**Monitoring Technique**

VARIMETER IMD
Insulation Monitoring Relay
BD 5877/241

- According to IEC/EN 61557
- Setting range 200 kΩ to 2 MΩ
- LED indicators
- Output: 1 NO contact
- De-energized on trip
- Test button for function check
- Reset button
- Input for voltage detection
- Manual reset available by bridge
- Width 45 mm

**Function Diagram**

**Approvals and Markings**

Applications

Monitors the insulation of motors including connection wires during standby. E.g. for submerged pumps or smoke exhaust fans according to the French standard NFS 61.937 page 13 Add.A. The motor is monitored in disconnected state.

**Indicators**

Green LED: Auxiliary supply connected
Red LED: Insulation resistance to low
Yellow LED: Measurement disabled

**Notes**

As the fault detection can only be active in voltage free state, the unit has an additional voltage detection. If on input L/L* the voltage rises above AC 160 V the measuring input is disconnected and the detection is inactive (yellow LED). An insulation failure on input L / L* is stored and can be reset with button LT or by disconnecting the power. With an external bridge the function can be altered between manual or automatic reset. A fault can be simulated with button PT.

**Technical Data**

**Auxiliary Circuit**

Auxiliary voltage $U_a$: AC 400 V
(others voltages on request)
Voltage range: 0,8 ... 1,1 $U_a$
Nominal consumption: Approx. 2,5 VA
Frequency range: 40 ... 60 Hz

**Measuring Circuit**

Setting range: 200 kΩ ... 2 MΩ
Setting $R_{an}$: Infinite on relative scale
Hysteresis: > 10 %
Voltage detection: 160 V (at 400 V-model)
Test resistance: 150 kΩ
Internal AC resistance: > 300 kΩ
Internal DC resistance: > 30 kΩ
Measuring voltage: DC 15 V
Max. measuring current ($R_e = 0$): < 0,5 mA
Max. permitted DC voltage: DC 250 V
Operate delay $R_e$ from $= 0$, $R_{an}$: Approx. 3 s
$R_e$ from $= 0$ kΩ: < 0,3 s

Translation of the original instructions

All Technical Data in this list relate to the state at the moment of edition. We reserve the right for technical improvements and changes at any time.
Technical Data

Output

Contacts
BD 5877.01/241: 1 NO contact
Thermal current Iₜₐₜ: 6 A (see continuous current limit curve)

Switching capacity
To AC 15
NO contact: 3 A / AC 230 V  IEC/EN 60947-5-1

Electrical life
To AC 15 at 1 A, AC 230 V: 1,5 x 10⁶ switching cycles  IEC/EN 60947-5-1
Short circuit strength
max. fuse rating: 6 A gG / gl  IEC/EN 60947-5-1
Mechanical life: 30 x 10⁶ switching cycles

General Data

Operating mode: Continuous operation
Temperature range: -30 ... +60°C ...
... +70°C for max. 1 h

Clearance and creepage distances
Rated impulse voltage / pollution degree: 4 kV / 2  IEC 60664-1

EMC
Electrostatic discharge: 8 kV (air)  IEC/EN 61000-4-2
Fast transients: 1 kV  IEC/EN 61000-4-4
Surge voltages
Between wires for power supply: 2 kV  IEC/EN 61000-4-5
Between wire and ground: 4 kV  IEC/EN 61000-4-5

Interference suppression: Limit value class B EN 55011

Degree of protection
Housing: IP 40  IEC/EN 60529
Terminals: IP 20  IEC/EN 60529

Housing: Thermoplastic with V0 behaviour according to UL subject 94

Vibration resistance:
Amplitude 0.35 mm  IEC/EN 60068-2-6
frequency 10 ... 55 Hz

Climate resistance:
30 / 060 / 04  IEC/EN 60068-1

Terminal designation:
EN 50005

Wire connection:
1 x 4 mm² solid or 2 x 1.5 mm² stranded ferruled
DIN 46228-1/-2/-3/-4

Wire fixing:
Flat terminals with self-lifting clamping piece  IEC/EN 60999-1

Mounting:
DIN rail  IEC/EN 60715

Weight:
450 g

Dimensions

Width x height x depth: 45 x 74 x 131 mm

Standard Type

BD 5877.01/241  AC 400 V  200 kΩ ... 2 MΩ
Article number: 0051266
Output: 1 NO contact
Auxiliary voltage Uₜₜ: AC 400 V
Width: 45 mm

Application Example

Continuous current limit curve

Setting diagram

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