

# Emergency Stop Relay

Type RK 5942  
safemaster



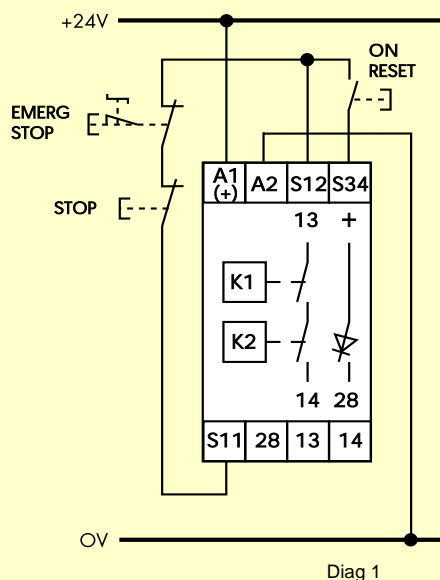
Model RK 5942



## Typical Schematic Diagram

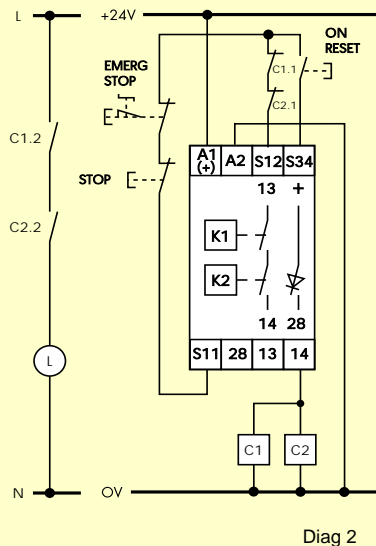
### RK 5942.02

**RK 5942.02**  
with manual reset.  
For auto reset  
link S12 - S34.



### RK 5942.02

with external contactors.  
This diagram shows how  
external contactors with  
positive guided contacts  
C1 and C2 may be used to  
reinforce the switching  
capacity of RK 5942.02  
with continued redun-  
dancy.



## Features

- Category 2, SIL CL3, PL e
- Category 3 with external monitoring
- Contacts  
1 N/O, 1 semiconductor (.02), or 1 N/O (.03)
- Ultra Compact 17.5 mm wide case
- Internal auxiliary power supply protection with automatic reset
- 24V AC / DC auxiliary power supply

## Description

Emergency stop relay RK 5942 complies fully with the requirements of the standards for safety relays. This unit is housed in an ultra compact 17.5 mm case suitable for DIN rail mounting.

## Circuit Connections

The OFF and the EMERGENCY STOP buttons are connected in series between terminals S11 and S12, with 0V connected to terminal A2. The On / Reset button is connected between terminals S12 – S34 and the circuits to be tripped may be connected to terminals 13 – 14. Terminals +24V – 28 are a transistor output for remote signalling. When the EMERGENCY STOP button is activated power is removed from terminal S12, relays K1 and K2 de-energise, contacts 13 – 14 open and +24V – 28 become open .

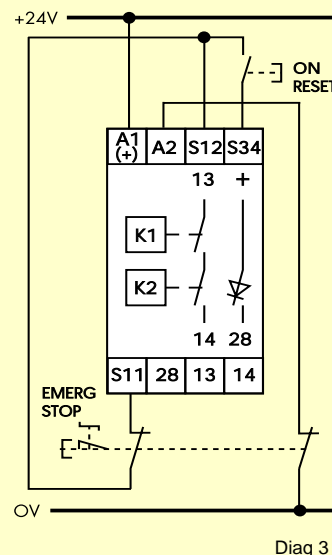
## Indication

The relay is equipped with two LEDs. When illuminated they indicate the healthy condition of the power supply and when K1 - K2 are energised.

### RK 5942.02

This diagram shows how an additional external contact on the E-stop pushbutton, can increase the redundancy and therefore the safety category of RK5942.02.

**NB:** A regular test of the E-stop control circuits, or external monitoring by the machine control must be made to maintain a higher safety category.

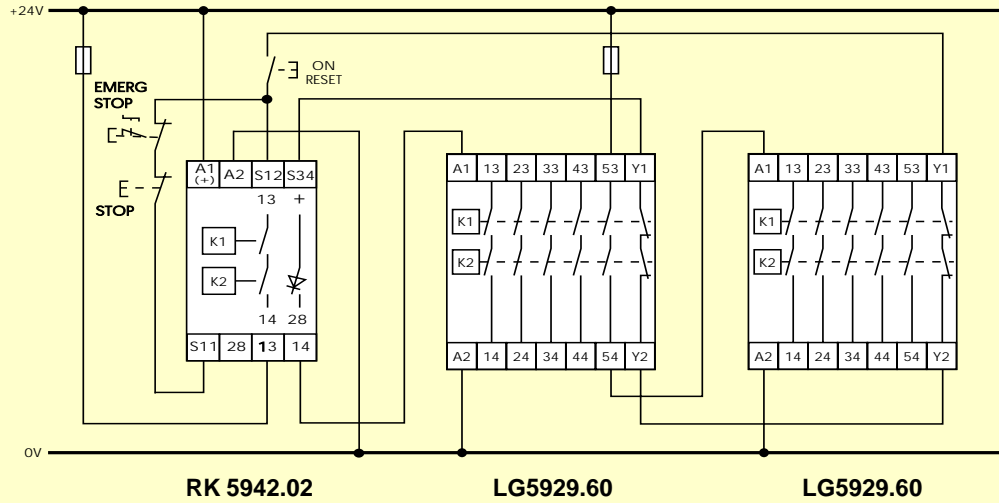


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## RK 5942.02 with LG5929.60 Extension Modules

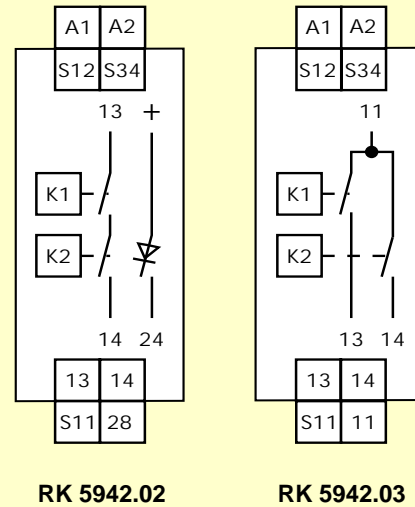


Diag 4

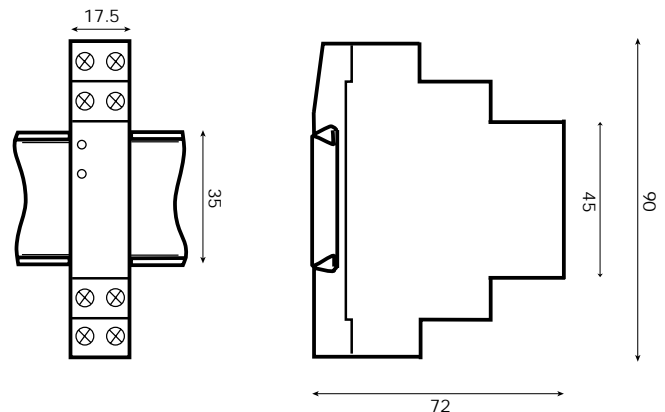
### Specifications

Nominal Voltage (Vn)	24Vac/dc
Burden	5.5VA ac, 2.2W dc
Voltage Tolerance	0.8... 1.1Vn ac, 0.8... 1.2Vn dc
Control Voltage	24V dc
Contacts	1N/O, 1 S/C or 1N/O
Max Switching Capacity	5A ac (cos $\phi$ 1 - 0.7) 5A dc see data
Continuous Current Rating	see data
Contact Life Mechanical	30 x 10 <sup>6</sup> operations
Semiconductor Rating	24Vdc, 100mA
Contact Life Electrical	see data
Derating Capacity	AC15, 3A, 250V ac DC13, 4A, 24V dc
Min Switching Voltage & Current	10V, 15mA ac/dc
Max Switching Voltage	250V ac, 250V dc
Max Switching Power	1200VA (AC1) 192W dc
Max Switching Frequency	600 operations/hour
Reaction Times	Reset 80ms E-STOP <70ms
Operating Temperature	-15°C... +55°C at 90% RH
Protection Class	Case IP40 Terminals IP20
Test Voltage	2.5kV 1 minute
Shock Loading	Amplitude 0.35mm Frequency 10 - 55Hz (5g @ 50Hz)
Enclosure Material	Thermoplastic VO Rating UL94
Terminations	
Max	1 x 6mm <sup>2</sup> solid 2 x 2.5mm <sup>2</sup> solid 1 x 4mm <sup>2</sup> stranded ferruled

### Terminal Layout



### Typical Schematic Diagram



Weight 110 g

### Information Required With Order

• Model type • Auxiliary supply

Example: Emergency Stop Relay Type RK 5942.02  
Auxiliary Supply 24V ac/dc