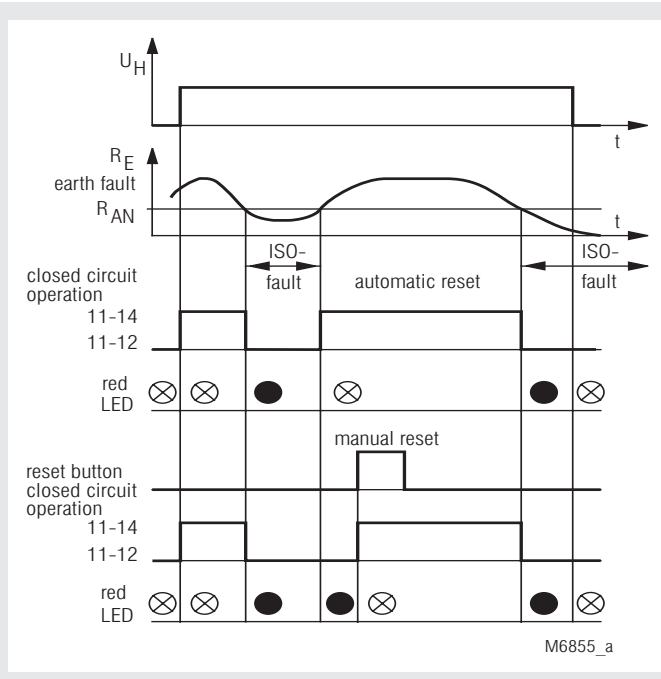




- According to IEC/EN 61 557-8
- For DC-voltage systems
- Fixed response value
- Closed circuit operation
- Programmable for
 - manual reset (bridge LT1-LT2)
 - automatic reset (without bridge)
- External reset button on LT1-LT2
- Test button to check the function of the device
- LED indicators
- 1 changeover contact
- Width 45 mm

Function Diagram



Approvals and Markings



Applications

Monitoring of insulation resistance in ungrounded DC-voltage systems.

Indicators

LED "Ein":	on, when no fault (output relay energized)
LED "Erdschluß":	on, when ground fault

Notes

Symmetric ground faults (same resistance between L+ - PE and L- - PE) will not be detected because of the measuring principle. In practice this is of no importance.

In one voltage system only one Insulation monitor must be connected. This has to be observed when coupling voltage system.

Technical Data

Auxiliary Circuit

Auxiliary voltage U_H:	AC 24, 42, 110, 230 V DC 24, 60, 110, 220 V at AI 898/20
Voltage range:	0.8 ... 1.1 U_N
Frequency range:	45 ... 400 Hz

Measuring Circuit

Nominal voltage U_N:	DC 24, 48, 60, 110, 220 V to 660 V on request
Voltage range:	0.8 ... 1.1 U_N
Response value R_{AN}:	DC 24 ... 60 V: 6 k Ω DC 110 V: 11 k Ω DC 220 V: 22 or 50 k Ω special values on request fixed
Setting R_{AN}:	equivalent to $R_E < 6$ k Ω
Internal test resistor:	DC 24 V: 5 k Ω DC 48 ... 60 V: 3 k Ω DC 110 V: 8 k Ω DC 220 V: 30 k Ω
Internal DC resistance:	

Max. measuring current ($R_E = 0$):

DC 24 V:	6 mA
DC 48 V:	19 mA
DC 60 V:	22 mA
DC 110 V:	15 mA
DC 220 V:	9 mA

Technical Data

Operate delay

at $R_{AN} = 50 \text{ k}\Omega$, $CE = 1 \text{ }\mu\text{F}$

R_E from ∞ to $0.9 R_{AN}$:

approx. 0.4 s

R_E from ∞ to $0 \text{ k}\Omega$:

approx. 0.1 s

Hysteresis

at $R_{AN} = 50 \text{ k}\Omega$:

approx. 20 - 30 %

Measuring error

at $R_{AN} = 50 \text{ k}\Omega$:

< 25 %
ambient temperature -5 ... 50°C,
within the permitted voltage range
approx. 2.5 VA

Nominal consumption:

Output

Contacts:

1 changeover contact

Max. switching voltage:

AC 400 V

Thermal current I_{th} :

6 A

Switching capacity

to AC 15:

5 A / AC 230 V IEC/EN 60 947-5-1

Short circuit strength

max. fuse rating:

5 A gL IEC/EN 60 947-5-1

General Data

Operating mode:

Continuous operation

Permissible ambient and

stocking temperature:

- 20 ... + 60°C / - 25 ... + 70°C

Clearance and creepage

distances

rated impulse voltage /

pollution degree:

4 kV / 2 IEC 60 664-1

EMC

Electrostatic discharge:

8 kV (air) IEC/EN 61 000-4-2

Fast transients:

2 kV IEC/EN 61 000-4-4

Surge voltages

between

wires for power supply:

2 kV IEC/EN 61 000-4-5

between wire and ground:

4 kV IEC/EN 61 000-4-5

Interference suppression:

Limit value class B EN 55 011

Degree of protection:

Housing: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

Housing:

Thermoplastic with V0 behaviour
according to UL subject 94

Vibration resistance:

Amplitude 0.35 mm
frequency 10...55Hz IEC/EN 60 068-2-6

Climate resistance:

20 / 060 / 04 IEC/EN 60 068-1

Terminal designation:

EN 50 005

Wire connection:

2 x 2.5 mm² solid or
2 x 1.5 mm² stranded wire with sleeve
DIN 46 228-1/-2/-3/-4

Wire fixing:

Flat terminals with self-lifting
clamping piece IEC/EN 60 999-1

Mounting:

DIN rail IEC/EN 60 715

Weight:

240 g

Dimensions

Width x height x depth: 45 x 77 x 115 mm

Standard Type

AI 898 DC 24 V 6 k Ω AC 230 V

Article number: 0001044 stock item

• Output: 1 changeover contact

• Nominal voltage U_N : DC 24 V

• Auxiliary voltage U_H : AC 230 V

• Fixed response value R_{AN} : 6 k Ω

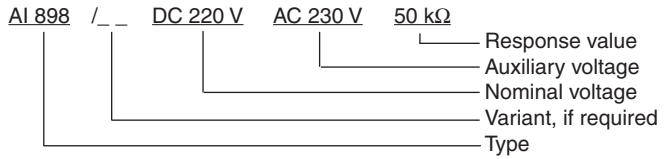
• Width: 45 mm

Variant

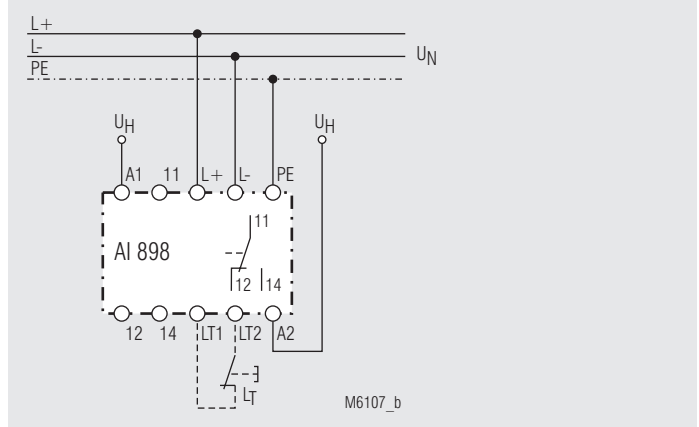
AI 898/20:

for auxiliary supply DC 24 V
for DC 60, 110 or 220 V the relay is
delivered with an external drop resistor

Ordering example vor variant



Connection Example



L+/L-:

U_N

A1/A2:

U_H

Bridge LT1/LT2:

manual reset

Without bridge LT1/LT2:

automatic reset