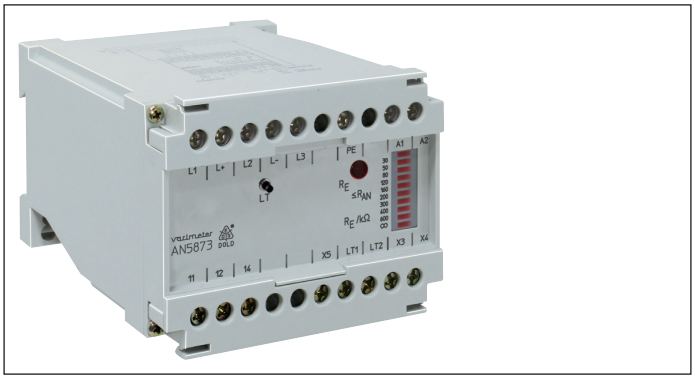
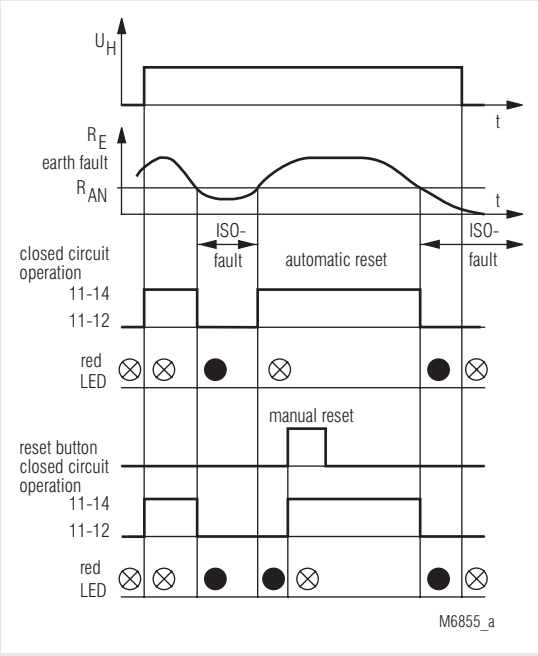
VARIMETER IMD
Insulation Monitor
AN 5873

0225267



- According to IEC/EN 61 557-8
- For mixed AC - DC systems
- Fixed response value R_{AN}
- Optionally open or closed circuit operation
- Programmable for:
  - manual reset (bridge X5 - LT1)
  - automatic reset (without bridge)
- Internal reset button
- External reset and test button can be connected
- LED indicator
- 1 changeover contact
- External connection of indicating instrument possible
- Width 100 mm

Function Diagram



Approvals and Markings

CE

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. When connected on the AC side, the unit requires 3-phase connection.
The AN 5873 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.
In one voltage system only one Insulation monitor must be connected. This has to be observed when coupling voltage system.

Technical Data

Auxiliary circuit

Auxiliary voltage U_H:	AC 230, others on request
Voltage range:	0.8 ... 1.2 U_N
Frequency range:	40 ... 400 Hz

Measuring Circuit

Nominal voltage U_N:	3 AC 24 ... 690 V / ≤ DC 1 000 V
Voltage range:	0.8 ... 1.15 U_N / 0 ... 1.15 U_N
Frequency range:	40 ... 60 Hz
Response value R_{AN}:	50 kΩ, 10 ... 440 kΩ on request
Setting R_{AN}:	fixed
Internal AC resistance:	> 350 kΩ
Internal DC resistance:	> 350 kΩ
Measuring voltage:	approx. +/- 13 V
Max. measuring current (RE = 0):	< 0.3 mA
Max. permissible noise DC voltage:	DC 1000 V
Measuring cycle internally adjustable:	2 ... 16 s
Line capacitance CE to ground:	1 ... 20 µF
factory setting:	2 s (for CE = 1 µF)

Technical Data

Operate delay
at R_{AN} = 50 kΩ, CE = 1 µF
R_E from ∞ to 0.9 R_{AN}: < 15 s
R_E from ∞ to 0 kΩ: < 10 s
Hysteresis
at R_{AN} = 50 kΩ: approx. 5 %
Measuring error
at R_{AN} = 50 kΩ: < 10 %
ambient temperature -5 ... 50°C,
within the permitted voltage range
Nominal consumption: approx. 4 VA
Phase failure bridging: > 40 ms

Output

Contacts
AN 5873.11: 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 impulse 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 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: 500 g

Dimensions

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

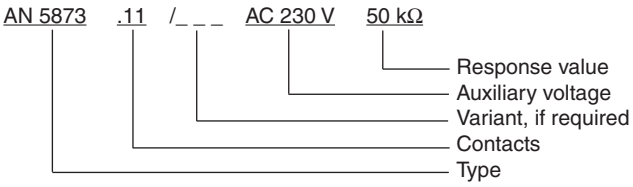
Standard Type

AN 5873.11/102 AC230 V 50 kΩ
Article number: 0032573 stock item
- Output: 1 changeover contact
- Auxiliary voltage U_H: AC 230 V
- Response value R_{AN}: 50 kΩ
- Closed circuit operation
- Width: 100 mm

Variants

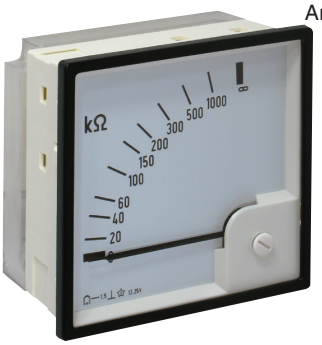
AN 5873.11/101: open circuit operation
AN 5873.11/102: closed circuit operation

Ordering example for variants



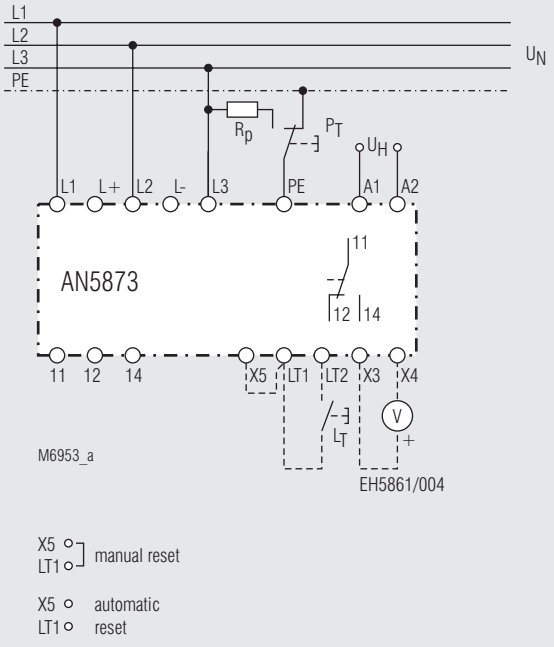
Accessories

AG 5876.11/031: pre-warning device
EH 5861/004: indicating instrument,
degree of protection: IP 52
Article number: 0030618



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



L1/L2/L3 or L+/L-: U_N
A1/A2: U_H