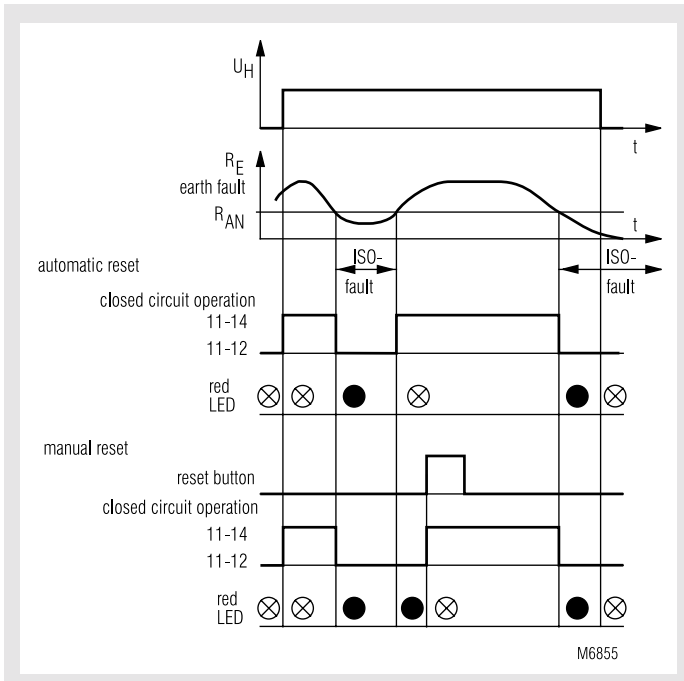


0225077



- According to VDE 0413
- For single- and 3-phase AC-voltage systems
- Adjustable response value R_{AN} from 10 ... 80 k Ω
- Without auxiliary supply
- 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
- External test button can be connected to PT1-PT2
- 1 changeover contact
- Width 45 mm

Function diagram



Approvals and marking



Applications

Monitoring of the resistance to earth in ungrounded single- and 3-phase-voltage systems.

Technical data

Measuring circuit

Nominal voltage U_N : AC 24, 42, 110, 127, 230, 400, 415, 500 V

Voltage range: 0,8 ... 1,1 U_N

Frequency range: 45 ... 400 Hz

Response value R_{AN} : 10 ... 80 k Ω

Setting R_{AN} : infinite variable with screwdriver equivalent to earth resistance

Internal test resistor: of < 10 k Ω

Internal AC resistance: > 200 k Ω

Internal DC resistance: > 200 k Ω

Measuring voltage: DC 18 V

Max. measuring current (RE = 0): < 0,1 mA

Max. permissible noise

DC voltage: DC 242 V

Operate delay

at $R_{AN} = 50$ k Ω , CE = 1 μ F

R_E from ∞ to 0,9 R_{AN} : < 4,2 s

R_E from ∞ to 0 k Ω : approx. 2 s

Hysteresis

at $R_{AN} = 50$ k Ω : approx. 50 %

Measuring error

at $R_{AN} = 50$ k Ω : < 15 %
ambient temperature -5 ... 50°C,
within the permitted voltage range

Nominal consumption: approx. 2,5 VA

Phase failure bridging: > 25 ms

Output

Contacts: 1 changeover contact

Max. switching voltage: AC 400 V

Thermal current I_{th} : 5 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

Technical data

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
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 20 / 060 / 04 EN 60 068-1	
Climate resistance:	EN 50 005	
Terminal designation:	EN 50 005	
Wire connection:	2 x 2,5 mm ² solid or 2 x 1,5 mm ² stranded wire 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:	220 g	

Dimensions

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

Standard type

AI 897 AC 230 V		
Article number:	0001037	stock item
• Nominal voltage U_N :	AC 230 V	
• Settable response value R_{AN} :	10 ... 80 k Ω	
• Width:	45 mm	

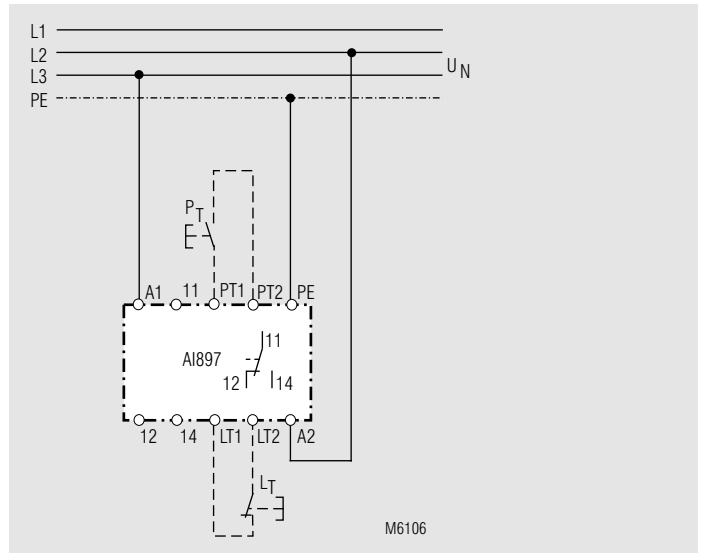
Variant

AI 897.07:	fixed response value between 10 and 80 k Ω , with internal test and reset button, LED indicator for earth fault
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Ordering example for Variant

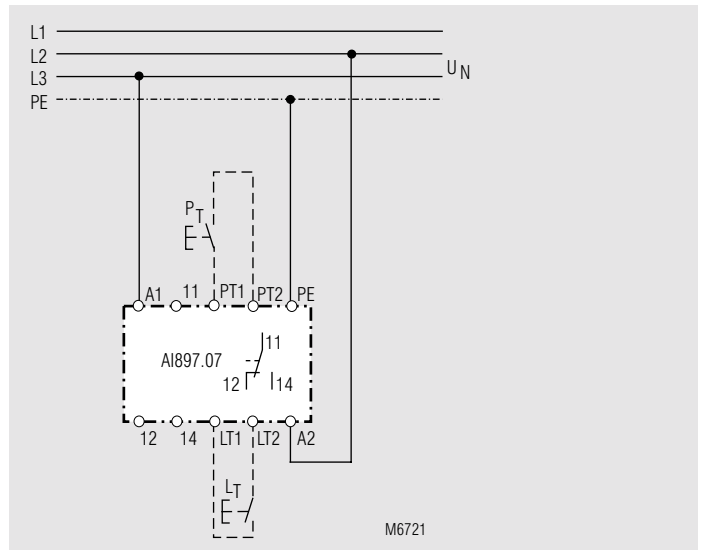
AI 897 .07 AC 500 V 50 k Ω	Response value
	Nominal voltage
	Variant, if required
	Type

Connection example



Connection example AI 897

A1/A2: $U_N = U_H$
 Bridge LT1/LT2: manual reset
 without Bridge LT1/LT2: automatic reset



Connection example AI 897.07

A1/A2: $U_N = U_H$
 Bridge LT1/LT2: automatic reset
 without Bridge LT1/LT2: manual reset