

- 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

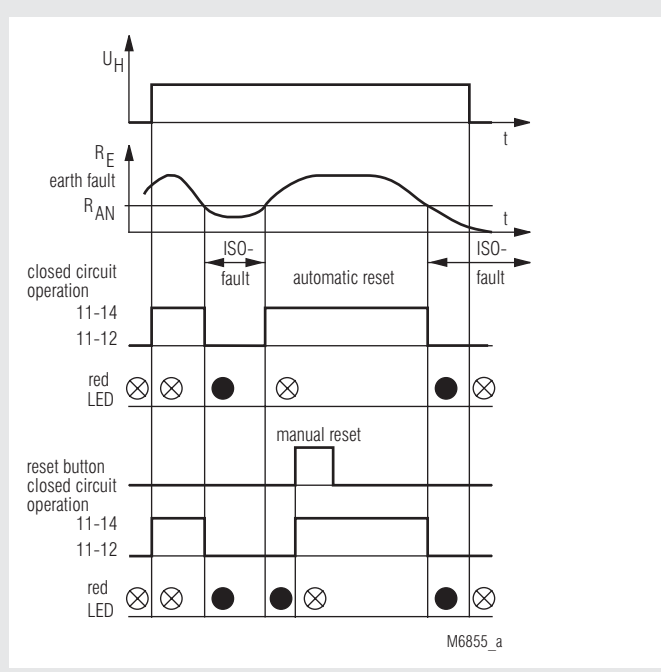
Approvals and marking



Application

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

Function diagram



Indicators

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

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

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 (RE = 0): < 0,5 mA
 Max. permissible noise DC voltage: DC 250 V

Technical data

Operate delay

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

R_E from ∞ to $0,9 R_{AN}$: < 0,6 s

R_E from ∞ to $0 \text{ k}\Omega$: < 0,25 s

Hysteresis

bei $R_{AN} = 50 \text{ k}\Omega$: ca. 8 %

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: > 60 ms

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 (ESD): 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: Housings: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

Housing: Thermoplastic with V0 behavior according to UL subject 94

Vibration resistance: Amplitude 0,35 mm frequency 10 ... 55 Hz, IEC/EN 60 068-2-6

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

EN 50 005

Terminal designation: DIN 46 228-1/-2/-3/-4

Wire connection

AN 5872: 2 x 2,5 mm² solid or

2 x 1,5 mm² stranded wire with sleeve

1 x 2,5 mm²

EH 5878: Flat terminals with self-lifting

clamping piece IEC/EN 60 999-1

EH 5878: Srew 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_H : 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

Artikelnummer: 0033168 stock item

• Output: 1 Wechsler

• Auxiliary voltage U_H : AC 24, 42, 110, 230, 400 V

• Response value R_{AN} : 50 kΩ

• Frontside: 96 x 96 mm

Variants

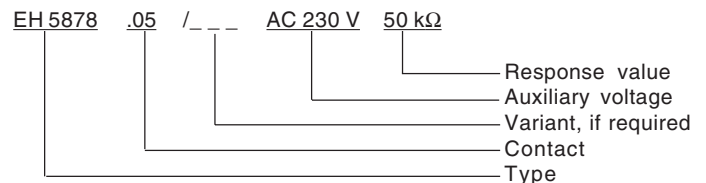
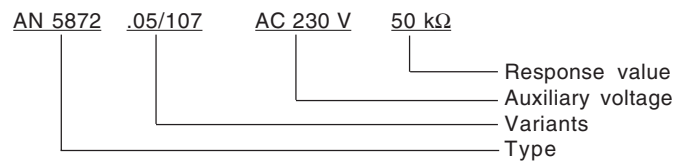
AN 5872.05/107,

EH 5878.05/107:

Especially to be used in medically use rooms.

Is prepared to connect the external test and display panel UP 5862 with test and reset button

Ordering example for Variants



Zubehör

AG 5876.11/010:

UP 5862:

pre-waring device

Test and display panel for

AN 5872.05/107 and EH /107

EH 5861/002:

indicating instrument

degree of protection: IP 52



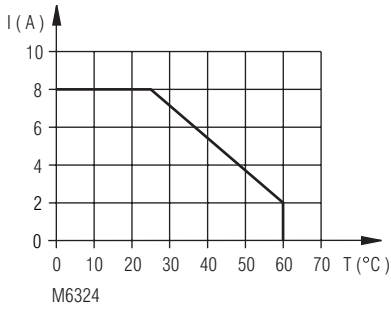
The indicating device EH 5861 is externally connected to the insulation monitor and shows the actual insulation resistance of the voltage systems to ground.

Dimensions:

Width x height x depth

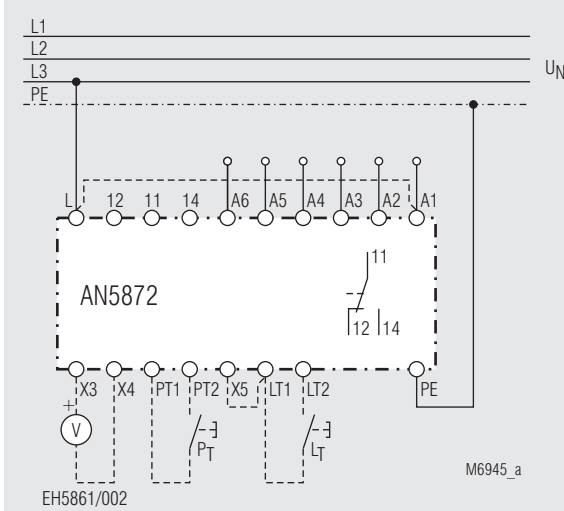
96 x 96 x 52

Characteristic



Continuous current limit curve for AN 5872

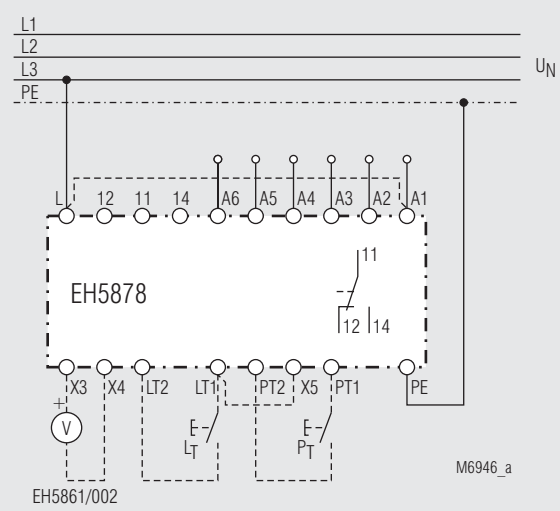
Connection examples



L	○	$U_H = U_N$	X5	○	manual reset	$U_{H1} = A1/A2$
A1	○	$U_H = U_N$	LT1	○		$U_{H2} = A1/A3$
L	○	$U_H \neq U_N$	X5	○	automatic reset	$U_{H3} = A1/A4$
A1	○	$U_H \neq U_N$	LT1	○		$U_{H4} = A1/A5$
						$U_{H5} = A1/A6$

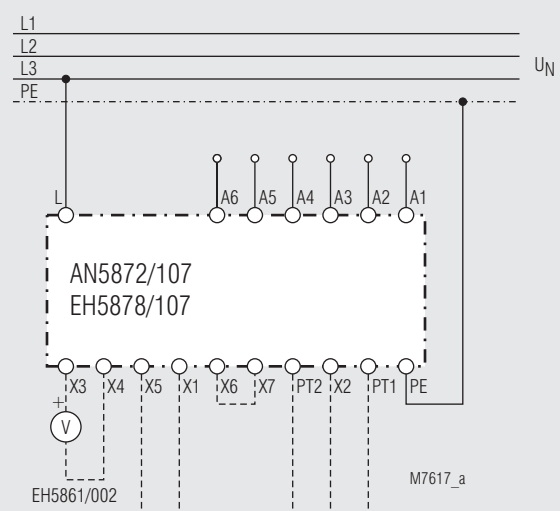
- A1/A2: AC 24 or 24 V
- A1/A3: AC 42 or 42 V
- A1/A4: AC110 or 230 V
- A1/A5: AC230 or 400 V
- A1/A6: AC400 or 500 V

Connection examples



L	○	$U_H = U_N$	X5	○	manual reset	$U_{H1} = A1/A2$
A1	○	$U_H = U_N$	LT1	○		$U_{H2} = A1/A3$
L	○	$U_H \neq U_N$	X5	○	automatic reset	$U_{H3} = A1/A4$
A1	○	$U_H \neq U_N$	LT1	○		$U_{H4} = A1/A5$
						$U_{H5} = A1/A6$

- A1/A2: AC 24 or 24 V
- A1/A3: AC 42 or 42 V
- A1/A4: AC110 or 230 V
- A1/A5: AC230 or 400 V
- A1/A6: AC400 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: AC110 or 230 V
- A1/A5: AC230 or 400 V
- A1/A6: AC400 or 500 V

