

- According to IEC/EN 61 557
- For single- and 3-phase AC-voltage systems
- For medically used rooms (variant /107)
- Fixed response value R_{AN}
- Closed circuit operation
- Programmable for:
 - manual reset (bridge X5 - LT1)
 - automatic reset (without bridge)
- Reset button LT1
- Test button to check the function of the device
- External test and reset buttons can be connected
- LED indicators
- 1 changeover contact
- External connection of indicating instrument possible
- AN 5872: width 100 mm
- EH 5878: frontside 96 x 96 mm

Approvals and marking



Applications

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

Indicators

LED-chain: displays actual resistance to ground
 green LED: on, when resistance above response value
 red LED: on, when ground fault

Technical data

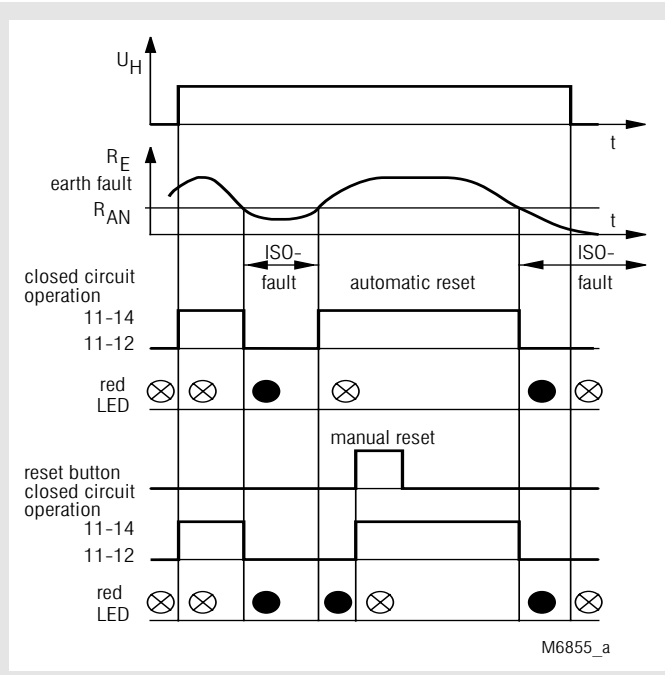
Auxiliary circuit

Auxiliary voltage U_H : AC 24, 42, 110, 230, 400 V or AC 24, 42, 230, 400, 500 V
Voltage range: 0,8 ... 1,2 U_N
Frequency range: 40 ... 400 Hz

Measuring circuit

Nominal voltage U_N : AC 0 ... 500 V
Voltage range: 0 ... 1,15 U_N
Frequency range: 40 ... 60 Hz
Response value R_{AN} : 50 k Ω , others on request
Setting R_{AN} : fixed
Internal test resistor: 10 k Ω
Internal AC resistance: > 400 k Ω
Internal DC resistance: > 30 k Ω
Measuring voltage: DC 15 V
Max. measuring current ($R_E = 0$): < 0,5 mA
Max. permissible noise DC voltage: DC 250 V
Operate delay
 at $R_{AN} = 50$ k Ω , $C_E = 1$ μ F
 R_E from ∞ to 0,9 R_{AN} : < 0,6 s
 R_E from ∞ to 0 k Ω : < 0,25 s
Hysteresis
 at $R_{AN} = 50$ k Ω : approx. 8 %
Measuring error
 at $R_{AN} = 50$ k Ω : < 10 %
 ambient temperature -5 ... 50°C,
 within the permitted voltage range
Nominal consumption: approx. 4 VA
Phase failure bridging: > 60 ms

Function diagram



Technical data

Output

Contacts

AN 5872.11, EH 5878.05: 1 changeover contact

Max. switching voltage: AC 250 V

Thermal current I_{th}

AN 5872: 8 A

EH 5878: 3 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

AN 5872: 6 A gL IEC/EN 60 947-5-1

EH 5878: 3 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

overvoltage category /

contamination level:

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

Housing: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

Degree of protection: Thermoplastic with V0 behaviour

according to UL subject 94

Housing: Amplitude 0,35 mm

Vibration resistance: frequency 10...55Hz IEC/EN 60 068-2-6

20 / 060 / 04 IEC/EN 60 068-1

Climate resistance: EN 50 005

Terminal designation:

Wire connection

AN 5872: 2 x 2,5 mm² solid or

2 x 1,5 mm² stranded wire with sleeve

DIN 46 228-1/-2/-3/-4

EH 5878: 1 x 2,5 mm²

DIN 46 228-1/-2/-3/-4

Wire fixing

AN 5872: Flat terminals with self-lifting

clamping piece IEC/EN 60 999-1

EH 5878: screw terminals with removable

terminal strips

Mounting

AN 5872: DIN rail IEC/EN 60 715

EH 5878: flush mounting

Weight

AN 5872: 695 g

EH 5878: 790 g

Dimensions

Width x height x depth

AN 5872: 100 x 78 x 115 mm

EH 5878: 96 x 96 x 111,5 mm

Panel cut-out

EH 5878: 92^{+0,8} x 92^{+0,8} mm

Standard types

AN 5872.11 AC 24, 42, 230, 400, 500 V 50 kΩ

Article number: 0031450 stock item

• Output: 1 changeover contact

• Auxiliary voltage U_{H1} : AC 24, 42, 230, 400, 500 V

• Response value R_{AN} : 50 kΩ

• Width: 100 mm

EH 5878.05 AC 24, 42, 110, 230, 400 V 50 kΩ

Article number: 0033168 stock item

• Output: 1 changeover contact

• Auxiliary voltage U_{H1} : AC 24, 42, 110, 230, 400 V

• Response value R_{AN} : 50 kΩ

• Frontside: 96 x 96 mm

Variants

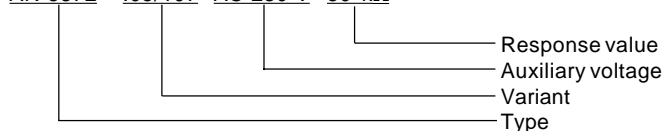
AN 5872.05/107,

EH 5878.05/107:

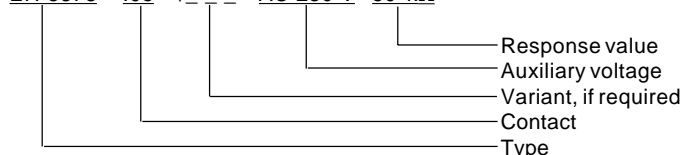
Especially to be used in medically use rooms. Complies to DIN VDE 0100-710 and is prepared to connect the external test and display panel OA 5802 with test and reset button.

Ordering example for Variants

AN 5872 .05/107 AC 230 V 50 kΩ



EH 5878 .05 / - - AC 230 V 50 kΩ



Accessories

AG 5876.11/010:

pre-warning device

OA 5862:

Test and display panel for AN 5872.05/107 and EH .../107

EH 5861/002:

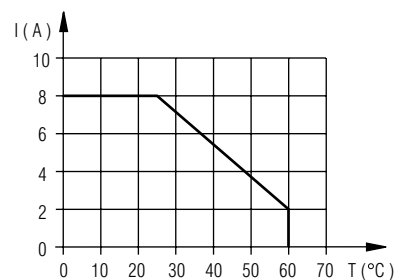
indicating instrument agree of protection: IP 52



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

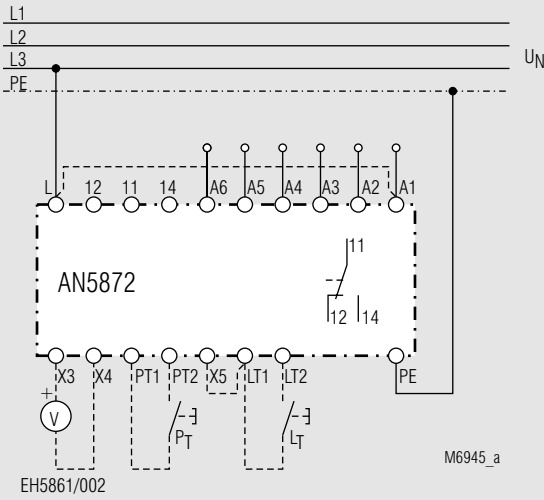
Characteristic



M6324

Continuous current limit curve for AN 5872

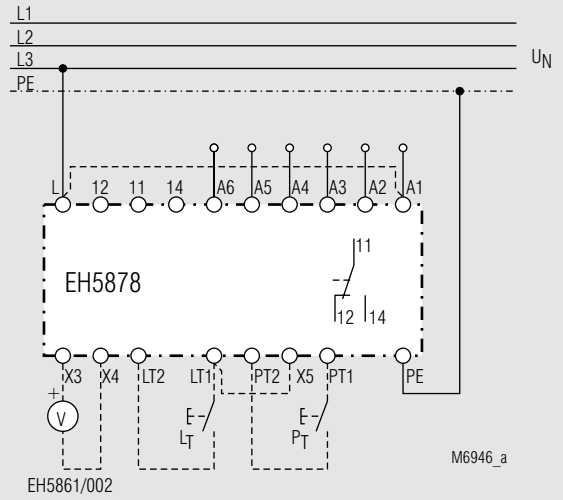
Connection examples



L	○	U _H =U _N	X5	○	manual reset	U _{H1} = A1/A2
A1	○	U _H ≠U _N	LT1	○	manual reset	U _{H2} = A1/A3
L	○	U _H ≠U _N	X5	○	automatic reset	U _{H3} = A1/A4
A1	○	U _H ≠U _N	LT1	○	automatic reset	U _{H4} = A1/A5
						U _{H5} = A1/A6

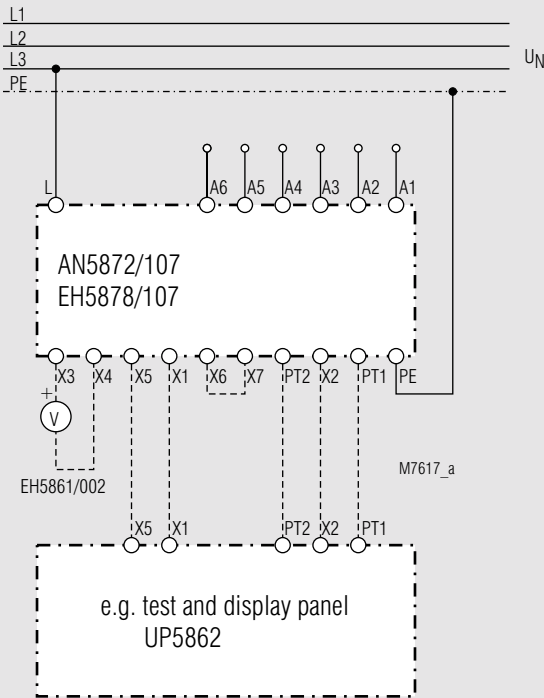
A1/A2: AC 24 or 24 V
 A1/A3: AC 42 or 42 V
 A1/A4: AC 110 or 230 V
 A1/A5: AC 230 or 400 V
 A1/A6: AC 400 or 500 V

Connection examples



L	○	U _H =U _N	X5	○	manual reset	U _{H1} = A1/A2
A1	○	U _H ≠U _N	LT1	○	manual reset	U _{H2} = A1/A3
L	○	U _H ≠U _N	X5	○	automatic reset	U _{H3} = A1/A4
A1	○	U _H ≠U _N	LT1	○	automatic reset	U _{H4} = A1/A5
						U _{H5} = A1/A6

A1/A2: AC 24 or 24 V
 A1/A3: AC 42 or 42 V
 A1/A4: AC 110 or 230 V
 A1/A5: AC 230 or 400 V
 A1/A6: AC 400 or 500 V



X6	○	manual reset	U _{H1} = A1/A2	U _{H4} = A1/A5
X7	○	manual reset	U _{H2} = A1/A3	U _{H5} = A1/A6
X6	○	automatic reset	U _{H3} = A1/A4	
X7	○	automatic reset		

Connection example AN 5872.05/107 with external test and display panel

A1/A2: AC 24 or 24 V
 A1/A3: AC 42 or 42 V
 A1/A4: AC 110 or 230 V
 A1/A5: AC 230 or 400 V
 A1/A6: AC 400 or 500 V

