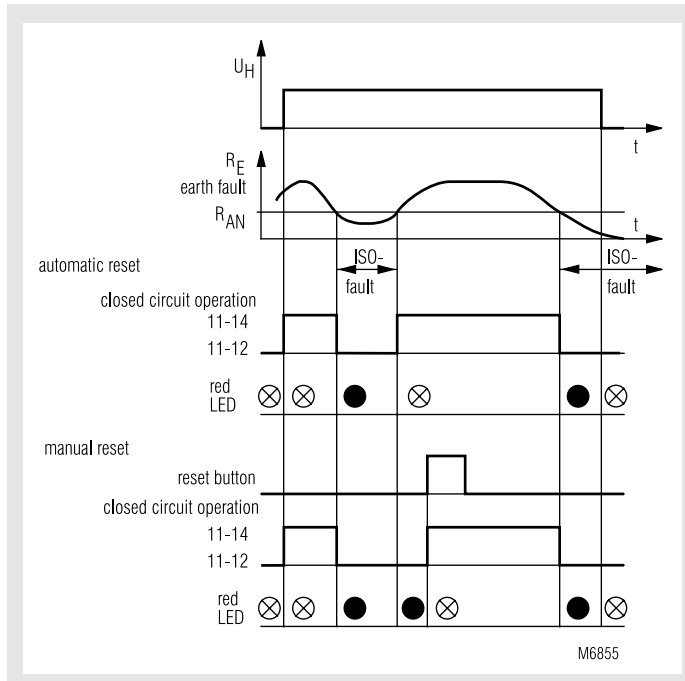


0225237



- According to VDE 0413
- 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 marking



Applications

Monitoring of insulation resistance in ungrounded DC-voltage systems.

Indicators

LED "Ein": on, when no fault (output relay energised)
 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.

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
Setting R_{AN} : fixed
Internal test resistor: equivalent to $R_E < 6$ k Ω
Internal DC resistance:
 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

Max. measuring current (RE = 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

Operate delay

at $R_{AN} = 50$ k Ω , $C_E = 1$ μ F
 R_E from ∞ to 0,9 R_{AN} : approx. 0,4 s
 R_E from ∞ to 0 k Ω : approx. 0,1 s

Hysteresis

at $R_{AN} = 50$ k Ω : approx. 20 - 30 %

Technical data

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 EN 60 947-5-1
Short circuit strength
max. fuse rating: 5 A gL 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
overvoltage category /
contamination level: 4 kV / 2 IEC 60 664-1
EMC
Electrostatic discharge: 8 kV (air) EN 61 000-4-2
Fast transients: 2 kV EN 61 000-4-4
Surge voltages
between
wires for power supply: 2 kV EN 61 000-4-5
0,5 kV at AI 898/20
between wire and ground: 4 kV EN 61 000-4-5
Interference suppression: Limit value class B EN 55 011
Degree of protection: Housing: IP 40 EN 60 529
Terminals: IP 20 EN 60 529
Housing: Thermoplastic with V0 behaviour
according to UL subject 94
Vibration resistance: Amplitude 0,35 mm
frequency 10 ... 55 Hz EN 60 068-2-6
Climate resistance: 20 / 060 / 04 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 EN 60 999
Mounting: DIN rail EN 50 022
Weight: 240 g

Dimensions

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

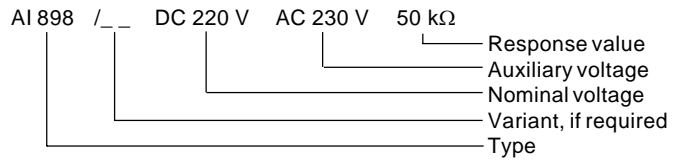
Standard type

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

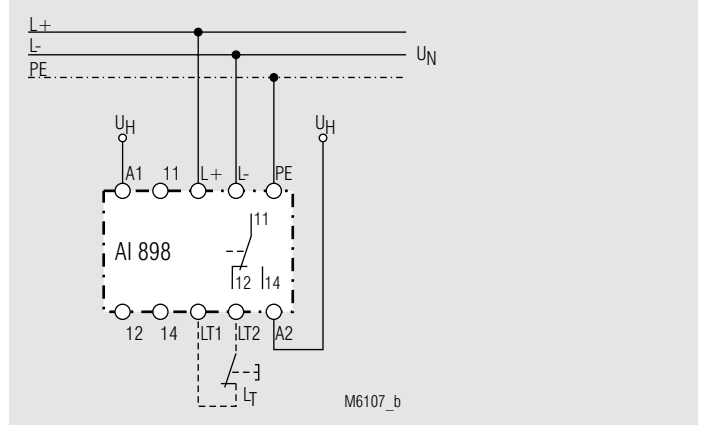
Variant

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

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