# ASO Safety Solutions ELMON Safety Relay Mat and Edge



ELMON safety relays are used to evaluate safety contact mats, safety contact edges and safety bumpers sensors at crush and shear locations. An ASO sensor can be connected to the switching device. An integrated terminating resistor in the sensor enables steady-state current monitoring.

#### Features

- Single channel operation
- Two safety output contacts and 1 auxiliary output contact
- Allows evaluation of a sensor in two and four-wire systems
- Manual or Auto reset via dip switch setting
- Easy diagnostic status via 3 LEDs
- DIN rail mounting

Safety Data per EN 13849-1					
Category	3				
Performance level	Ple				
MTTF <sub>d</sub>	195				
DC <sub>avg</sub>	99%				
Safety Data	per IEC/EN 62061, IEC/EN 61508				
Sil CL	SIL CL 3				
Sil	SIL3				
HFT	1 [Single channel]				
DC <sub>avg</sub>	99%				
SFF	99%				
PFH <sub>d</sub> (t-20a)	6.51E <sup>-09</sup>				



ELMON Safety Relay						
Part Number	Price	Туре	Voltage	Outputs	Connection	
<u>1114-0210</u>	\$186.00	Single channel	120V AC/ 24V AC/DC	2 NO safety contacts; 1 NO monitoring contact	Fixed screw terminals	

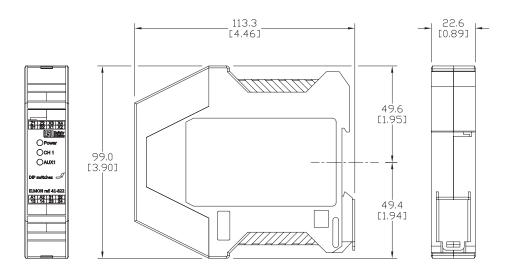
ELMON Safety Relay Specifications					
General Specifications					
Temperature	Single mounting: -20° to +55°C [-4° to +131°F]; Mounted in a row: Max. +35°C [+95°F] (NOTE: Single mounting requires 1 inch [25.4 mm] of free space on each side of the relay.)				
Altitude	< 2,000 meters				
Vibration Resistance	Tested to IEC 60068-2-6				
Degree Of Protection	IP20				
Housing	Polyamide PA 6.6				
Weight	210g [7.4 oz]				
Agency Approvals and Standard	cULus file E329422, CE, TUV				
Terminal Designation per EN 50 005	Single or fine stranded cable 0.75 to 1.5 mm <sup>2</sup>				
Wire Fixing	M3.5 terminals				
Input Specifications					
Nominal Voltage	24V AC/DC or 120VAC				
Voltage Range	90-110%				
Maximum Consumption	1.5 W [24VDC]; 1.2 VA [24VAC]; 3.5 VA [120VAC / 60Hz]; 3.8 VA [120VAC / 50Hz]				
Nominal Frequency	50Hz-60Hz				
Control Voltage	5V DC				
Control Current	63mA				
Short Circuit Protection	Yes				
Over Voltage Protection	Yes				
Output Specifications					
Electrical Contact Life	1,000,000 cycles				
Mechanical Life	10 x 10 <sup>6</sup>				
Contact Type	2 NO safety contacts and 1 NO monitoring contact(s)				
Operate Delay	≤ 550ms [Power on: >850ms]				
Release Delay	11ms				
Nominal Output Voltage	230VAC				
Thermal Current (I <sub>th</sub> )	1A				
Short Circuit Strength	1A middle time-lag fuse (glass tube 5x20)				
Switching Capacity	AC-15 (230V AC, 1A, 800,000 operations); DC-13 (24V DC, 1A, 950,000 operations)				
Switching Frequency	Max. 6600 cycles/hour				

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#### **Dimensions**

mm [in]



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### **Application Examples**

Note: Safety-oriented monitoring of a safety contact edge with start release via release pushbutton and separate continuation of the control circuits (category 3 compliant application according to EN ISO 13849-1).

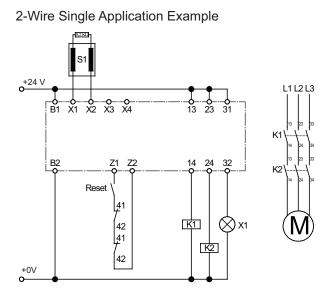
In order to check the functionality of the load breaking K1 and K2 relays the break contacts of these contactors are integrated into the start circuit (Z1 Z2).

The signaling relay output is used to visualize the switching state of the safety contact strip.

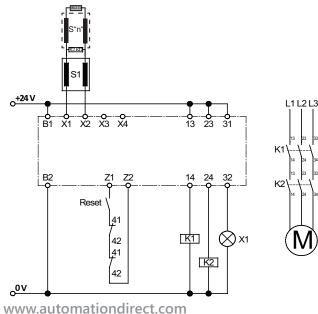
Circuit diagram in voltage-free state. Sensor not operated.

1 Sensor (edge, mat, or bumper)

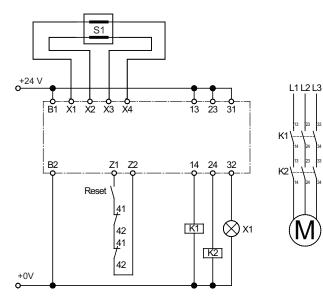
2 Release key



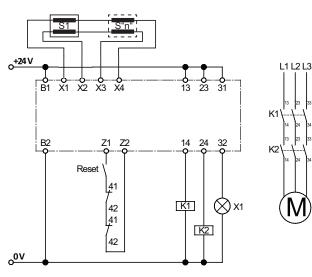
2-Wire Multiple Application Example



#### 4-Wire Single Application Example



4-Wire Multiple Application Example



### **Safety Products**



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