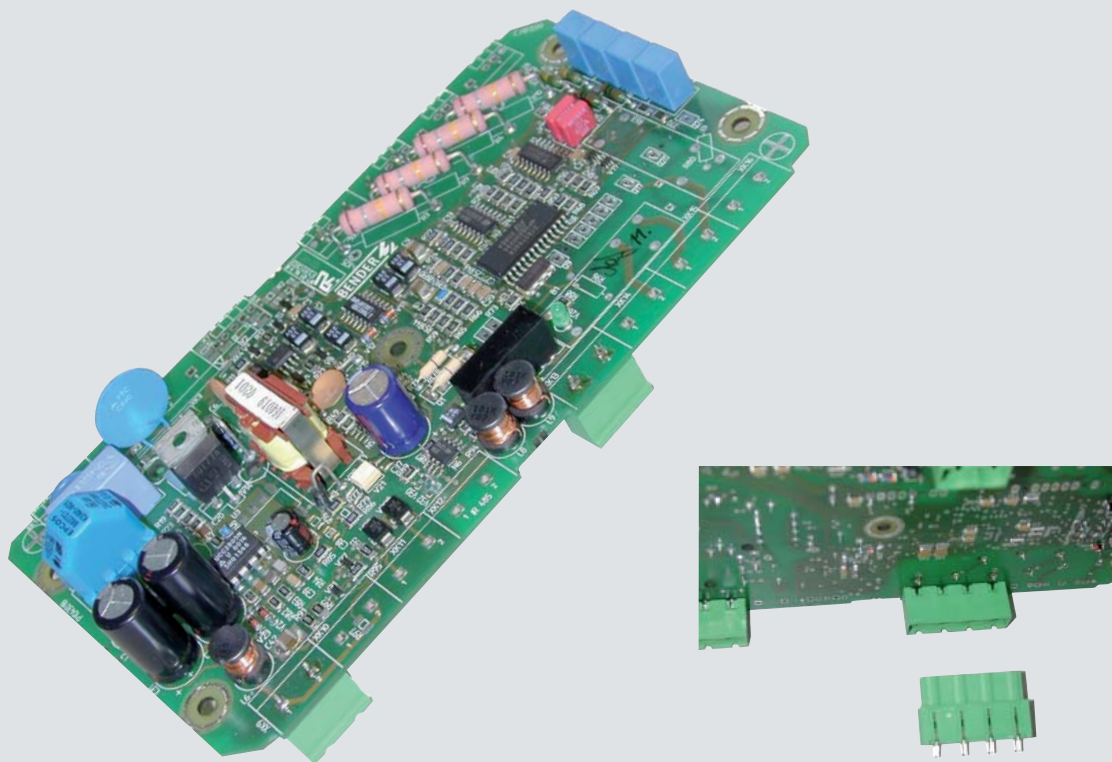


A-ISOMETER® IR485P, IR486P

Insulation monitoring device for IT AC and DC systems
for integration into converter systems



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IR486

Device features

IR485

- for IT AC systems up to AC 460 V,
for IT DC systems up to DC 1000 V
- Connection monitoring
- Power On LED
- Voltage output 0...10 V
- high mechanical stress resistance
- extended ambient temperature range
- particularly suited for fuel cell-supplied
converters

IR486

- for IT AC systems up to AC 800 V,
for IT DC systems up to DC 1000 V
- Connection monitoring
- Response value 50 kOhm
- Power On LED
- Alarm relay with one normally
open changeover contact

Product description

The A-ISOMETER® IR485P and IR486P monitor the insulation resistance of unearthed AC systems up to AC 460 V or DC systems up to DC 1000 V. Insulation faults in DC circuits which are directly connected to the AC system are only monitored correctly when the rectifiers carry a load current > 5...10 mA. Hence, these devices are capable of being integrated into converter systems.

Application in modern power supply systems

- Electric vehicle technology
- UPS systems
- Charging stations

Measuring principle



The A-ISOMETER® IR485P-421 and IR486P-421 use the AMP measuring principle. This ensures safe monitoring of modern power supply systems. Refer to the Bender main catalogue, part 1, for a detailed description of the measuring principle.

Standards

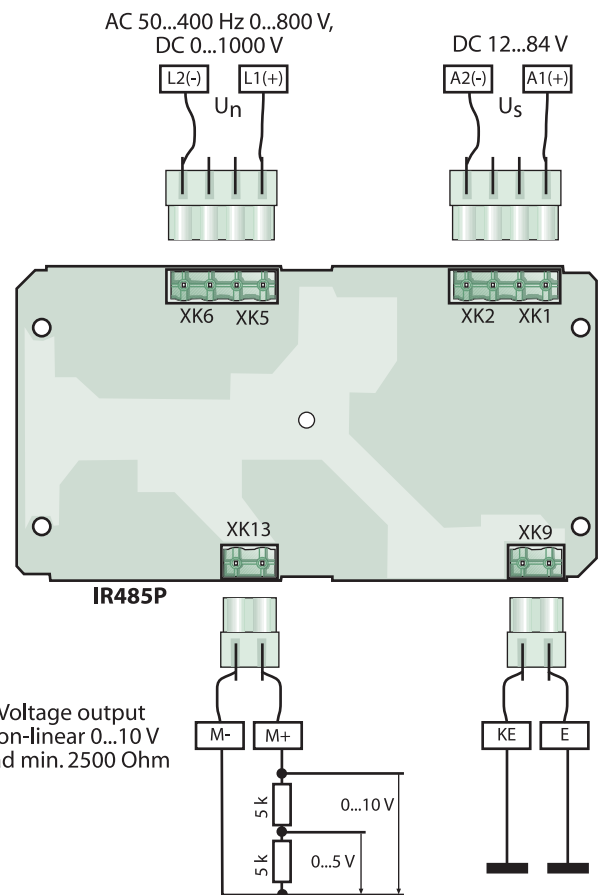
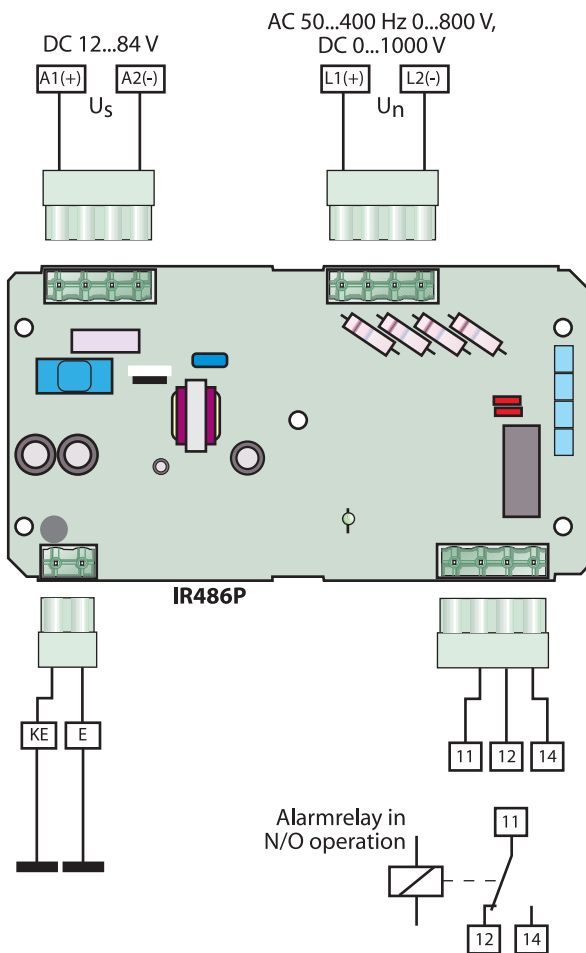
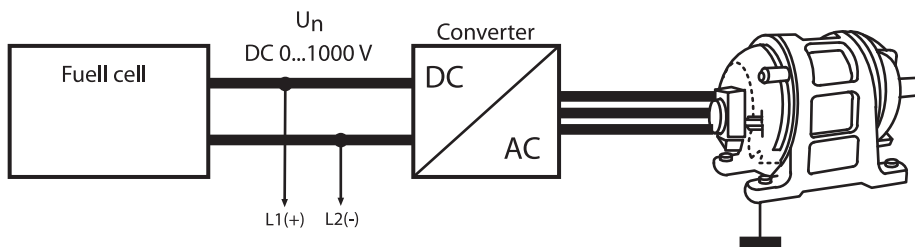
The A-ISOMETER® of the IR485P and IR486P series comply with the standards: DIN EN 61557-8 (VDE0413 Teil 8):1998-05, EN 61557-8: 1997-03, IEC 61557-8: 1997-02 and ASTM F 1669 M-96.

Please read carefully all the safety instructions provided before installing the device.

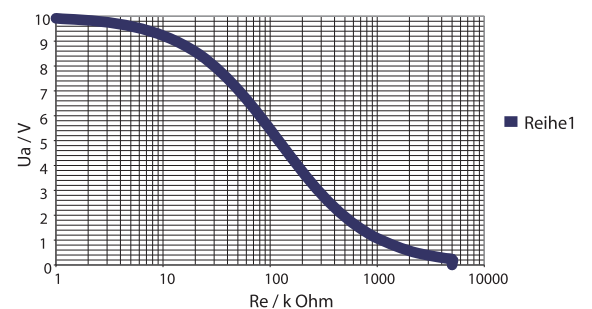
Ordering details

| Type | Supply voltage U_s | Nominal voltage range U_n | Art. No. |
|------------|----------------------|-------------------------------------------|-------------|
| IR485P-421 | DC 12...84 V | AC 50...400 Hz 0...800 V DC 0...1000 V | B 9106 8098 |
| IR486P-421 | DC 12...84 V | AC 50...400 Hz 0...800 V DC 0...1000 V | B 9106 8099 |

Wiring diagram



Voltage output non-linear 0...10 V
load min. 2500 Ohm



Technical data

Insulation coordination acc. to IEC 60664-1

| | |
|-----------------------------------------------------|-----------|
| Rated insulation voltage | AC 1000 V |
| Rated impulse withstand voltage/contamination level | 8 kV / 2 |

Voltage range

| | |
|-----------------------------|-----------------------------------------|
| Supply voltage U_s | DC 12...84 V |
| Nominal voltage range U_n | AC 50...400 Hz 0...800 V, DC 0...1000 V |
| Max. power consumption | 3 VA |

Response value

| | |
|--------------------------------------------|---------------|
| IR485P-... | - |
| IR486P-... | 50 kOhm |
| Max. admissible system leakage capacitance | Ce 20 μ F |

Measuring circuit

| | |
|---------------------------|----------|
| Measuring voltage U_m | +/- 30 V |
| Internal resistance R_i | 200 kOhm |

Outputs

IR485P-...

non-linear isolated output
with 0...10 V equivalent to 5 MOhm ... 0 Ohm

IR486P-...

| | |
|---------------------------------|----------------------|
| Switching components | 1 changeover contact |
| Rated contact voltage | AC 250 V / DC 300 V |
| Admissible number of operations | 12000 |
| Making capacity | UC 5 A |

Breaking capacity

| | |
|--------------------------|---------------|
| AC 230 V, cos phi = 0.4 | AC 2 A |
| DC 220 V and L/R = 0.04s | DC 0.2 A |
| Arbeitsweise | N/O operation |

Type tests Test of the electromagnetic compatibility (EMC)

| | |
|-------------------------------------|-----------------------|
| Interferences acc. to | EN 61000-6-2 |
| Emissions acc. to | EN 50081-2 |
| Emissions acc. to EN 55 011/CISPR11 | class A ¹⁾ |

Mechanical tests IR485P-...

| | |
|-------------------|---------------------------------|
| Vibration 3 axes, | 10...1500 Hz at 5 g |
| Shock | 1/2 sine-wave amplitude at 50 g |

Mechanical tests IR486P-...

| | |
|-------------------------------------------|---------------------------|
| Shock resistance acc. to IEC 60255-5 | 15 g / 11 ms |
| Constant shocks acc. to IEC 6068-2-29 | 40 g / 6 ms |
| Vibration resistance acc. to IEC 6068-2-6 | 10...150Hz / 0.15 mm - 2g |

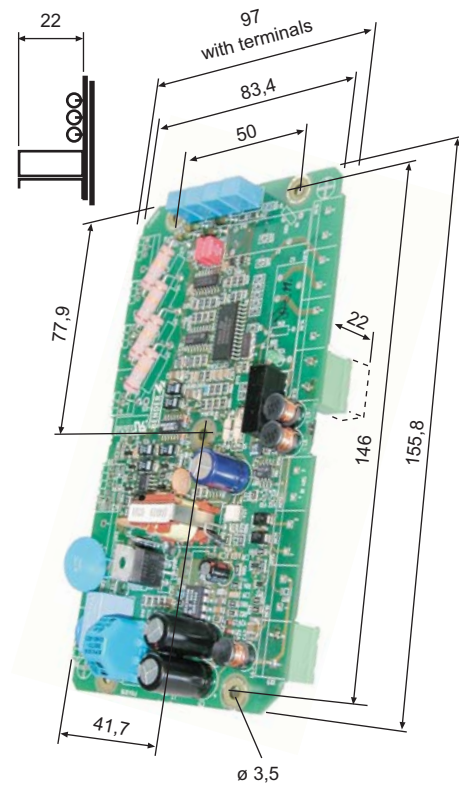
General data

| | |
|-------------------------------------------------|--------------------------------------------------------------|
| Ambient temperature IR485P-... during operation | -40 °C ... +75 °C |
| storage temperature range | -60 °C ... +105 °C |
| Ambient temperature IR486P-... during operation | -25 °C ... +70 °C |
| storage temperature range | -40 °C ... +70 °C |
| Climatic class acc. to IEC 60721 | 3k5 except condensation and formation of ice |
| Operating mode | continuous operation |
| Mounting | any position |
| Connection | plug-in terminals, Phönix 7.62 mm |
| Schutzart nach DIN EN 60529 | IP 00 |
| Dimensions | 84 x 157 x 47 mm (max. dimensions, incl. plug-in connectors) |
| Weight approx. | 130 g |

¹⁾ only for use in the industrial sector

Dimension diagram

Dimensions in mm



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