

## FMSC-R/2R

safety  
contact expansion

## Application

The contact expansion FMSC-R / 2R is used to amplify and galvanically isolate the safety outputs of the FMSC safety controller. This enables the control of different potentials and circuits, even with high loads.

The device offers depending on the type:

- FMSC-R one relay function according to PL e compliant with ISO 13849-1.
- FMSC-2R two relay function according to PL e compliant with ISO 13849-1.

For each relay function 3 NO contacts are provided, additional one NC contact is available for feedback.



## Scope of operation

- Integration of the FMSC safety controller to other potentials without loss of safety
- 1/2 safety circuits each with 3 safety contacts
- Feedback circuit for relay monitoring at the control unit
- LEDs to show the switching status of the safety contacts

## Product recommendation

Suitable accessories you can find at:

[www.fiessler.de](http://www.fiessler.de)



## electrical specification

## FMSC-R / 2R

Power supply	24V DC
Tolerance range	18 ... 30,0 V DC max. 10% sine wave
Output contacts	safety contacts: 3 / 6
Output current at 240V AC 13 14, 23 24	min: 0,01A, I <sub>max</sub> : 8A resistive
Output current at 160V AC 33 34	I <sub>min</sub> : 0,01A, I <sub>max</sub> : 8A ohmisch
Output current at 24V DC 13 14, 23 24, 33 34	I <sub>min</sub> : 0,01A, I <sub>max</sub> : 8A
Fuse for power supply	T1,0A/250V
Fuse for switching contacts	8A T

## times

## FMSC-R / 2R

response delay	12 ms
release delay	8 ms

## general data

## FMSC-R / 2R

contact material	AgSnO <sub>2</sub> ,
reepage distances	DIN VDE 0110-1
terminal connection	screw type connectors R: 4x FMSC-ST 2R: 6x FMSC-ST
Design size (hxbxt) without connectors	114,5mm x 22,5mm x 99mm
Installation on top hat rail	according DIN 50 022
Weight (without connectors)	160g
operating temperature	-40°C...+80°C
switching cycles	>20 x 10 <sup>6</sup>

## operating modes

## FMSC-R / 2R

input circuit	FMSC-R	FMSC-2R
Base unit: Safety controller FMSC (single channel)		
Base unit: Safety controller FMSC (dual channel)		
Grundgerät Safety lightcurtain -BLxT series -ULxT series		

## Feedback circuit

	24V DC	24V DC
I <sub>xx</sub> /EDM are inputs, that monitor the feedback loop.		

# FISSLER

## ELEKTRONIK

# FMSC-R / 2R

## contact expander

### technical data



**position of the connectors** **FMSC-R**

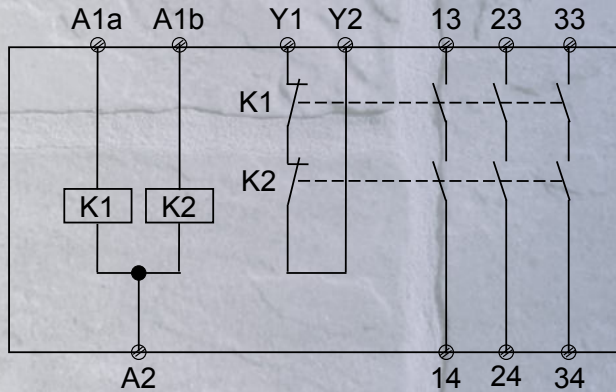


1. three normally closed contacts (13, 23, 33)
2. one normally open contact (Y1, Y2)
3. three normally closed contacts (14, 24, 44)
4. one relay function (A1a, A1b, A2)

**features** **FMSC-R**

- one relay function according to PL e compliant with ISO 13849-1.
- 3 normally closed and 1 normally open contacts
- 2 diagnosis LEDs

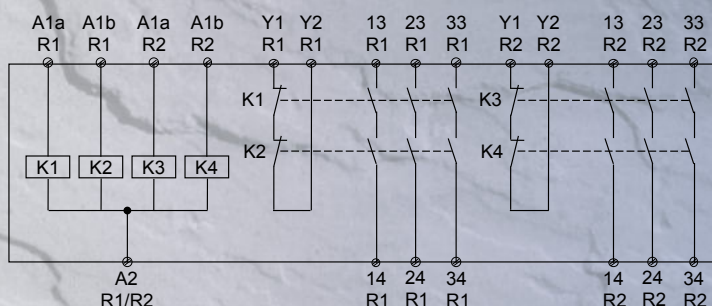
**schematic diagram** **FMSC-R**



**features** **FMSC-2R**

- two relay function according to PL e compliant with ISO 13849-1.
- respectively 3 normally closed and 1 normally open contacts
- 4 diagnosis LEDs

**schematic diagram** **FMSC-2R**



# FMSC-R / 2R contact expansion

technical data





## Innovative solutions

### Safety light curtains

Type 4, SIL 3, PL e  
high range up to 60 m  
Very short response time as of 2 ms  
Blanking and cascading

Type 2, SIL 1, PL c  
Protective field height up to 2500 m  
Finger and hand guard, entrance protection  
Safety controller integrated

### AKAS® press brake safety system

fully automatic adjustment after tool change  
laser-optics safety light grid

innovative finger guard through continuous bending without stop

### FMSC safety PLC

Emergency shutdown (fast shut down) max. 0.5 ms  
Expandable with up to 16 expansion modules

Easiest programming  
Cat 4, SIL 3, PL e

### Safety contact mats

Type 3, SIL 2, PL d  
Series connection of up to ten mats  
Load capacity up to 2000N  
single component casting also in several colors

individual sizes and shapes  
Polyurethane, aluminum or Stainless steel surface with integrally cast ramp rail available

### Safety laser scanner

Cat 3, SIL 2, PL d  
Protective field 4 m, range 7 m  
Metering section 50 m range

Easy assembly  
Warning field 15 m  
Several programmable sections

### Safety foot pedals

Single-pedal or double-pedal

### Controlling, detecting and measuring

Measuring light curtains  
Loop sensors  
Directional counting light barriers

Hole detectors  
Encoding strips