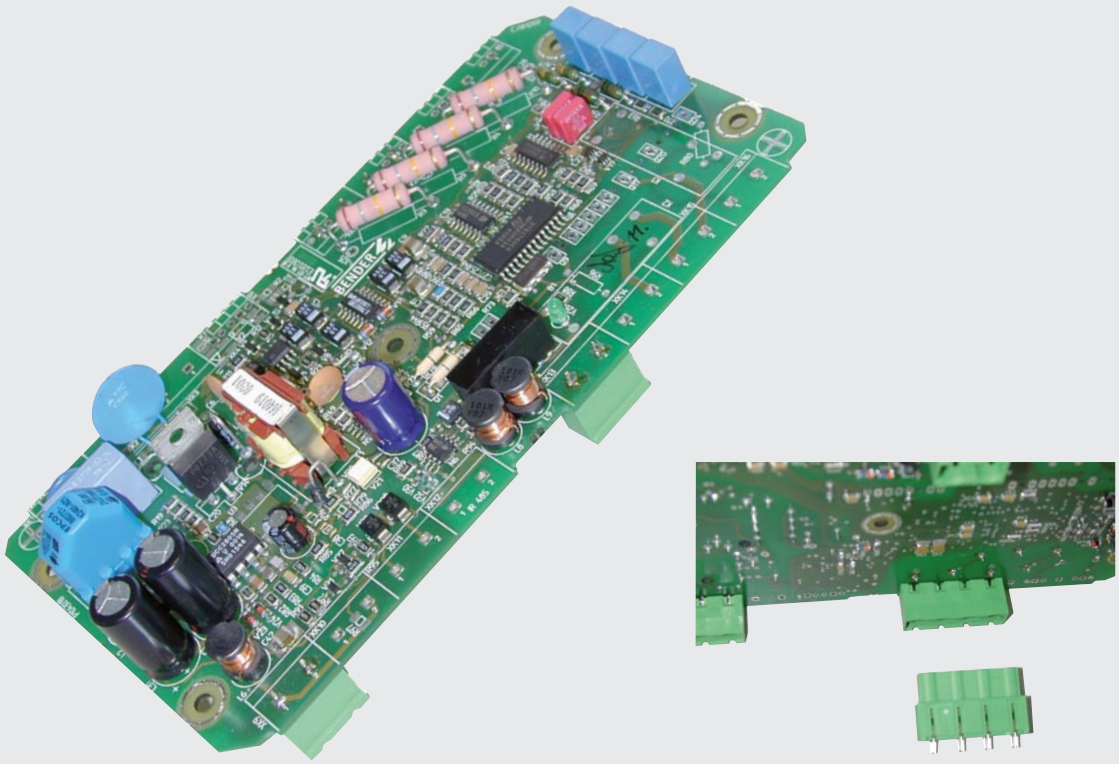
BENDER
The Power in Electrical Safety©

ISOMETER® IR485P, IR486P

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



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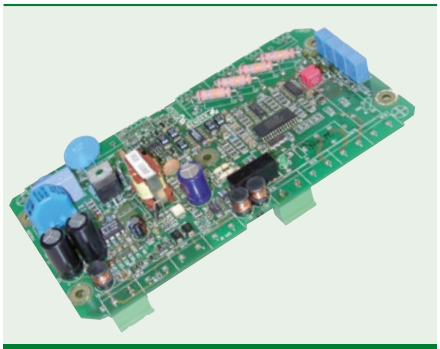


IR486

Device features

IR485
- for IT AC systems up to AC 800 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 kΩ
- Power On LED
- Alarm relay with one normally open changeover contact

Approvals

CE EAC

Product description

The 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 rectifi ers 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 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

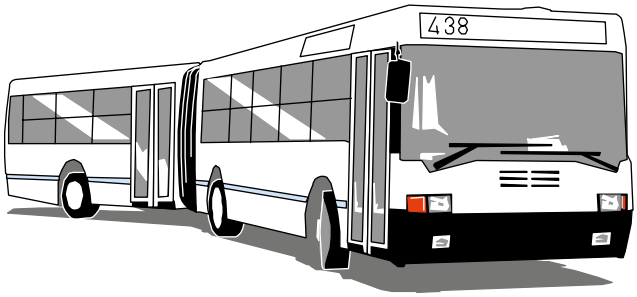
The ISOMETER® of the IR485P and IR486P series comply with the standards:
DIN EN 61557-8 (VDE0413 Teil 8), EN 61557-8, IEC 61557-8 and ASTM F 1669 M-96.

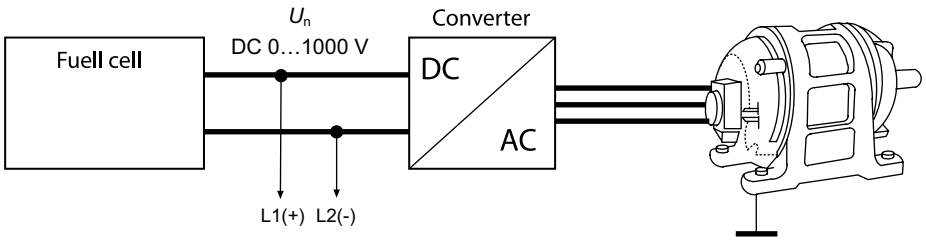
Please read carefully all the safety instructions provided before installing the device.

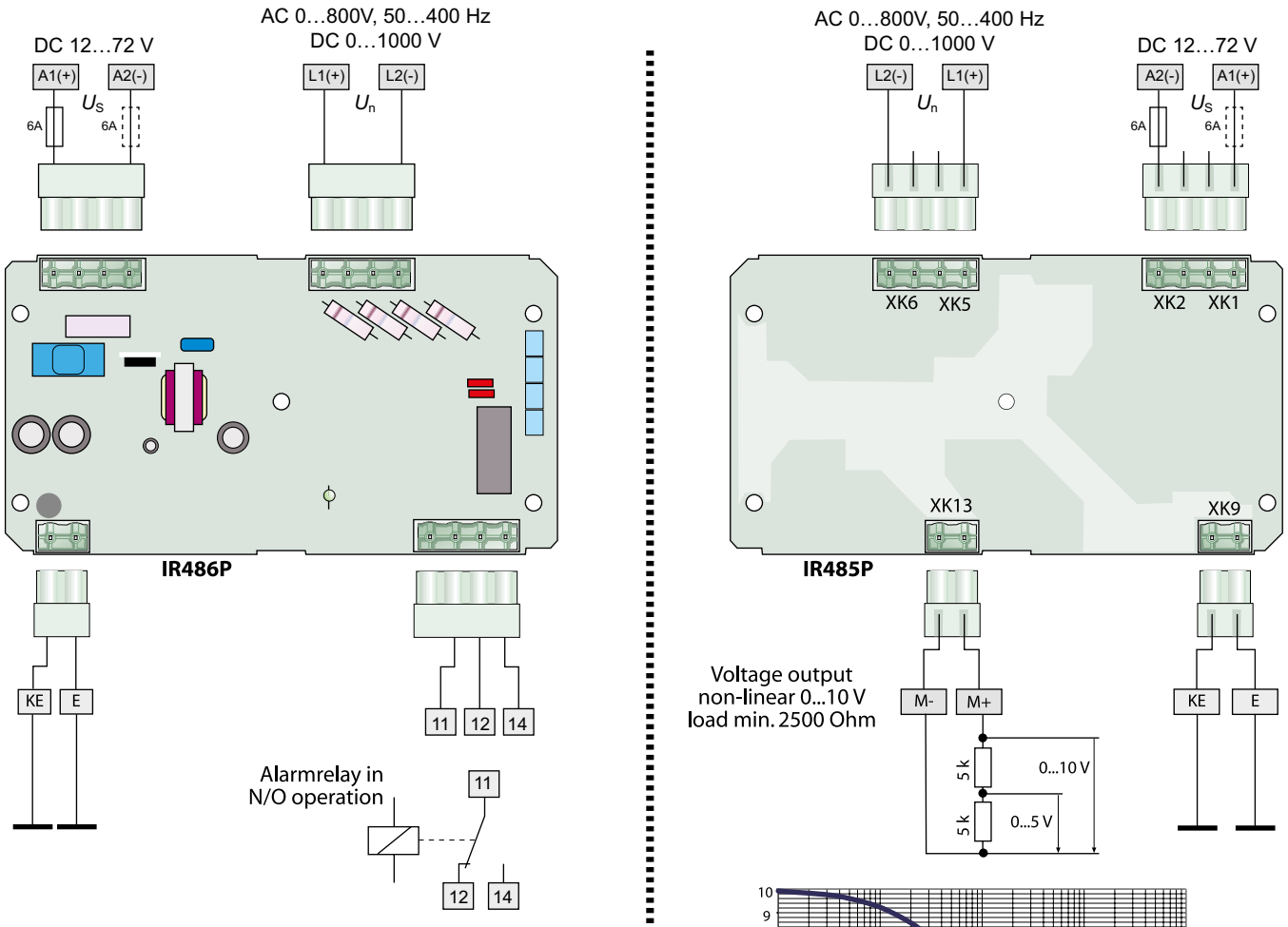
Ordering details

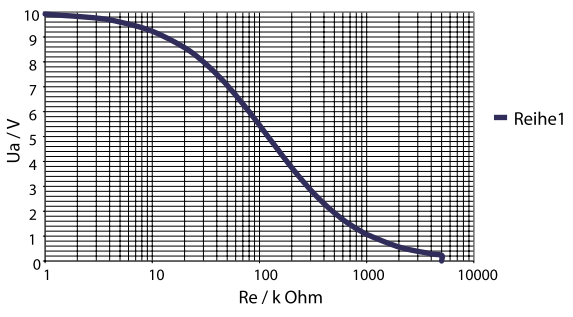
Supply voltage U_S	Nominal voltage range U_n		Type	Art. No.
DC	AC	DC		
12…72 V	0…800 V, 50…400 Hz	0…1000 V	IR485P-421	B 9106 8098
			IR486P-421	B 9106 8099

Wiring diagram









Warning notice:
Only permanently installed equipment complying at least with over-voltage category CAT II (300 V) may be connected to the outputs.

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…72 V
Nominal voltage range U_n	AC 0…800 V, 50…400 Hz/DC 0…1000 V
Max. power consumption	3 VA

Response value

IR485P-…	–
IR486P-…	50 kΩ
Max. admissible system leakage capacitance C_e	20 µF

Measuring circuit

Measuring voltage U_m	± 30 V
Internal resistance R_i	200 kΩ

Outputs

IR485P-…

non-linear isolated output
with 0…10 V equivalent to 5 MΩ … 0 Ω

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

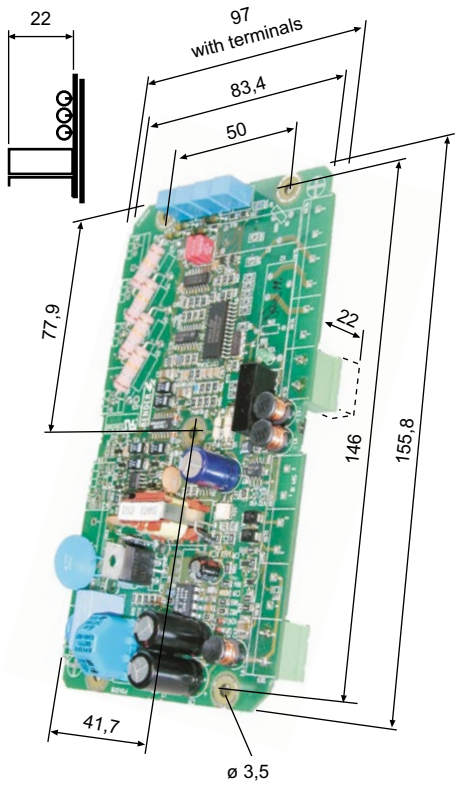
General data

Ambient temperature IR485P-…	
during operation	-40…+75 °C
storage temperature range	-60…+105 °C
Ambient temperature IR486P-…	
during operation	-25…+70 °C
storage temperature range	-40…+80 °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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