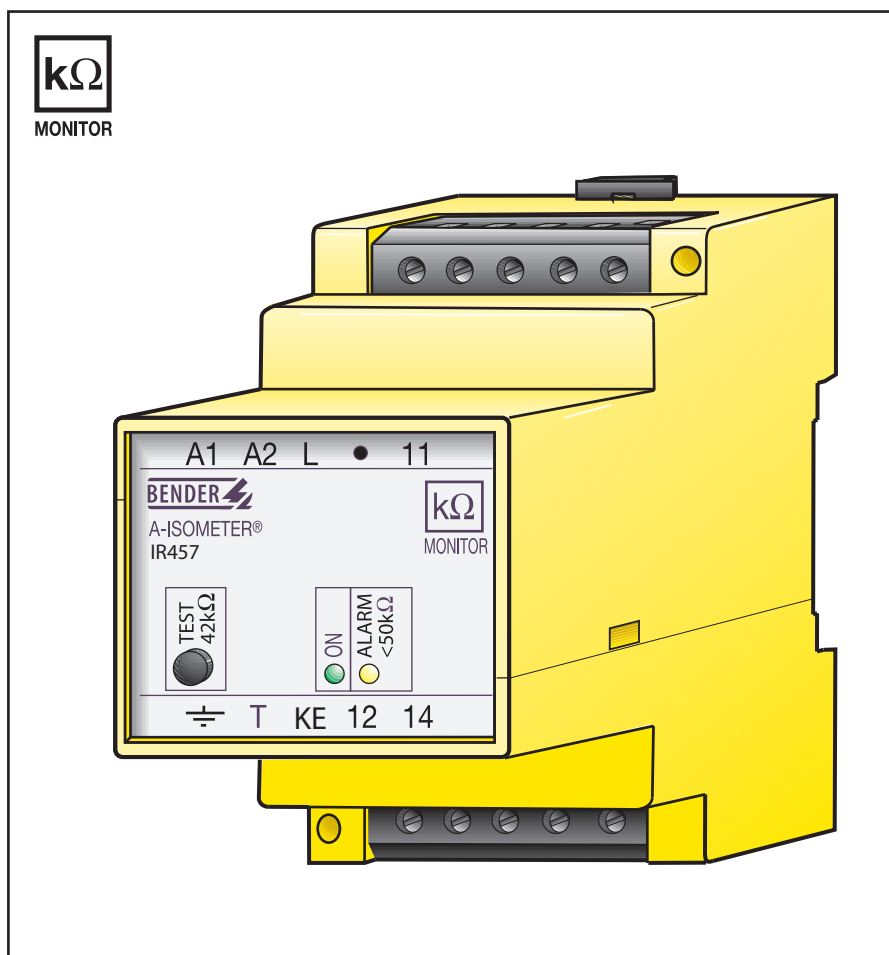
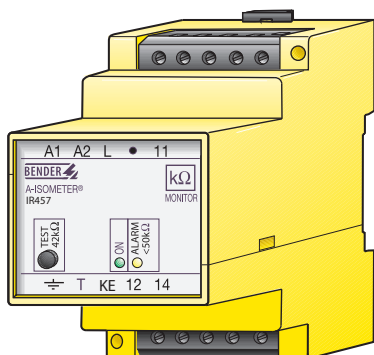


A-ISOMETER® IR457R-4

Insulation Monitoring Device for IT AC Systems





Application: IT AC systems

- for IT AC systems 0...30 V
- suitable for monitoring power supply circuits of operating theatre lights

Product description

The A-ISOMETER® IR457R-4 monitors the insulation resistance of IT AC systems (isolated power) AC 0...30 V.

Insulation faults behind directly connected DC circuits are not indicated. The pre-set response values apply to the pure AC system only.

Device characteristics:

- for IT AC systems 0...30 V
- fixed response value 50 kOhm
- built-in 42 kOhm test button
- built-in POWER-ON and alarm LED
- Alarm relay with one change-over contact

Ordering details

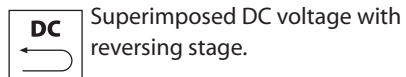
Type	Supply voltage U_S	Art. No.
IR457R-4	AC 230 V (196...276 V)	B 9101 6038

Standards

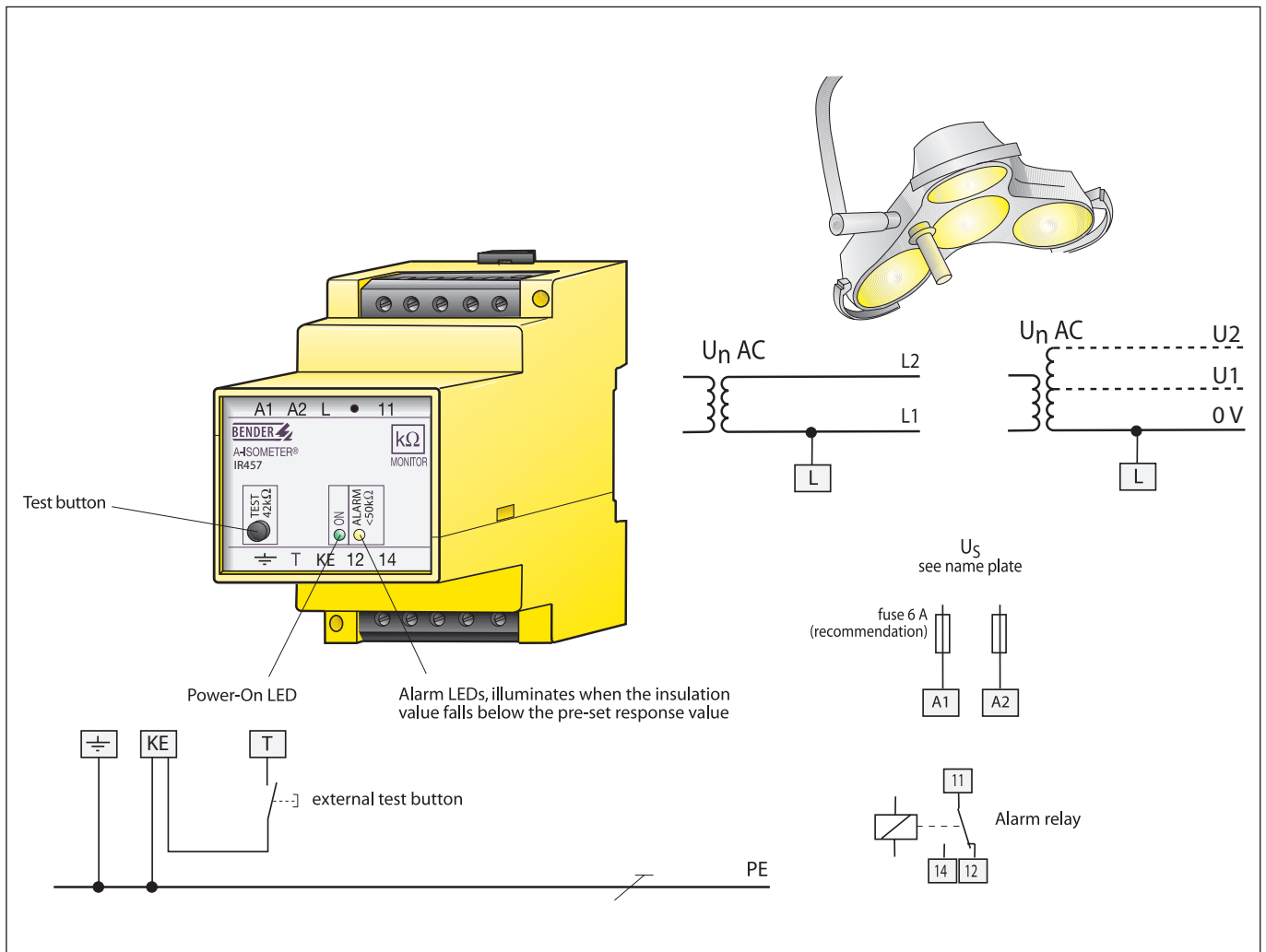
The A-ISOMETER® IR457R-4 complies with IEC 61557-8: 1997-02, DIN EN 61557-8 (VDE 0413 part 8):1998-05, DIN VDE 0107 (VDE 0107): 1994-10 and ASTM F 1669M 1996-00.

When installing the device, the safety instructions supplied with the equipment must be observed !

Measuring principle



Wiring diagram



Connection monitoring

A functional test of the device is performed by pressing the internal or external test button. During the test a 42 kOhm test resistor is connected between the system to be monitored and the KE terminal.

Technical data

Insulation coordination acc. to IEC 60664-1

Rated insulation voltage	AC 250 V
Rated impulse withstand voltage/contamination level	4 kV/3

Voltage range

Operating range of U_N	AC 45...420 Hz, 0...30 V
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Supply voltage

Supply voltage U_S	see ordering details*
Max. power consumption	2 VA

Response values

Response values	50 kOhm
Response delay	< 1 s
Max. admissible system leakage capacitance C_e	5 μ F

Measuring circuit

Measuring voltage U_m	15 V
Measuring current I_m	125 μ A
Internal DC resistance R_i	120 kOhm
Impedance Z_j at 50 Hz	> 100 kOhm
Max. admissible extraneous DC voltage	DC 300 V

Outputs

Contact circuit	1 alarm relay
Switching components	1 change-over contact
Contact class acc. to DIN IEC 60255 part 0-20	IIB
Rated contact voltage	AC 250 V / DC 300 V
Admissible number of operations	12000 cycles
Making capacity	UC 5 A
Breaking capacity	
AC 230 V and $\cos \phi = 0.4$	2 A
DC 220 V and $L/R = 0.04$ s	0.2 A
Operating principle	N/C operation

Test of the Electromagnetic Compatibility (EMC)

Emissions acc. to EN 50081-2:

Emissions acc. to EN 55011/CISPR11

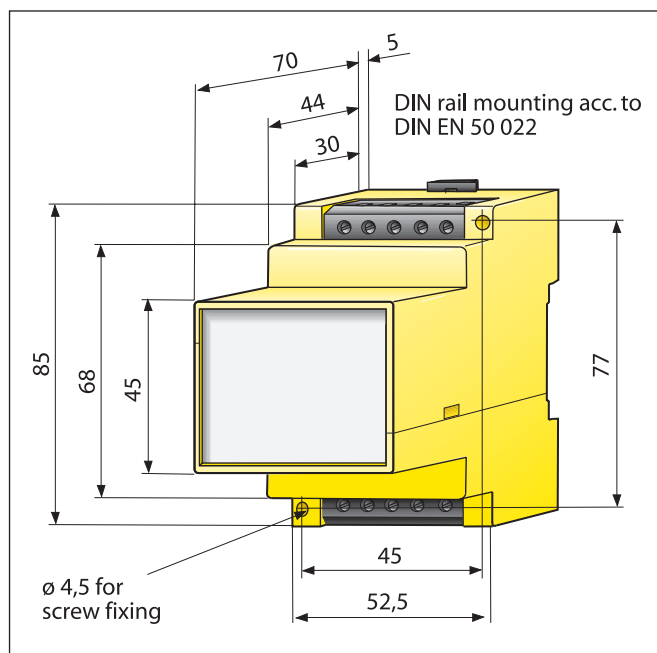
Mechanical tests

Shock resistance acc. to IEC 6068-2-27	30 g / 11 ms
Bumping acc. to IEC 6068-2-29	40 g / 6 ms
Vibration strength acc. to IEC 6068-2-6	
DIN rail mounting	3 g / 30...150 Hz
Screw fixing	6 g / 30...150 Hz

General data

Ambient temperature, during operation	-25°C bis +60°C
Storage temperature range	-40°C bis +70°C
Climatic class acc. to IEC 60721	3K5, except condensation and formation of ice
Operating mode	continuous operation
Mounting	any position
Connection	Modular terminals
Cross sectional area of connecting cable, single wire	0.2 - 4 mm ²
Cross sectional area of connecting cable, flexible	0.2 - 2.5 mm ²
Protection class acc. to DIN EN 60529	
Built-in components	IP 30
Terminals/with terminal covers	IP 20
Type of enclosure	X440
Screw fixing	M4
DIN rail mounting	DIN EN 50022
Flammability class	UL94V-0
Data sheet no.	101006
Weight approx.	200 g

Dimension diagram X440



Dipl.-Ing. W. Bender GmbH & Co. KG
Londorfer Str. 65 • D-35305 Grünberg
P.O.Box 11 61 • D-35301 Grünberg
Phone (+49)6401/807-0 • Fax (+49)6401/807-259