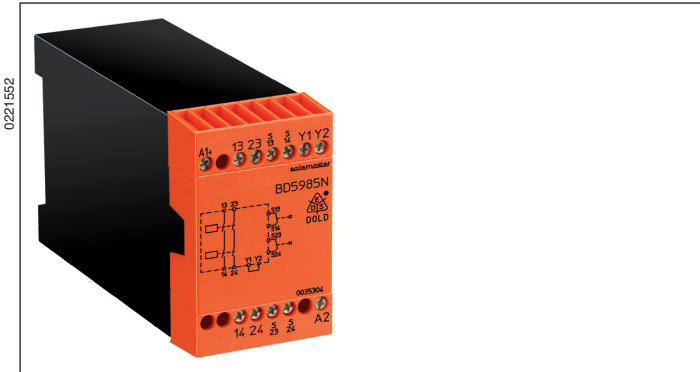
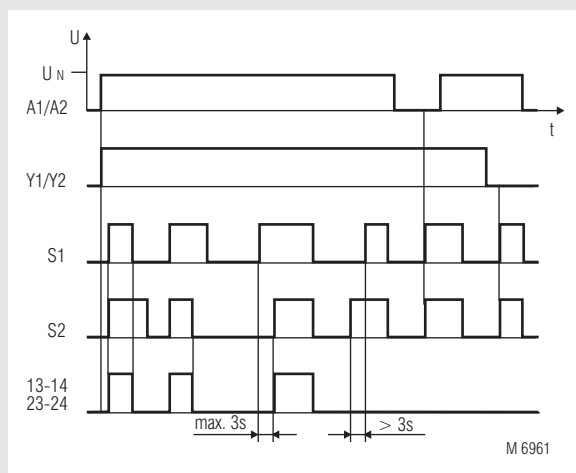


Safety gate monitor BD 5985N SAFEMASTER®



- According to EN 62 061, DIN EN ISO 13 849-1
- Category 4 according to EN 954-1
- Inputs for 2 position switches
- Output: 2 NO contacts for AC 250 V
- Gold-plated contacts to switch small loads (input for PLC)
- Monitoring of external contactors for contact multiplication / reinforcement via feedback circuit
- Overvoltage and short circuit protection
- Wire connection: also 2 x 1,5 mm² stranded ferruled (isolated), DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm² stranded ferruled DIN 46 228-1/-2/-3
- Width 45 mm

Function diagram



Approvals and marking



For the existing BG certificate DOLD has not demanded for an extension. There has not been made any changes on the product since then.

* see variants

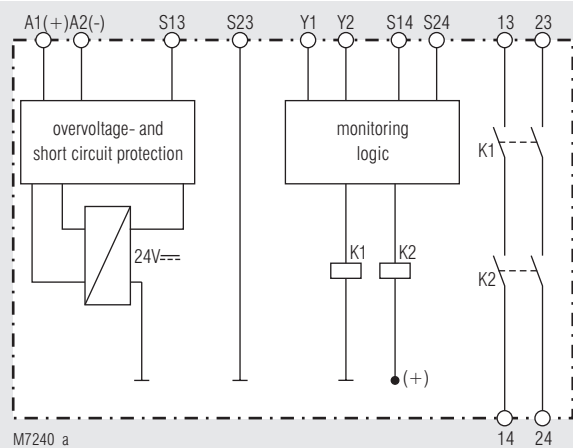
Applications

Monitoring of status of position switches on a safety gate

Notes

On closed gate the contacts of the position switches must be closed. The gold-plated contacts of the BD 5985N 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. One or more extension modules BN 5989 or external contactors with positively-driven contacts may be used to multiply the number of contacts of the safety gate monitor BN 5985N.

Block diagram



Technical Data

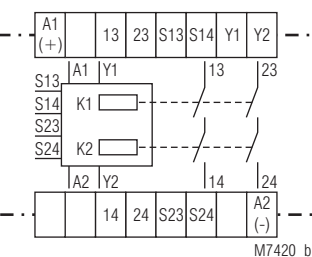
Input

Nominal voltage U_N:	DC 24 V, AC 24, 42, 110, 230, 240 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:	AC 24 ... 230 V 4.0 VA
	DC 24 V 2.5 W
Nominal frequency:	50 / 60 Hz
Delay time for simultaneity demand:	max. 3 s
Recovery time:	1 s
Control contacts:	2 x 1 NO contacts
Control contact load:	DC 30 V / 10 mA
Device fuse protection:	internal with PTC

Output

Contacts	2 NO contacts
BD 5985N.02:	typ. 30 ms / typ. 30 ms
Operate / release time:	Relay, positively-driven
Contact type:	AC 250 V
Nominal output voltage:	DC: see limit curve for arc-free operation
Thermal current I_{th}:	see continuous current limit curve (max. 10 A in one contact path)
Switching capacity	
to AC 15:	5 A / AC 230 V IEC/EN 60 947-5-1
Electrical life	
to AC 15 at 2 A, AC 230 V:	10 ⁵ switching cycles IEC/EN 60 947-5-1

Circuit diagram



Technical Data

Permissible operating frequency:	max. 360 switching cycles / h	
Short circuit strength		
max. fuse rating:	6 A gL	IEC/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	
Clearance and creepage distances		
rated impuls voltage / pollution degree:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
HF irradiation:	10 V / m	IEC/EN 61 000-4-3
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
HF-irradiation:	10 V	IEC/EN 61 000-4-6
Interference suppression:	Limit value class B	EN 55 011
Degree of protection		
Housing:	IP 40	IEC/EN 60 529
Terminal plate:	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:	15 / 055 / 04	IEC/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 M3.5, box terminal with wire protection	
Mounting:	DIN rail IEC/EN 60 715	
Weight:	450 g	

Dimensions

Width x height x depth: 45 x 74 x 121 mm

Safety related data



Safety data for other variants are available on request

Standard type

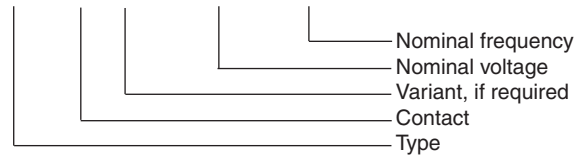
BD 5985N.02 DC 24 V		
Article number:	0035304	stock item
• Output:	2 NO contacts	
• Nominal voltage U _N :	DC 24 V	
• Width:	45 mm	

Variant

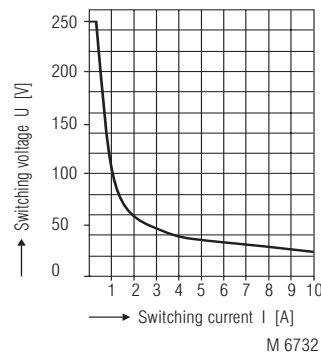
BD 5985N.02/61: with UL approval (Canada/USA)

Ordering example for Variant

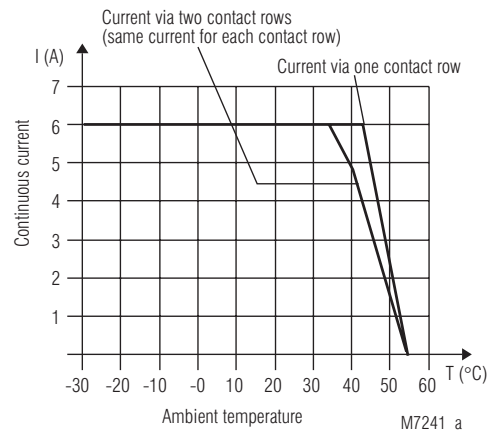
BD 5985N .02 /61 AC 230 V 50/60 Hz



Characteristics

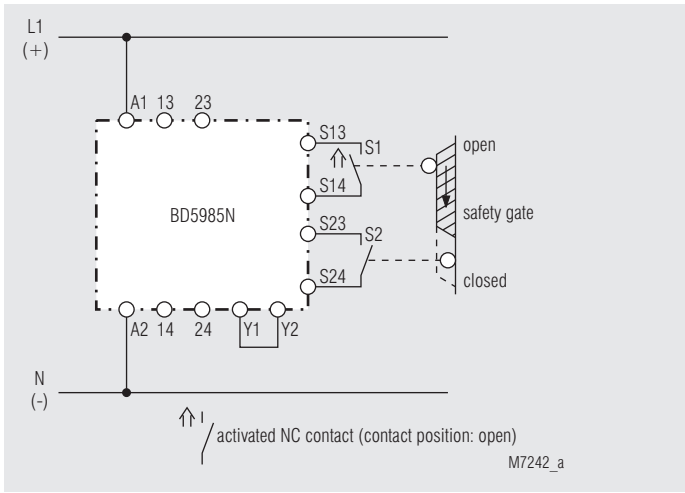


Limit curve for arc-free operation with resistive load

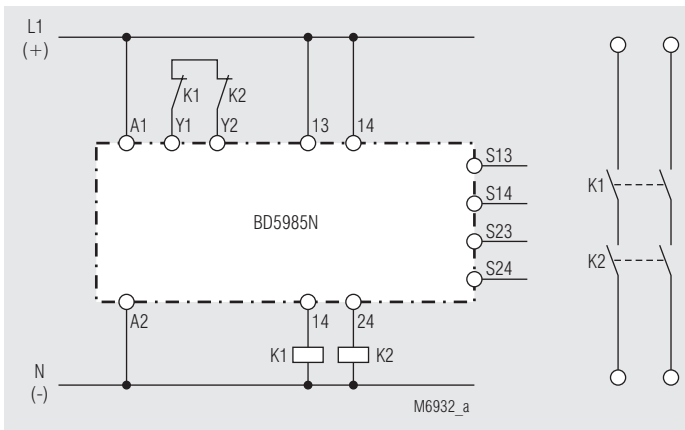


Continuous current limit curves as a function of ambient temperature

Application examples



Two-channel safety gate monitoring



Contact multiplication via external positively-driven contactors

