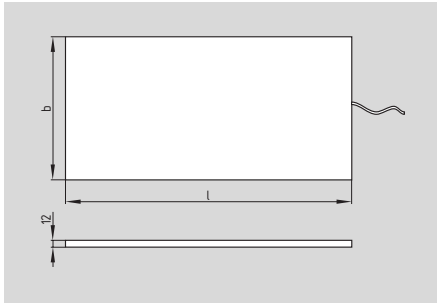
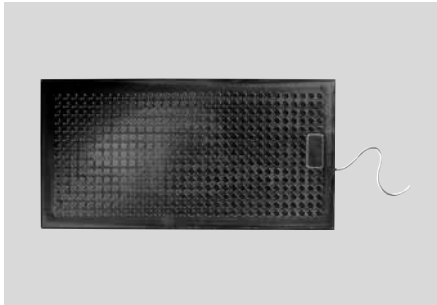


Safety mat

SMS 3



- Certified to EN 1760-1
- Control Category 3 to EN 954-1 only in combination with safety monitoring module
- Response time ≤ 30 ms
- Extremely robust version
- Modular safety mat system
- Special sizes are available on request
- Maintenance free
- 100% actuating surface
- simple mounting
- Slip-free surface
- High resistance to chemicals
- Four-wire connecting cable
- No additional terminating resistor required
- No additional baseplate

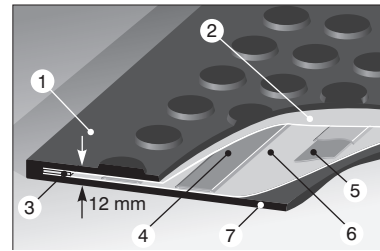
Technical data

Standards: EN 1760-1
 Surface material: plastisol
 Control category: 3 to EN 954-1
 in conjunction with safety monitoring module
 Protection class: IP 67 to EN 60529
 Ambient temperature: + 5 °C ... + 50 °C (mat system)
 - 20 °C ... + 50 °C (single mat)

Storage and transport temperature: - 20 °C ... + 50 °C
 Thickness: 12 mm
 Actuating force: ≤ 300 N, $\varnothing 80$ mm
 Cable length: 6 m
 Cable: 4 x 0.75 mm² (AWG 18)
 Response time: ≤ 30 ms
 Mechanical life: > 5 million operations
 (> 1 million operations EC prototype tested)

Permissible load: 2000 N/cm²
 Inactive area: 0 - 30 mm from edge without active profile strips
 100% active with profile strips
 Weight: approx. 18 kg/m²

Mounting



- 1 Slip-free top surface
- 2 Upper conducting steel plate
- 3 Insulating strips
- 4 Conducting strips
- 5 Insulating layer
- 6 Lower conductive steel plate
- 7 Bottom surface of safety mat

Approvals



Ordering details

SMS 3 ①

No.	Replace	Description
①	25-50	b x l 250 x 500 mm
	50-50	500 x 500 mm
	50-100	500 x 1000 mm
	75-100	750 x 1000 mm
	100-100	1000 x 1000 mm
	100-150	1000 x 1500 mm
		Special sizes are available on request

Note

Resistant to chemicals:

Water: Excellent
 Mineral acids: Good to excellent
 Organic acids: Good to excellent
 Alcohol: Good
 Aldehyde: Good to excellent
 Acids: Good to excellent
 Paraffin: Medium to good
 Oils: Good

Note



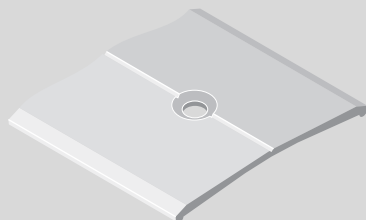
Extremely robust version

Safety mat

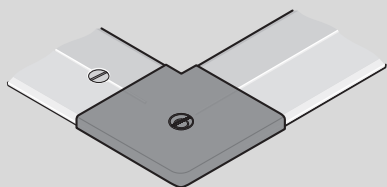
System components



AZR 31 R2



Profile strip SMS P-100



Corner cover SMS EC-100

Ordering details

Monitoring safety mats

AZR 31 R2 refer to page 3-14

Profile strip **SMS P-100**

Corner cover **SMS EC-100**

Safety mat

AZR 31 R2



- Control Category 3 to EN 954-1 in combination with the SMS 3 safety mat
- Certified to EN 1760-1
- monitored start button (trailing edge)
- 3 enabling paths
- 1 potential-free signalling contact (NC)
- Cross-wire monitoring
- All usual operating voltages available
- Removable terminal block
- Feedback circuit to monitor external relays
- 4 LEDs to show operating conditions

Technical data

Standards:	IEC/EN 60204-1, EN 1760-1, EN 954-1
Stop category	0
Control category:	4
Start conditions:	monitored start button
Start-up test:	no
Enclosure:	polycarbonate
Mounting:	snaps onto standard DIN rail to EN 50022
Connection:	screw terminals
Cable section:	max. 2.5 mm ² (incl. conductor ferrules)
Protection class:	terminals IP 20 enclosure IP 40 to EN 60529
U _e :	24 VAC 24 VDC 110 VAC ± 15 % 230 VAC ± 15 %
I _e :	0.1 A (DC version) 0.5 A (AC version)
Power consumption:	< 3 W
Monitored inputs	2 NC
Input resistance:	between S13-S14/S23-S24: 150 Ω
Enabling contacts:	3 enabling paths
Utilisation category:	AC-15, DC-13
I _e /U _e :	6 A / 250 VAC 3 A / 24 VDC
Contact load capacity:	max. 400 VAC, max. 6 A (cos φ = 1)
Max. fuse rating:	6 A gG D-fuse
Signalling output:	1 NO contact
Switch-on time:	< 80 ms
Response time:	< 15 ms (< 130 ms on supply failure)
Function display:	green LEDs for control voltage, inputs and outputs
EMC rating:	conforming to EMC Directive
Max. switching frequency:	1 Hz
Overvoltage category:	II to DIN VDE 0110
Degree of pollution:	3 to DIN VDE 0110
Resistance to vibration:	10 ... 55 Hz / amplitude 0.35 mm, ± 15 %
Resistance to shock:	30 g / 11 ms
Ambient temperature:	0 °C ... + 50 °C
Storage and transport temperature:	- 25 °C ... + 70 °C
Dimensions:	45 x 73.2 x 121 mm
Note:	Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.

Approvals



Ordering details

AZR 31 R2 ①

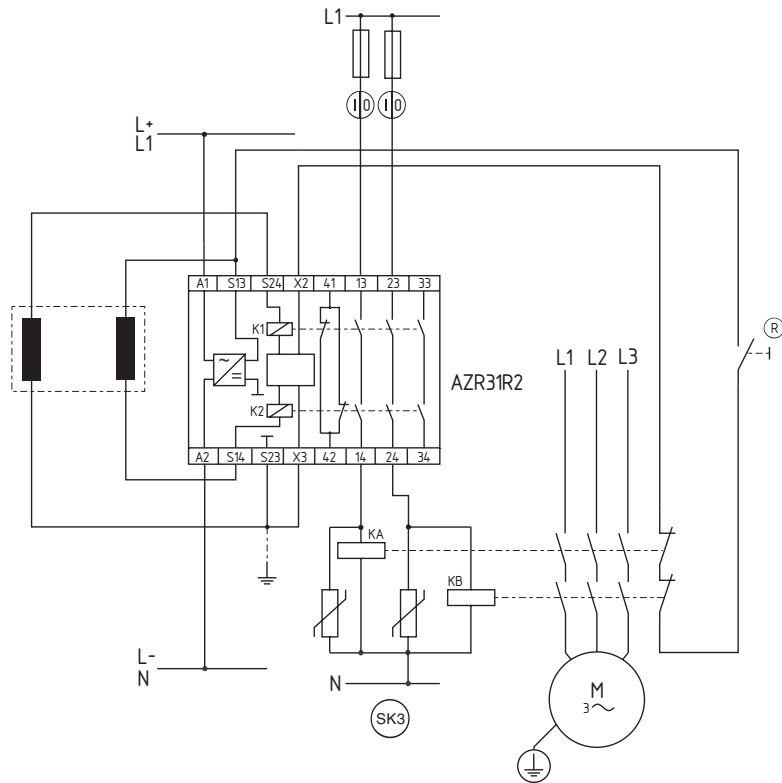
No.	Replace	Description
①	24 VDC	24 VDC
	24 VAC	24 VAC
	110 VAC	110 VAC
	230 VAC	230 VAC

Safety mat

Note

- Secure a safety mat to Control Category 3 to EN 954-1 and EN 1760-1
- Start button with edge detection
- The feedback circuit monitors positions of the contactors KA and KB.
- Connection of several safety mats
For monitoring of several safety mats, the safety mats are wired in series.
- Reset push button (R)
A reset push button (NO) can be connected to the feedback circuit.

Wiring diagram



Note

The wiring diagram is shown for the de-energised condition.