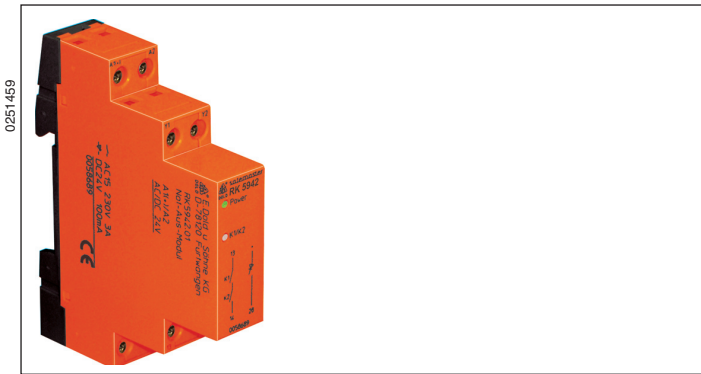
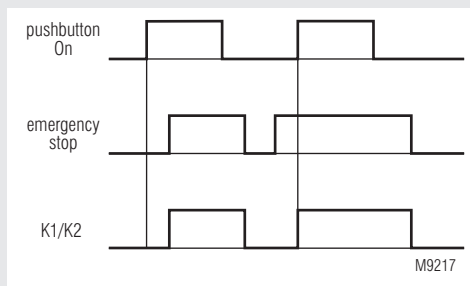




- According to
 - SIL Claimed Level (SIL CL) 3 to EN 62061
 - Performance Level (PL) e to DIN EN ISO 13849-1
 - Category 4 to EN 954-1
- Single channel operation
- Output: 1 NO contact and 1 monitoring logic output
- LED-indicator for relay 1 / 2 and supply voltage
- Wire connection: max. cross section for connection each 1 x 6 mm² solid, each 1 x 4 mm² stranded ferruled, each 2 x 2.5 mm² wire with twin ferrule; min. cross section for connection: each 1 x 1 mm² stranded ferruled or 1 x 1.5 mm² solid
- Width 17.5 mm and 64 mm depth

Function diagramm



Approvals and marking



Applications

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

Indicators

LED Power: on, when supply connected
LED K1/K2: on, when relay K1 and K2 energized

Note

ATTENTION - AUTOMATIC START!

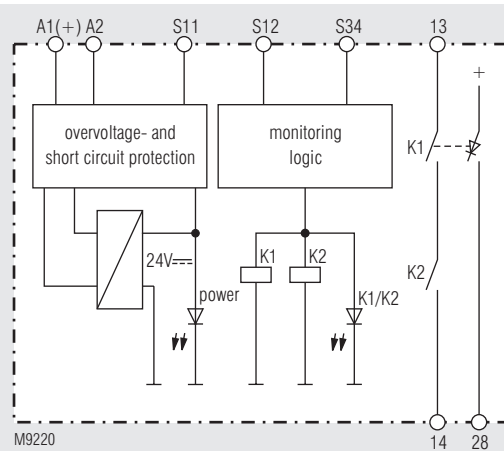


According to IEC/EN 60 204-1 part 9.2.5.4.2 and 10.8.3 it is not allowed to restart automatically after emergency stop. Therefore the machine control has to disable the automatic start after emergency stop.

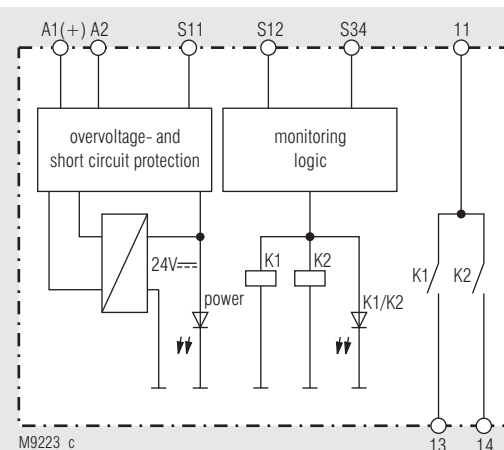


With single-channel connection safety category 4 can only be achieved when the input circuit is carried out failsafe. This can be done by selecting the right cable material and suitable wire arrangement.

Block diagrams

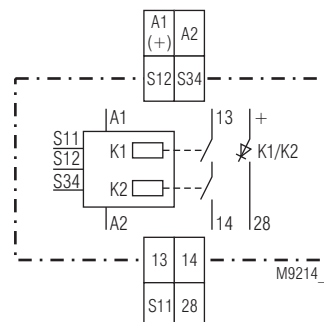


RK 5942.02

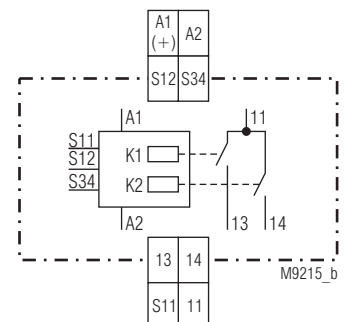


RK 5942.03

Circuit diagrams



RK 5942.02



RK 5942.03

Technical Data		
Input		
Nominal voltage U _N :	DC 24 V	
Nominal frequency:	50 / 60 Hz	
Voltage range:		
at 10 % residual ripple:	DC 0.9 ... 1.1 U _N	
Nominal consumption		
DC 24 V:	DC 2.2 W	
Control voltage on S11		
DC 24 V:	typ. DC 22.5 V	
Control current		
DC 24 V:	typ. DC 95 mA	
Recovery time:	0.5 s	
Output		
Contacts	1 NO contact, 1 semiconductor contact The NO contacts are safety contacts. ATTENTION ! The relay with semi-conductor output is available as DC	
device only.		
The semiconductor output can only be used for monitoring.		
Operate delay		
DC 24 V:	typ. DC 80 ms	
Release delay		
DC 24 V:	typ. DC 70 ms	
Contact type:	positive guided	
Thermal current I _{th} : (curve)	max. 5 A (see continuous current limit	
Nominal output voltage:	AC 250 V	
Switching capacity		
to AC 15:		
NO contacts:	3 A / AC 230 V	IEC/EN 60 947-5-1
to DC 13:		
NO contacts:	4 A / 24 V	IEC/EN 60 947-5-1
Electrical life		
at 5 A, AC 230 V cos φ = 1: according to DC 13 semiconductor output:	> 10 ⁵ switching cycles DC 24 V, 100 mA, short circuit strong	
Output voltage at 100 mA:	21.5 V	
Permissible operating frequency:	600 switching cycles / h	
Short circuit strength		
max. fuse rating:	6 A gL	IEC/EN 60 947-5-1
line circuit braker:	B 6	
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
HF-wire guided:	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
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		
max. cross section:	each 1 x 6 mm ² solid, each 1 x 4 mm ² stranded ferruled, each 2 x 2.5 mm ² wire with twin ferrule	

Technical Data	
min. cross section:	each 1 x 1 mm ² stranded ferruled or 1 x 1.5 mm ² solid
Wire fixing:	Plus-minus terminal screws M 3.5 box terminals
Mounting:	DIN rail IEC/EN 60 715
Weight:	110 g

Dimensions

Width x height x depth:	17.5 x 90 x 71 mm
Mounting depth:	64 mm

Safety related data

Probability of dangerous Failure per Hour (PFH_D):	1.03 · 10 ⁻⁹ 1/h
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Safe Failure Fraction (SFF):	97.3 %
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Proof Test Intervall (T1):	20 Years
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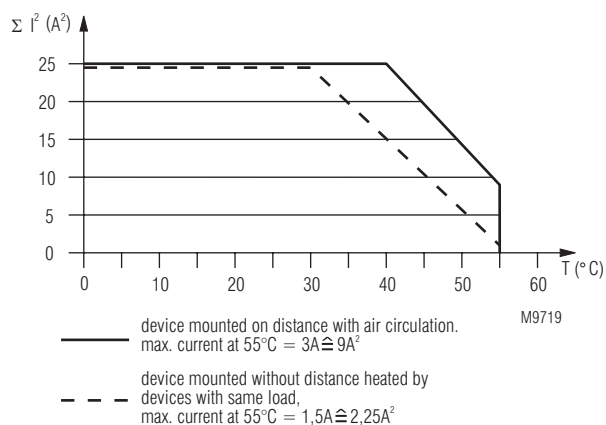


The values stated above are valid for the standard type. Safety data for other variants are available on request

Standard types

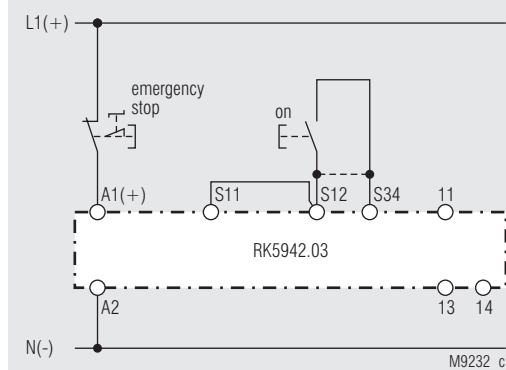
RK 5942.02 DC 24 V	
Article number:	0058690
• Output:	1 NO contact, 1 semiconductor output
• Nominal voltage U_N :	DC 24 V
• Width:	17.5 mm

Characteristics



Continuous current limit curve

Applications

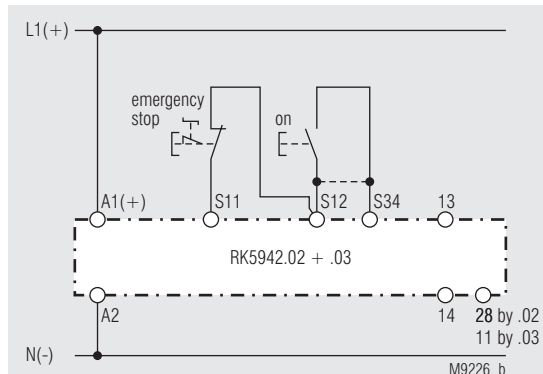


Single channel emergency-stop circuit without feed back loop, with or without automatic restart.

For automatic restart terminals S12 - S34 must be linked.

No ON-pushbutton necessary.

ATTENTION ! This application can only be used for RK 5942.03.

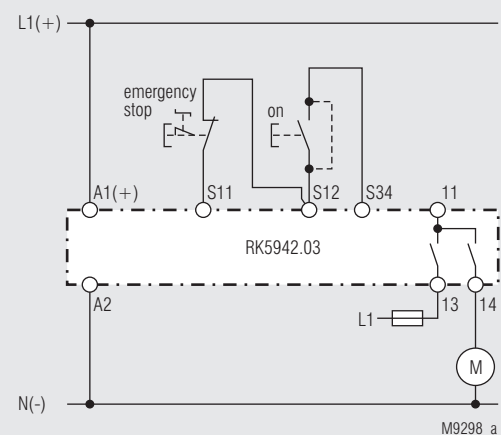


Single channel emergency-stop circuit without feed back loop, with or without automatic restart.

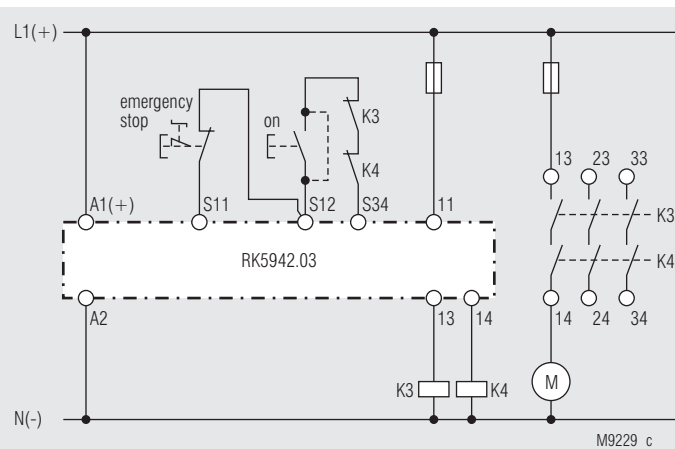
For automatic restart terminals S12 - S34 must be linked.

No ON-pushbutton necessary.

Applications



ATTENTION ! For applications of safety stops the load must be connected to the contacts in series with 2 NO contacts.



Contact reinforcement by external contactors.

At a thermal current $I_{th} > 5$ A the output contacts can be reinforced by external contactors with positively guided contacts.

Functioning of the external contactors is monitored by looping the NC contacts into the start circuit (S12 - S34).

ATTENTION ! For applications of safety stops the load must be connected to the contacts in series with 2 NO contacts.

