

ASO Safety Solutions

ELMON Safety Relay Mat and Edge



1114-0210

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_d	195
DC_{avg}	99%

Safety Data per IEC/EN 62061, IEC/EN 61508

Sil CL	SIL CL 3
Sil	SIL3
HFT	1 [Single channel]
DC_{avg}	99%
SFF	99%
PFH_d (t-20a)	6.51E ⁻⁰⁹



ELMON Safety Relay					
Part Number	Price	Type	Voltage	Outputs	Connection
1114-0210	\$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 ²
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

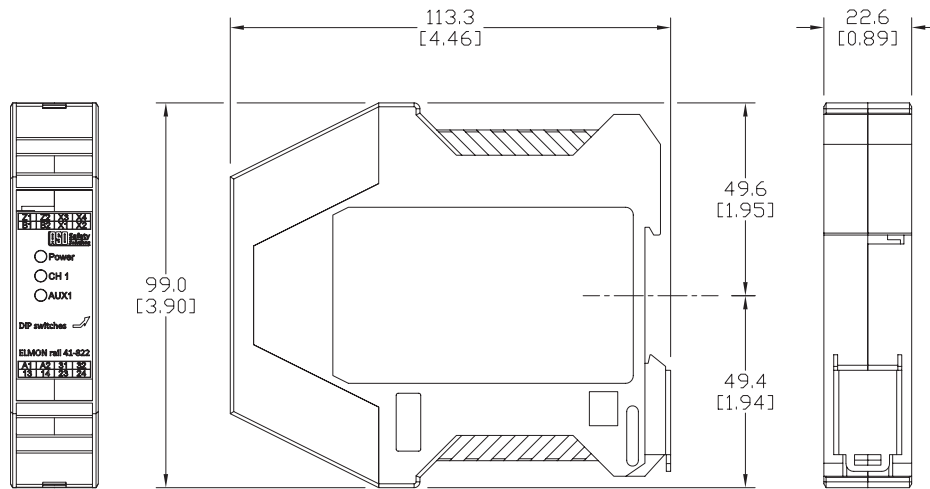
Electrical Contact Life	1,000,000 cycles
Mechanical Life	10 x 10 ⁶
Contact Type	2 NO safety contacts and 1 NO monitoring contact(s)
Operate Delay	≤ 550ms [Power on: >850ms]
Release Delay	11ms
Nominal Output Voltage	230VAC
Thermal Current (I_{th})	1A
Short Circuit Strength	1A middle time-lag fuse (glass 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

ASO Safety Solutions

ELMON Safety Relay Mat and Edge

Dimensions

mm [in]



ASO Safety Solutions ELMON Safety Relay Mat and Edge

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).

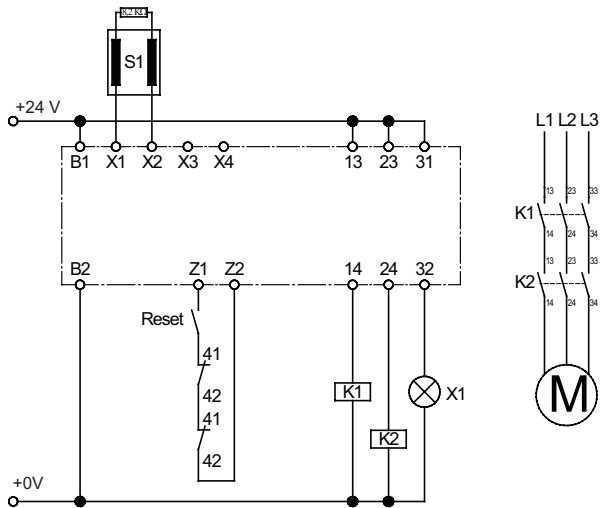
The signaling relay output is used to visualize the switching state of the safety contact strip.

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

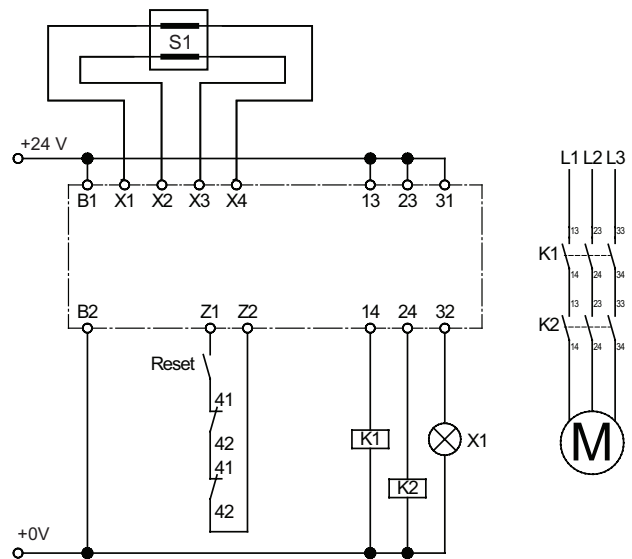
1 Sensor (edge, mat, or bumper)

2 Release key

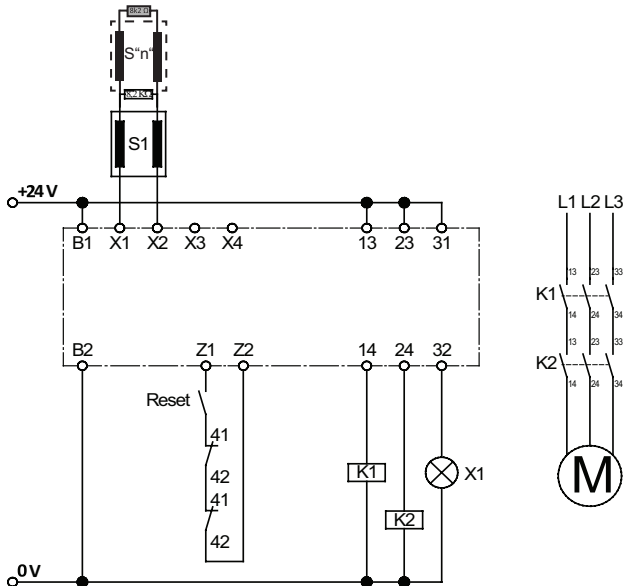
2-Wire Single Application Example



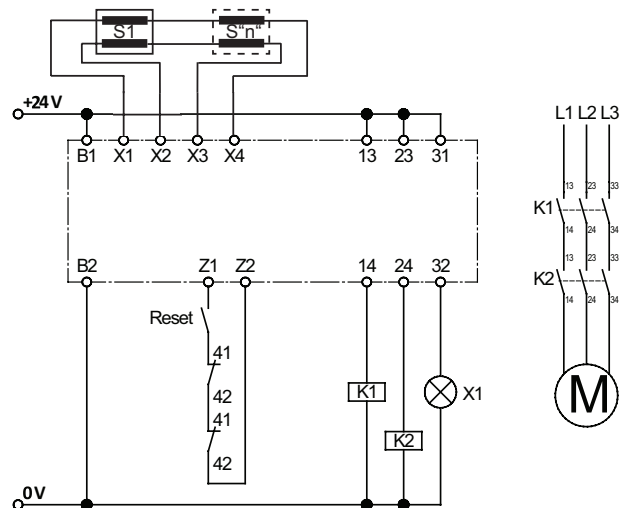
4-Wire Single Application Example



2-Wire Multiple Application Example



4-Wire Multiple Application Example



Safety Products



Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

AutomationDirect does not provide design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with the safety requirements for any application.