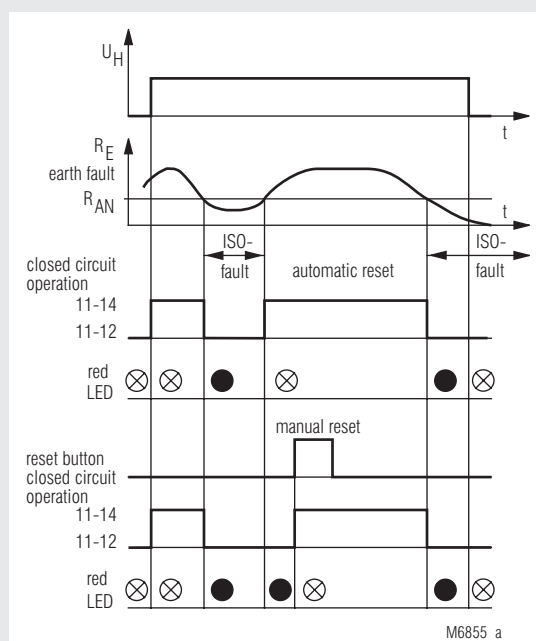


- According to IEC/EN 61 557
- For mixed AC - DC systems
- Fixed response value R_{AN}
- Programmable for:
 - manual reset (bridge X5 - LT1)
 - automatic reset (without bridge)
- Optionally with internal reset button
- External reset and test button can be connected
- Test button to check the function of the device
- LED indicator
- 1 changeover contact
- External connection of indicating instrument possible
- Closed circuit operation
- Optionally open closed circuit operation
- Width 100 mm

Function diagram



Approvals and marking



Applications

Monitoring of the resistance to earth in ungrounded mixed AC - DC systems

Indicators

LED chain: shows actual resistance to ground
red LED: on, when ground fault

Notes

The device can be connected on the AC or on DC side of a mixed voltage system and monitors the ground fault on the AC and also on the DC side with the same response sensitivity.

The AN 5890 connects an alternating measuring voltage to the monitored voltage system. This voltage has a low frequency with a time periode of 2 ... 16 sec. so that a fast changing mains voltage could lead to a fault. When the mains is back to normal this fault is reset.

Technical data

Auxiliary circuit

Auxiliary voltage U_{μ} : AC 230 V, others on request
Voltage range: 0,8 ... 1,2 U_N
Frequency range: 40 ... 400 Hz

Measuring circuit

Nominal voltage U_N : \leq DC 500 V / \leq AC 250 V
Voltage range: 0 ... 1,15 U_N
Frequency range: 40 ... 60 Hz
Response value R_{AN} : 50 k Ω , 10 ... 440 k Ω on request
Setting R_{AN} : fixed
Internal test resistor: 10 k Ω
Internal AC resistance: > 100 k Ω
Internal DC resistance: > 100 k Ω
Measuring voltage: approx. +/- 13 V
Max. measuring current (RE = 0): < 0,3 mA
Max. permissible noise DC voltage: DC 580 V
Measuring cycle internally adjustable: 2 ... 16 s
Line capacitance CE to ground: 1 ... 20 μ F
Factory setting: 2 s (for CE = 1 μ F)

Technical data

Operate delay

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

R_E from ∞ to $0,9 R_{AN}$: < 15 s

R_E from ∞ to $0 \text{ k}\Omega$: < 10 s

Hysteresis

at $R_{AN} = 50 \text{ k}\Omega$: approx. 5 %

Measuring error

at $R_{AN} = 50 \text{ k}\Omega$: < 10 %
ambient temperature -5 ... 50°C,
within the permitted voltage range
approx. 4 VA

Nominal consumption:

Phase failure bridging:

> 20 ms

Output

Contacts

AN 5890.11: 1 changeover contact

Max. switching voltage: AC 250 V

Thermal current I_{th} :

8 A

Switching capacity

to AC 15 NO contact: 3 A / AC 230 V IEC/EN 60 947-5-1

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

Short circuit strength

max. fuse rating: 6 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 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: 1 kV IEC/EN 61 000-4-5

between wire and ground: 2 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 IEC/EN 60 068-2-6

frequency 10 ... 55 Hz

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: 535 g

Dimensions

Width x height x depth: 100 x 78 x 115 mm

Standard type

AN 5890.11/102 DC 500 V, AC 230 V 50 k Ω

Article number: 0031248 stock item

• Output: 1 changeover contact

• Nominal voltage U_N : DC 500 V

• Auxiliary voltage U_H : AC 230 V

• Response value R_{AN} : 50 k Ω

• Closed circuit operation

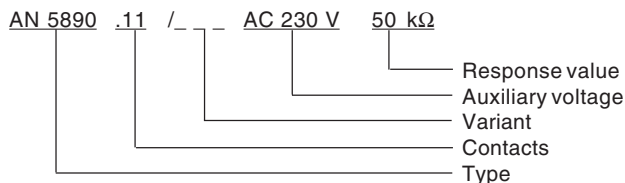
• With internal reset button

• Width: 100 mm

Variants

AN 5890.11/_01:	open circuit operation
AN 5890.11/_02:	closed circuit operation
AN 5890.11/10_:	with internal reset button
AN 5890.11/20_:	without internal reset button

Ordering example for Variants



Accessories

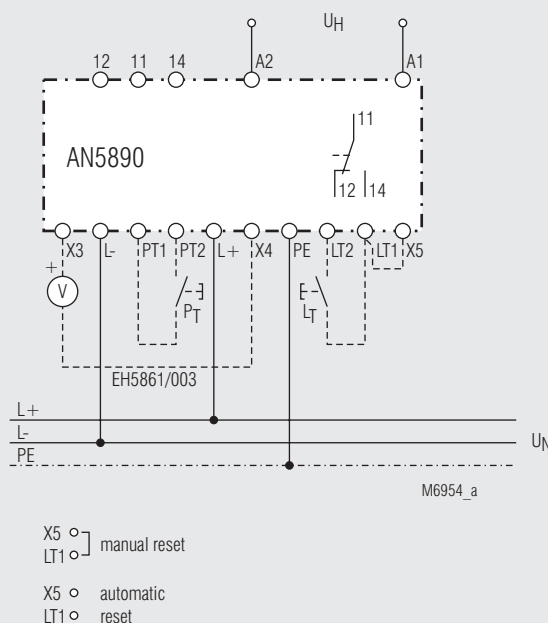
AG 5876.11/030:	pre-warning device
EH 5861/003:	indicating instrument, agree of protection: IP 52



The indicating device EH 5861 is externally connected to the insulation monitor and shows the actual insulation resistance of the voltage system to ground.

Dimensions:
Width x height x depth
96 x 96 x 52 mm

Connection example



L+/L-: U_N
A1/A2: U_H