordering details

Type	Art. No.
IRG700AS	912 164
IRG700RS	912 157