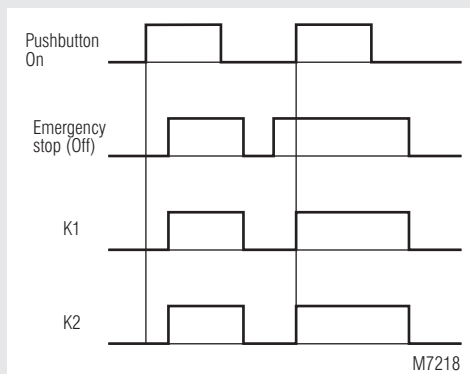


Emergency stop module BE 5982 SAFEMASTER®



- According to
 - SIL-Claimed Level (SIL CL) 3 to EN 62061
 - Performance Level (PL) e to DIN EN ISO 13849-1
 - Category 4 to EN 954-1
- Output: 2 NO contacts for AC 250 V
- Single-channel emergency stop circuit
- LED indication for channels 1 / 2 and operating state
- 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 22.5 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.

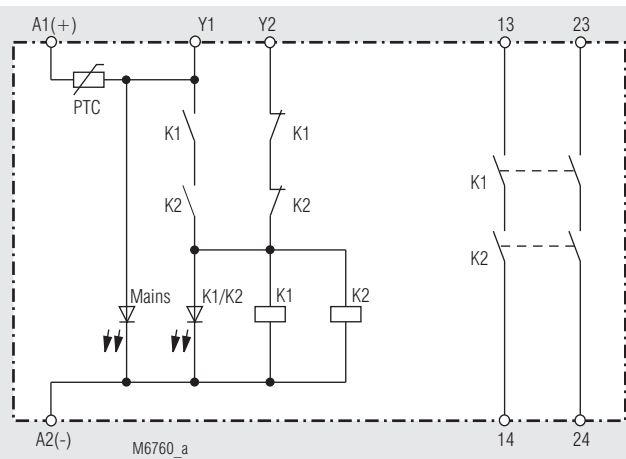
Application

- Protection of persons and machines
- Emergency stop circuits on machines

Indication

LED power supply: on when operating voltage present
LED K1/K2: on when output relays K1, K2 are energized

Block diagram



Notes

Only for BE 5982.02/004:

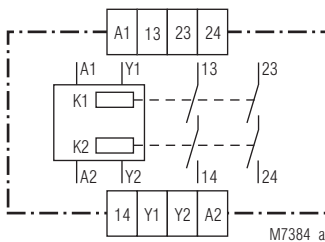
The gold-plated contacts of the BE 5982.02/004 mean that this module is also suitable for switching small loads of 1 mVA ... 7 VA, 1 mW ... 7 W in the range 0.1 ... 60 V, 1 ... 300 mA. The contacts also permit the maximum switching current. However, since the gold plating will be burnt off at this current level, the device is no longer suitable for switching small loads after this.

ATTENTION - AUTOMATIC START!



According to IEC/EN 60 204-1 part 9.2.5.4.2 it is not allowed to restart automatically after emergency stop. Therefore the machine control has to disable the automatic start after emergency stop.

Circuit diagram



Technical Data

Input

Nominal voltage U_N:	DC 24 V
Voltage range	
at 10 % residual ripple:	DC 0.9 ... 1.1 U_N
at 48 % residual ripple:	DC 0.8 ... 1.1 U_N
Nominal consumption:	approx. 1.6 W
Control voltage Y1:	DC 24 V
Control current:	typ. DC 45 mA
Recovery time:	0.5 s

Output

Contacts	
BE 5982.02:	2 NO contacts
	The NO contacts are safety contacts.
Response time:	max. 100 ms
Release time:	max. 35 ms
Contact type:	Relay, positively driven
Output rated voltage:	AC 250 V
Thermal current I_{th}:	see continuous limit curve (max. 6 A in one contact path)
Switching capacity	
to AC 15:	5 A / AC 230 V IEC/EN 60 947-5-1 for NO contact
	2 A / AC 230 V IEC/EN 60 947-5-1 for NC contact
Electrical life	
to AC 15 at 2 A, AC 230 V:	10 ⁵ switching cycles IEC/EN 60 947-5-1
Permissible switching frequency:	600 switching cycles / h
Short circuit strength	
max. fuse rating:	4 A gL IEC/EN 60 947-5-1
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:	4 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
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 frequency 10 ... 55 Hz, IEC/EN 60 068-2-6
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:	170 g

Dimensions

Width x height x depth:	22.5 x 74 x 121 mm
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Safety related data

Probability of dangerous Failure per Hour (PFH_D):	6.75 · 10 ⁻¹⁰ 1/h
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Safe Failure Fraction (SFF):	97.0 %
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Proof Test Intervall (T1):	20 Years
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The values stated above are valid for the standard type. Safety data for other variants are available on request

Standard type

BE 5982.02 DC 24 V		
Article number:	0044292	stock item
• Output:	2 NO contacts	
• Nominal voltage U_N :	DC 24 V	
• Width:	22.5 mm	

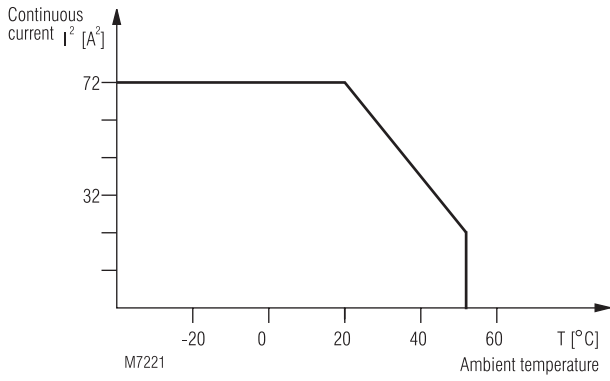
Variants

BE 5982.02/004:	with gold-plated contacts to switch low loads (e. g. PLC inputs)
	The gold-plated contacts of the BE 5982.02/004 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.

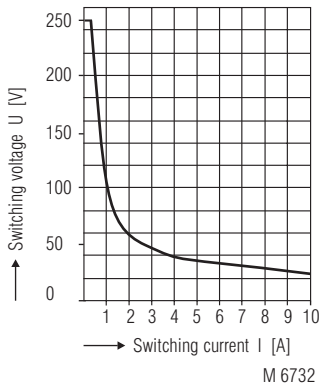
Ordering example for variants

BE 5982. 02 / 004 DC 24 V	
└──────────┘	Nominal voltage
└──────────┘	Variant
└──────────┘	Contacts
└──────────┘	Type

Characteristics

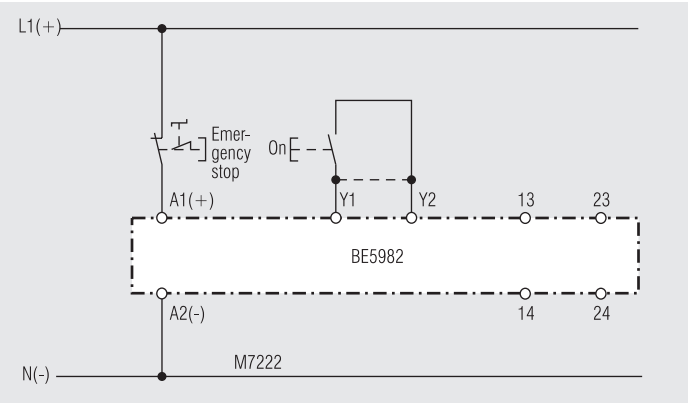


Continuous current limit curve

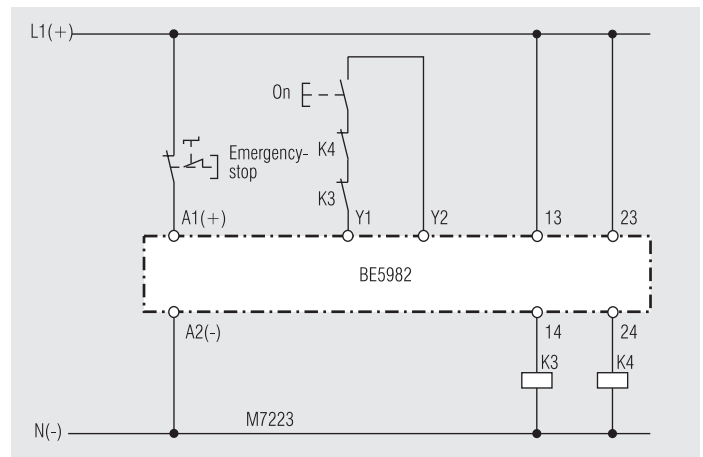


Limit curve for arc-free operation for a resistive load

Application examples



Single-channel emergency stop circuit, optionally with or without automatic On function. Set jumper Y1 - Y2 for automatic On function. The On button is omitted.



Contact reinforcement by external contactors. With switching currents > 5 A, the output contacts can be reinforced by external contactors with positively-driven contacts. The function of the external contactors is monitored by looping the NC contacts into the switch-on circuit (terminals Y1 - Y2).

