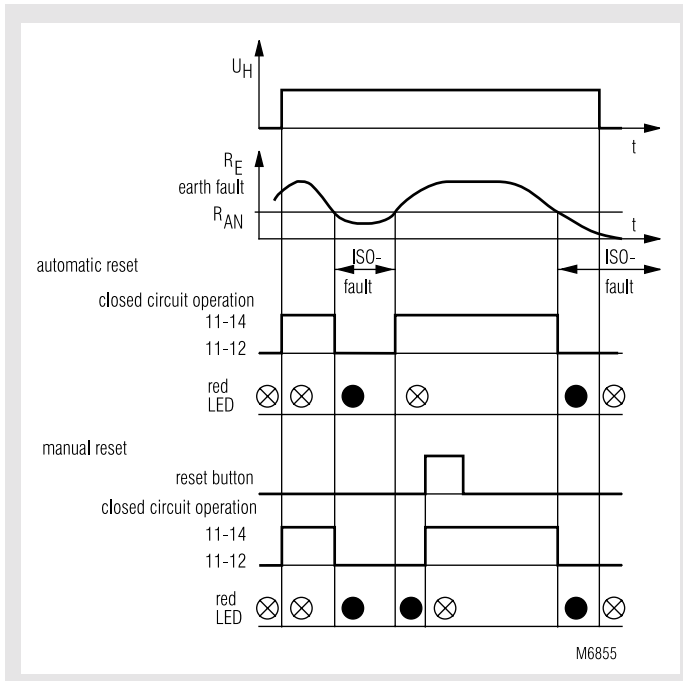


0225237



- 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	
	20 / 060 / 04	EN 60 068-1
Climate resistance:	20 / 060 / 04	
Terminal designation:	EN 50 005	
Wire connection:	2 x 2,5 mm ² solid or 2 x 1,5 mm ² 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

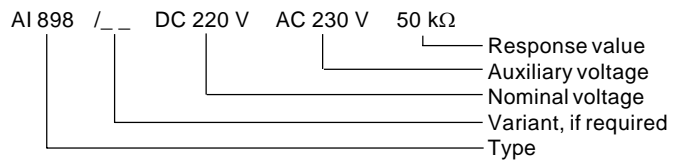
Standard type

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

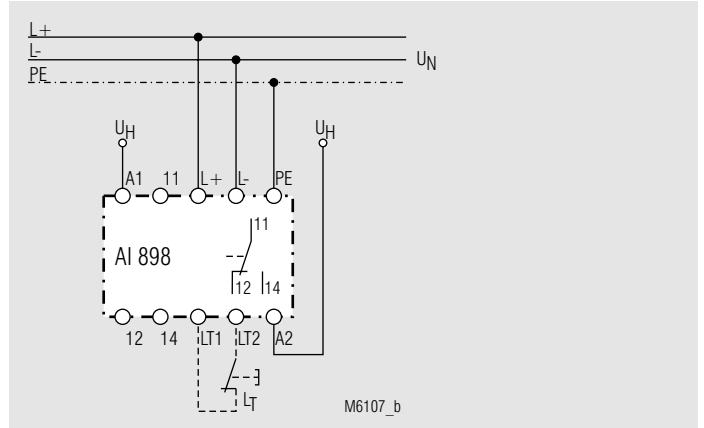
Variant

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