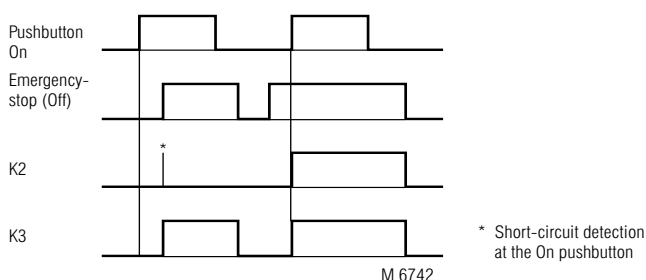


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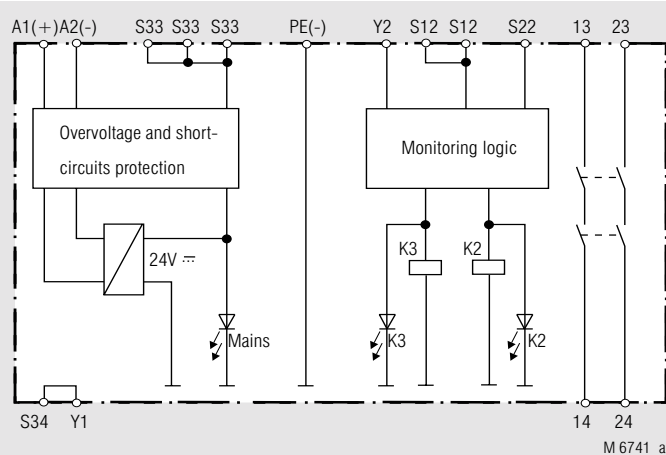


- According to VDE 0116
- Device diversity
- Output: 2 NO contacts for AC 250 V
- Gold-plated contacts to switch small loads (input for PLC)
- 1-channel or 2-channel connection
- Line fault detection on On pushbutton
- Operating state display
- LED display for channels 1 and 2 and Netz
- Overvoltage and short circuit protection
- Wire connection: also 2 x 1,5 mm² stranded ferruled (isolated), DIN 46 228-4 or 2 x 2,5 mm² stranded ferruled DIN 46 228-1/-2/-3
- Width 45 mm

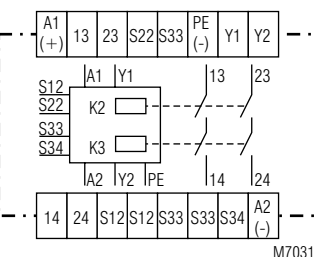
Function diagram



Block diagram



Circuit diagram



Approvals and markings



Applications

Safety shutdown of furnace installations

Indication

LED power supply:	on when operating voltage present
LED K2:	on when supply on relay K2
LED K3:	on when supply on relay K3

Notes

Line fault detection at the On pushbutton:
The output contacts cannot be closed if the On pushbutton is already closed before the voltage is applied to S12, S22 (also in the event of a line fault at the On pushbutton).
A line fault at the On pushbutton which occurs after activation of the device is recognized when switching-on takes place again and closing of the output contacts is then prevented.
If a line fault occurs at the On pushbutton after the voltage is already present at S12, S22 undesired activation will take place, because this line fault does not differ from the normal closing function.
The gold-plated contacts of the BD 5937 mean that this module is also suitable for switching small loads of 1 mVA ... 7 VA, 1 mW ... 7 W in the range 0,1 ... 60 V, 1 ... 300 mA. The contacts also permit the maximum switching current. However, since the gold plating will be burnt off at this current level, the device is no longer suitable for switching small loads after this.
The PE terminal permits operation of the device in IT systems with insulation monitoring and also serves as a reference point for testing the control voltage. The internal short-circuit protection will be bridged on DC devices, if the protective ground is connected to terminal PE.

Technical data	
Input	
Nominal voltage U_N:	AC 24, 48, 110, 127, 230, 240 V DC 24 V
Voltage range:	AC 0,8 ... 1,1 U _N
at 10% residual ripple:	DC 0,9 ... 1,2 U _N
at 48% residual ripple:	DC 0,8 ... 1,1 U _N
Nominal consumption:	approx. 3 VA
Nominal frequency:	50 / 60 Hz
Control voltage at S33:	typ. DC 24 V
Control current:	typ. DC 55 mA
Minimum voltage at terminals S12, S22:	DC 21 V with activated device
Recovery time:	0,5 s; A minimum switch-off time of 5 s must be observed if the line fault monitoring function at the On push button is active

Output

Contacts	BD 5937.02: 2 NO contacts	
Operate / release time:	max. 100 ms / max. 20 ms	
Contact type:	Relay, positively-driven	
Nominal output voltage:	AC 250 V DC: see limit curve for arc-free operation see continuous current limit curve (max. 6 A in one contact path)	
Thermal current I_{th}:		
Switching capacity		
to AC 15		
NO contact:	3 A / AC 230 V	EN 60 947-5-1
Electrical life:		
to AC 15 at 3 A, AC 230 V	10 ⁵ switching cycles	EN 60 947-5-1
Permissible operating frequency:	6 000 switching cycles / h	
Short circuit strength		
max. fuse rating:	6 A gL	EN 60 947-5-1
max. line circuit breaker:	C 10 A	
Mechanical life:	10 x 10 ⁶ switching cycles	

General data

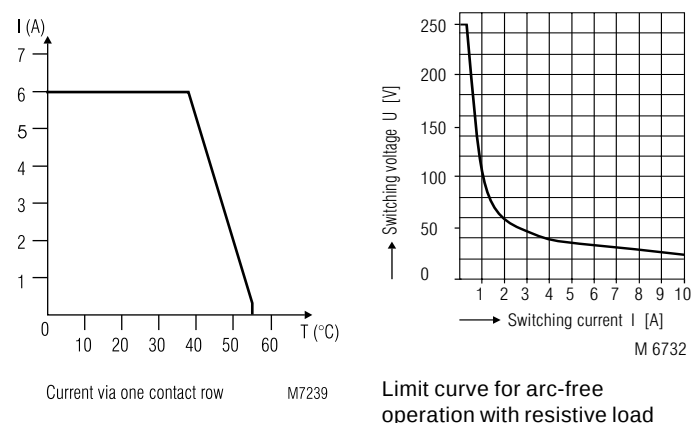
Operating mode:	Continuous operation	
Temperature range:	- 15 ... + 55 °C at max. 90 % humidity	
Clearance and creepage distances		
overvoltage category / contamination level:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	EN 61 000-4-2
HF irradiation:	10 V / m	EN 61 000-4-3
Fast transients:	2 kV	EN 61 000-4-4
Surge voltages		
between		
wires for power supply:	2 kV	EN 61 000-4-5
between wire and ground:	4 kV	EN 61 000-4-5
Interference suppression:	Limit value class B	EN 55011
Degree of protection:	Housing: IP 40	EN 60 529
	Terminals: IP 20	EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94	
Vibration resistance:	Amplitude 0,35 mm	EN 60 068-2-6
	frequency 10 ... 55 Hz	
Climate resistance:	15 / 055 / 04	EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	1 x 4 mm ² solid or 1 x 2,5 mm ² stranded ferruled (isolated) or 2 x 1,5 mm ² stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2,5 mm ² stranded ferruled DIN 46 228-1/-2/-3	
Wire fixing:	Plus-minus terminal screws M 3,5, box terminal with wire protection	
Mounting:	DIN rail	
Weight:	440 g	

Technical data	
Dimensions	
Width x height x depth:	45 x 74 x 121 mm
Standard type	
BD 5937.02 DC 24 V	
Article number:	0040919 stock item
• Output:	2 NO contacts
• Nominal voltage U _N :	DC 24 V
• Width:	45 mm

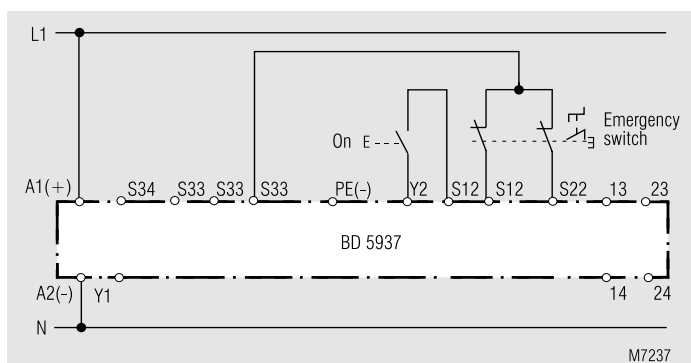
Ordering example

BD 5937.02	AC 230 V	50/60 Hz	
			Nominal frequency
			Nominal voltage
			Type

Characteristics



Application example



Two-channel safety shutdown.
Terminals S12 and S22 must be jumpered in the case of one-channel control.