Schmersal Configurable Safety Relays

SRB-E Electronic Safety Relays

The SRB-E modules are a series of multi-functional, configurable electronic safety relays. Each module can be adjusted to one of multiple preset configurations, which include selecting the type of reset, activating or deactivating cross-wire monitoring, and selecting the monitored contact configuration – all via the rotary dial on the front of the unit.

The SRB-E series provides a higher level of diagnostic capabilities with LEDs for both controller status as well as error fault codes, assisting with troubleshooting safety circuits.

Once the configurations have been set, the lid may be closed and sealed to prevent tampering with the settings.

Features

- Modules with safe PNP outputs
- Modules with safe relay outputs
- Modules with monitoring of two-hand controls
- Modules with monitored input expansion up to Cat 4 PLe
- Fast cycle times (60 switching cycles/ min)
- Modules with high 5.5A PNP switching capacity
- Snap-in blank equipment labels
- Removable terminal blocks for easy wiring

Schmersal SRB-E Electronic Safety Relays Selection Chart

Part Number	Price	Drawing	Emergency stop monitoring	Safety guard monitoring	Pull wire emergency stop	Magnetic safety sensors	Light curtains	Input expander module for up to 4 sensors	Two hand control panels	Input signals: 1 channel	Input signals: 2 channel	Input signals: antivalent	Cross-wire detection	Start button/ autostart	Start button with edge detection	Safe Stop 0 dry contact	Safe Stop 0 semiconductor	Safe Stop 1 dry contact	Safe Stop 1 semiconductor	Not safe dry contact	Not safe semiconductor
			✓ ALLOWABLE																		
			Applications							Input Signals				Start Conditions		Output Contacts					
SRB-E-201LC	$171.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓		2				1
SRB-E-201ST	$257.00	PDF	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		2				1
SRB-E-201ST-CC	$269.00	PDF	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		2				1
SRB-E-301ST	$216.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	3				1	
SRB-E-301ST-CC	$228.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	3				1	
SRB-E-402EM	$191.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	4				2	
SRB-E-232ST	$366.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓		2	3		1	1
SRB-E-232ST-CC	$378.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓		2	3		1	1
SRB-E-322ST	$366.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	3			2	1	1
SRB-E-322ST-CC	$378.00	PDF	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	3			2	1	1
SRB-E-204ST	$272.00	PDF	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		2				4
SRB-E-204ST-CC	$284.00	PDF	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		2				4
SRB-E-204PE	$147.00	PDF	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			2				4
Combination Module for Two Protective Devices																					
SRB-E-402ST	$338.00	PDF	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	2	2			1	1
SRB-E-402ST-CC	$350.00	PDF	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	2	2			1	1

Notes:

Stop Category 0 (Stop 0) means immediate loss of power. This is often referred to as an uncontrolled stop.

Stop Category 1 (Stop 1) means there is a delay before the loss of power. The control system should bring the machine to a stop prior to the loss of power. This is often referred to as a controlled stop with removal of power.

Schmersal SRB-E-402EM Expansion Module

SRB-E-402EM

Features

- Extension module for contact duplication
- 4 safety contacts with SAFE STOP 0
- 2 signal outputs

Safety Data Values per EN ISO 13849-1, EN 62061, IEC 61508	
Performance Level	Up to e
DC Average	High
SIL CL	Up to 3
HFT (Hardware Failure Tolerance)	1
PFH(D)	≤ $2x10^{-8}$/h

Schmersal SRB-E-402EM Selection Chart

Part Number	*Price*	*Type*	*Voltage*	*Connection*	*Safety Input*	*Safety Output*	*Monitoring Outputs*	*Drawing*
SRB-E-402EM	$191.00	Safety relay extension	24 VAC/VDC	Pluggable screw terminals		4 NO	2 NC	PDF

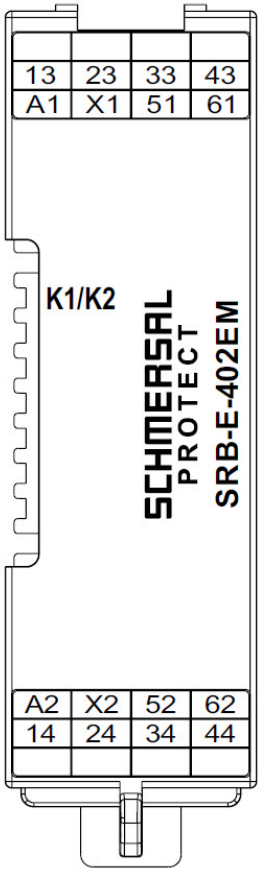
Schmersal SRB-E-402EM Specifications

Input/Output Specifications	
Operating Temperature	-25°C [-13°F] to 60°C [140°F]
Storage Temperature	-40°C [-40°F] to 85°C [185°F]
Altitude	2000m [6562ft] max
Vibration Resistance	Tested to EN 60068-2-6
Degree of Protection	IP40
Housing	Glass-fiber reinforced thermoplastic, ventilated
Weight	215g [7.58 oz]
Agency Approvals and Standards	CE, UL (listed number E57648)
Terminal Designation per EN 50005	EN 60947-1
Wire Fixing	Plug-in screw clamps
Cable Section Min/Max	0.25 mm^2 [24 AWG] - 2.5 mm^2 [14 AWG]
Switching Frequency, Max	NA
Input/Output Specifications	
Operating Voltage Range	20.4 to 28.8 VDC
Maximum Consumption	1.3 W
Overvoltage Protection	Category III
Mechanical Life	10^7 operations
Contact Type	Ag-Ni, self-cleaning, positive drive
Operating Delay (Pull-In Delay)	Max 35ms
Release Delay (Drop-Out Delay)	Max 35ms
Switching Capacity	NC safety contacts: Max 24V / 6A NO aux contacts: 24VDC / 2A

Schmersal SRB-E-402EM Expansion Module

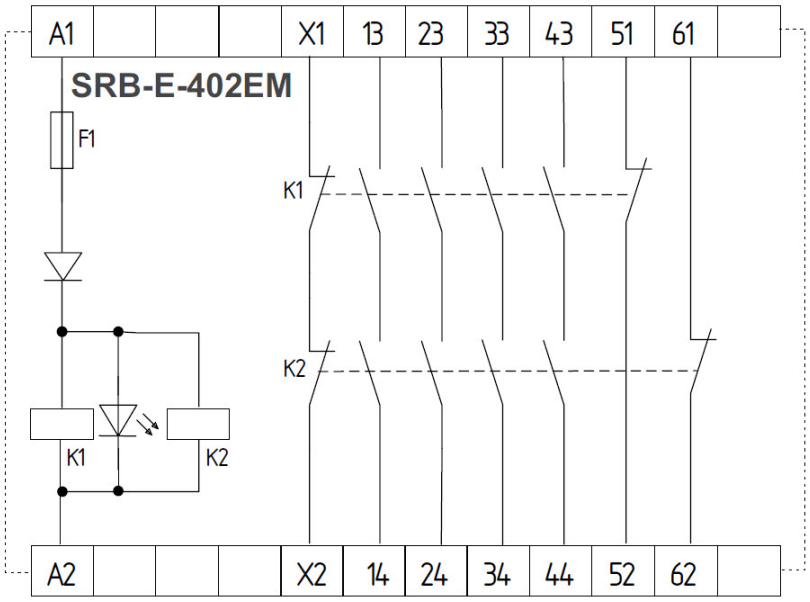
Terminal Descriptions		
Operating Voltage	A1	24 VAC / VDC
	A2	0 VAC / VDC
Outputs	13-14	1. Safety contact
	23-24	2. Safety contact
	33-34	3. Safety contact
	43-44	4. Safety contact
	51-52	1. Signalling contact (NC)
	61-62	2. Signalling contact (NC)
Feedbak Circuit	X1-X2	NC contacts (used for monitoring of upstream relay)

NOTE: Signalling contacts must not be used in safety circuits.



SRB-E-402EM

Block Diagram for SRB-E-402EM



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.

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