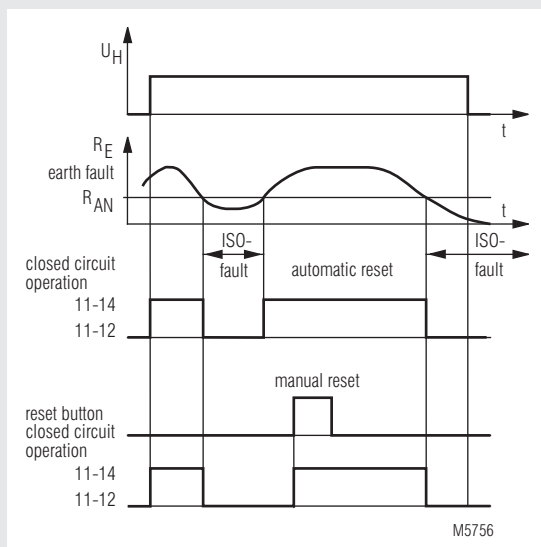




- According to IEC/EN 61 557
- For single- and 3-phase AC-voltage systems
- Adjustable response value R_{AN} from 10 ... 80 k Ω
- Without auxiliary supply
- Closed circuit operation
- Programmable for:
 - manual reset (bridge LT1-LT2)
 - automatic reset (without bridge)
- External reset button on LT1-LT2
- 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.

Notes

When monitoring 3-phase IT systems it is sufficient to connect the insulation monitor only to one phase. The 3-phases have a low resistive connection (approx. 3 - 5 Ω) via the feeding transformer. So failures that occur in the non-connected phases will also be detected.

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
Internal test resistor:	equivalent to earth resistance 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} :
	R_E from ∞ to 0 k Ω :
	< 4.2 s
	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
	approx. 2.5 VA
Nominal consumption:	
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
Short circuit strength	
max. fuse rating:	5 A gL
	IEC/EN 60 947-5-1
	IEC/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		
rated impuls 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 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 IEC/EN 60 999-1	
Mounting:	DIN rail IEC/EN 60 715	
Weight:	220 g	

Dimensions

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

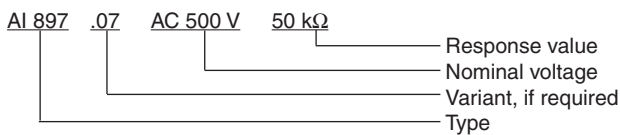
Standard type

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	

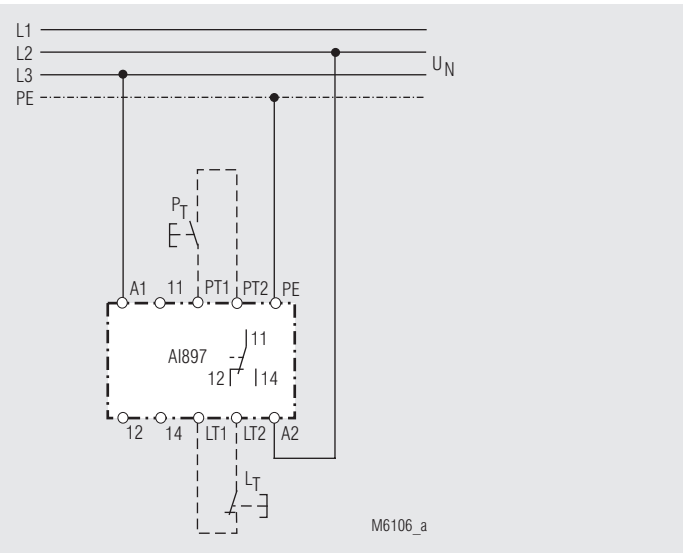
Variant

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

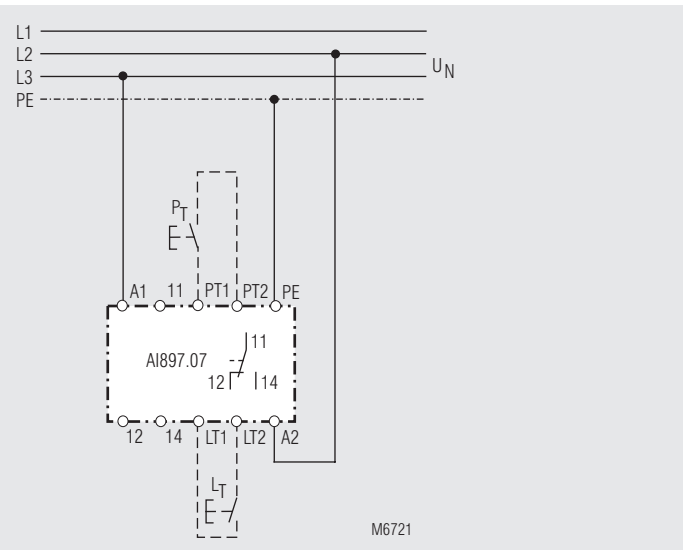


Connection example



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