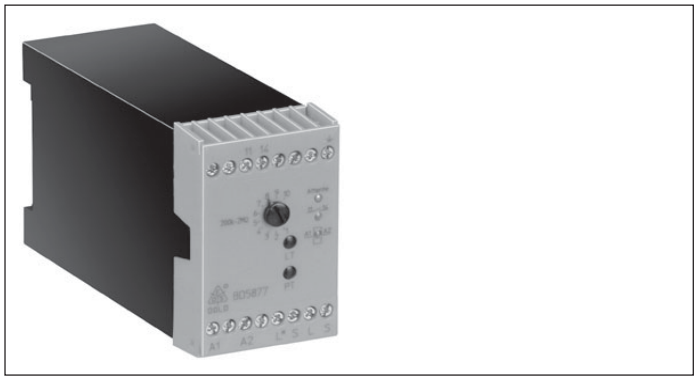
Monitoring technique

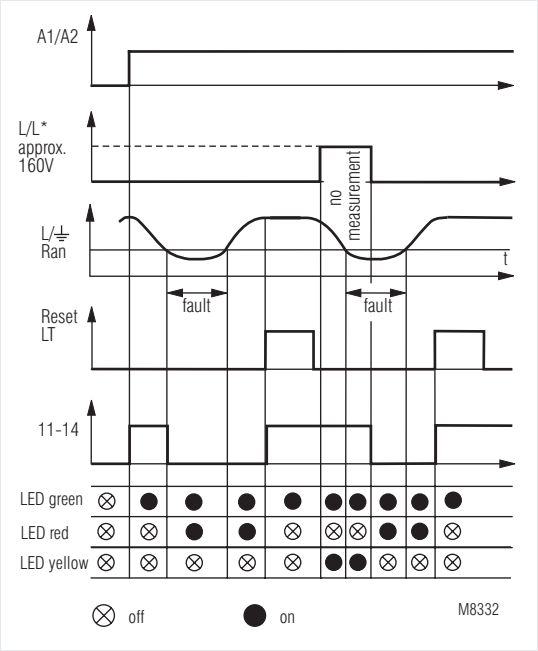
Insulation Monitoring relay BD 5877/241 varimeter

0233799

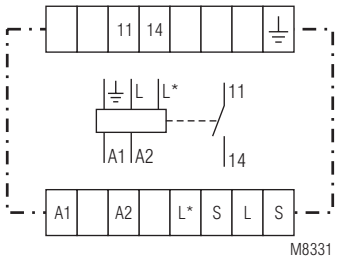


- According to IEC/EN 61 557
- Setting range 200 kΩ to 2 MΩ
- LED indicators
- Output: 1 NO contact
- De-energised on trip
- Test button for function check
- Reset button
- Input for voltage detection
- Manual reset available by bridge
- Width 45 mm

Function diagram



Circuit diagram



BD5877.01/241

Approvals and marking

CE

Applications

Monitors the insulation of motors including connection wires during stand-by. 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 / ⏚ 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_H:	AC 400 V (other voltages on request)
Voltage range:	0,8 ... 1,1 U_N
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 ∞ to 0,9 R_{AN}:	approx. 3 s
R_E from ∞ to 0 kΩ:	< 0,3 s

Technical data

Output

Contacts

BA 5877.01/241:	1 NO contact	
Thermal current I_{th}:	6 A (see continuous current limit curve)	
Switching capacity		
to AC 15		
NO contact:	3 A / AC 230 V	IEC/EN 60 947-5-1
Electrical life		
to AC 15 at 1 A, AC 230 V:	1,5 x 10^5 switching cycles	IEC/EN 60 947-5-1
Short circuit strength		
max. fuse rating:	6 A gL	IEC/EN 60 947-5-1
Mechanical life:	30 x 10^6 switching cycles	

General data

Operating mode:	Continuous operation	
Temperature range:	- 30 ... + 60°C ... + 70°C for max. 1 h	
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:	1 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:	Thermpolastic with V0 behaviour according to UL subject 94	
Vibration resistance:	Amplitude 0,35 mm frequency 10 ... 55 Hz	IEC/EN 60 068-2-6
Climate resistance:	30 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	1 x 4 mm² solid or 2 x 1,5 mm² stranded ferruled 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:	450 g	

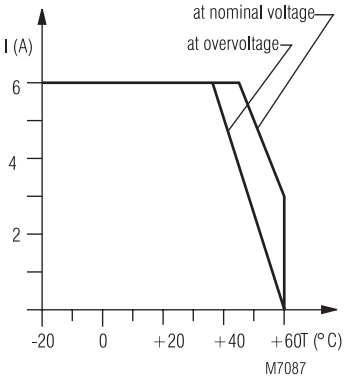
Dimensions

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

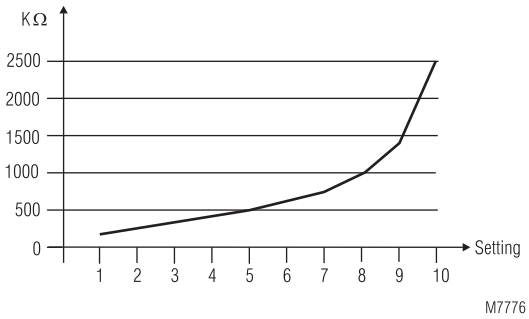
Standard type

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

Characteristics



Continuous current limit curve



Setting diagram

Application example