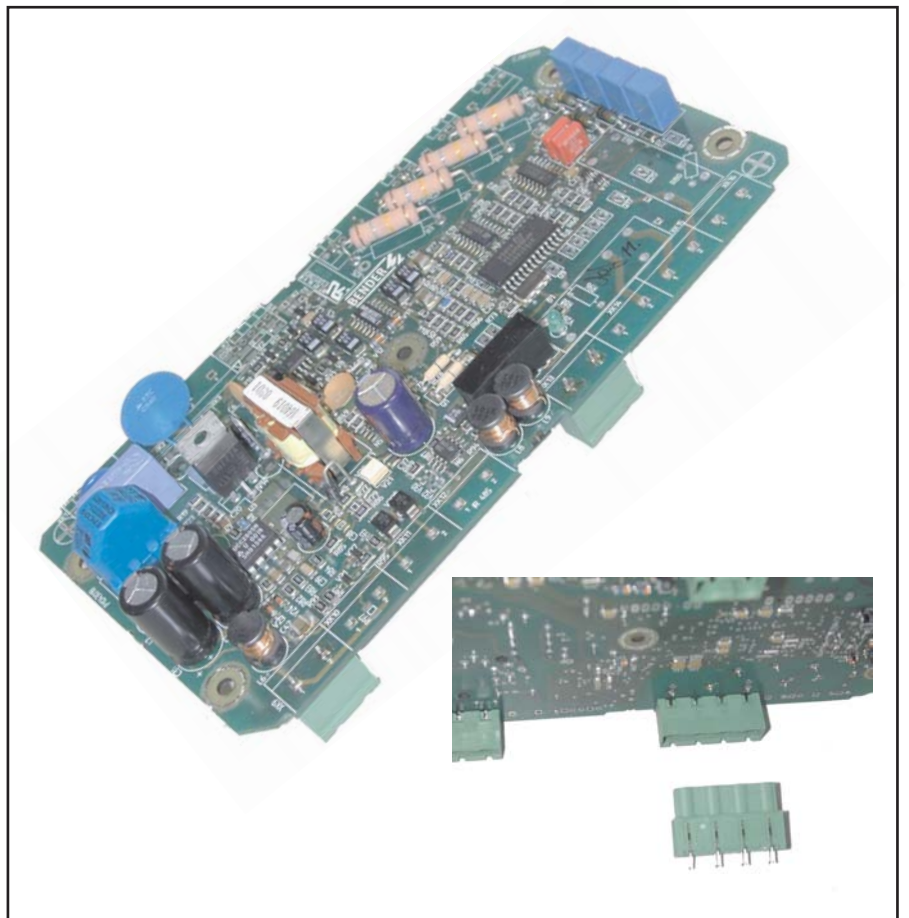


A-ISOMETER®

IR485P, IR486P

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



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Application in modern power supply systems

- Electric vehicle technology
- UPS systems
- Charging stations

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.

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

Features 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

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

Measuring principle

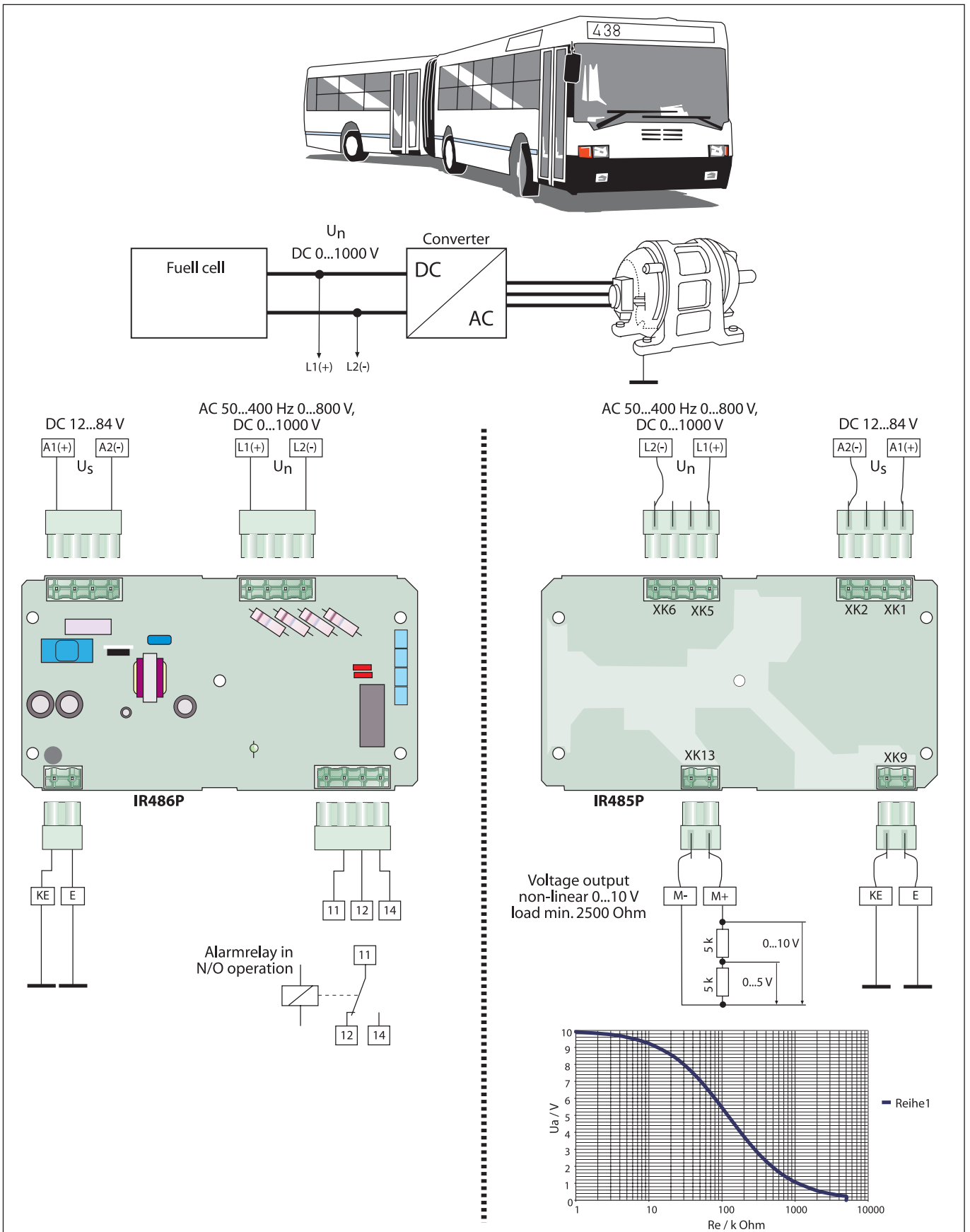


The A-ISOMETER® IR485P-421 and IR486P-421 use the AMP measuring principle. This ensures safe monitoring of modern power supply systems. Refer to the Bender main catalogue, part 1, for a detailed description of the measuring principle.

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.

Wiring diagram



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	C_e 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
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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-....:

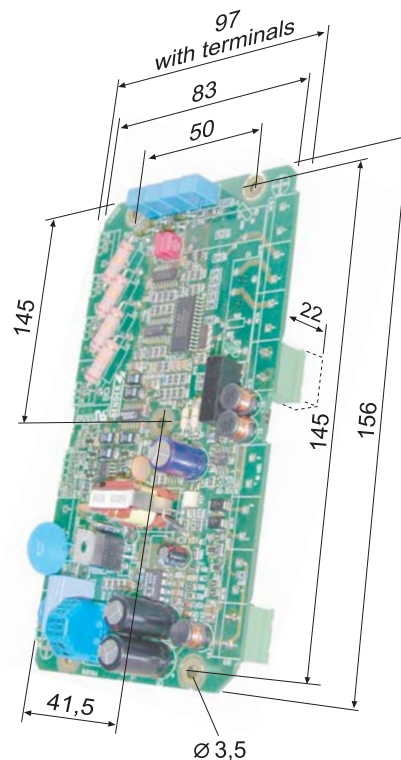
Vibration 3 axes,	10...1500 Hz at 5 g
Shock	1/2 sine-wave amplitude at 50 g

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...150 Hz / 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



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