

FF-SRE3081 Extension Module

FEATURES

- Complies with the Machinery Directive 98/37/EC, IEC 204, EN 60204, DIN VDE 0113, and UL 508
- Redundant and positive-guided contacts
- Output: seven NO contacts and one NC contact
- LEDs indicate channel one and two status
- Mechanical life up to ten million operations
- Electrical life up to one million operations
- Switching current up to 10 A
- Removable terminal strips for easy maintenance
- 100 mm / 3.94 in width

TYPICAL APPLICATIONS

Extension for:

- Emergency stop modules
- Safety door monitors
- Safety light curtains
- Other safety devices



The FF-SRE3081 Extension Module provides contact multiplication of emergency stop modules, safety door modules and other safety devices with external relay monitoring capability (safety light curtain, safety mat, etc.).

This module receives two safety inputs between A1/A2 and A3/A4 from a connected safety device.

Immediately, the normally open safety contacts (13...73/14...74) will close and the normally closed safety contacts (81/82) will open.

If a safety device is actuated (an emergency stop condition occurs), the normally open contact will open immediately and the normally closed contact will close.

This emergency stop condition is relayed via the safety contacts of the module to the machine control circuitry to arrest dangerous motion and/or remove power.

The normally closed contact of the extension module (81/82) must be connected to the external loop monitoring circuit of the connected safety device. This configuration will ensure that the two safety relays in the extension module are operating correctly.

FF-SRE3081

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet (or catalogue) is for reference only. DO NOT USE this document as system installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

FF-SRE3081 Extension Module

SPECIFICATIONS

- Contact multiplication of safety modules and safety devices



Input	Nominal voltage	120 Vac (-15%, +10%), 230 Vac (-20%, +10%), 24 Vdc (-10%, +20%)
	Nominal consumption	24 Vdc: 2,8 W; 230 Vac: 5 VA
	Nominal frequency	50 to 60 Hz
Output	Contacts	7 NO, 1 NC contacts
	Contact type	Safety relay, positive-guided
	Response time	15 ms
	Switching Capability	Power factor = 1 with resistive load
	Current Range (min. to max.)	1 mA to 10 A (See Note 1)
	Voltage Range (min. to max.)	0,1 to 250 Vac/dc
	Switching capability per ac15 (EN 60947-5.1)	NO contact: 5 A / 250 Vac - NC contact: 2A / 250 Vac
	Typical Electrical Life Expectancy	Power factor = 1 at 230 Vac/dc (See Note 2)
	3 A	1 000 000 operations
	5 A	500 000 operations
	10 A	220 000 operations
	Typical Power Factor (cos φ)	Limitation Factor (See Note 3)
	0,3	0,45
	0,5	0,70
	0,7	0,85
	1	1
	Operating frequency	6000 operating cycles/h
	Fuse Rating	10 A time delayed
	Mechanical life	Ten million operating cycles
General	Temperature range	-15 °C to +55 °C / 5 °F to 131 °F at 90% humidity (max.)
	Sealing	Housing: IP 40 • Terminals: IP 20
	Housing material	Thermoplastic
	Vibration resistance	Amplitude 0,35 mm / Frequency 10 to 55 Hz
	Wire connection	2 x 2,5 mm ² [14 AWG] solid or 2 x 1,5 mm ² [16 AWG] stranded wire with sleeve DIN 46288
	Wire attachment	Removable terminal strip ; flat terminals with self-lifting wire clamp; DIN 46206 and DIN 57609/ VDE 0609
	Mounting	Quick install rail mounting EN 50022-35
	Weight	510 g / 1.12 lb

ORDERING INFORMATION

FF-SRE3081 □

Voltage:

2 = 24 Vdc
E = 120 Vac
G = 230 Vac

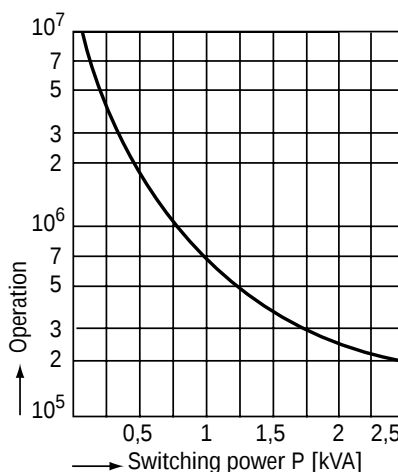
Note 1: Install arc suppression device across load to avoid module contact arcing and ensure specified relay life expectancy.

Note 2: Total operations = Operations at power factor 1 multiplied by the limitation factor. If the power factor is 0,5 at 230 Vac, 3 A (1 000 000 operations), the limitation factor is 0,70.

1 000 000 x 0,70 = 700 000 total operations.

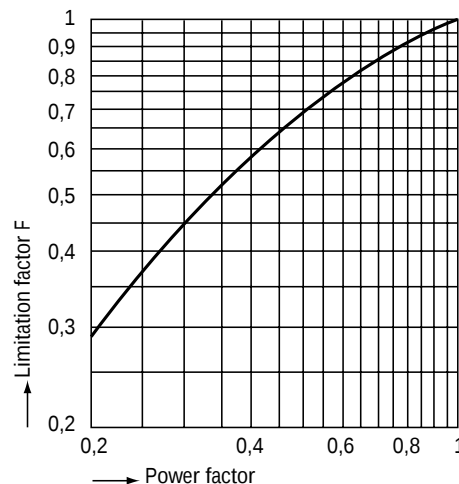
CONTACT LIFE FOR 100% RESISTIVE LOAD (TYPICAL)

Power factor = 1 (cos φ)

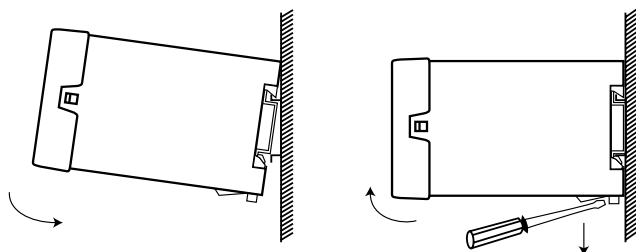


LIMITATION FACTOR FOR INDUCTIVE LOADS

Power factor < 1 (cos φ)

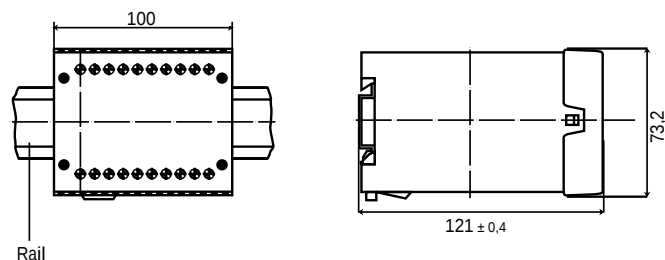


INSTALLATION DIAGRAM

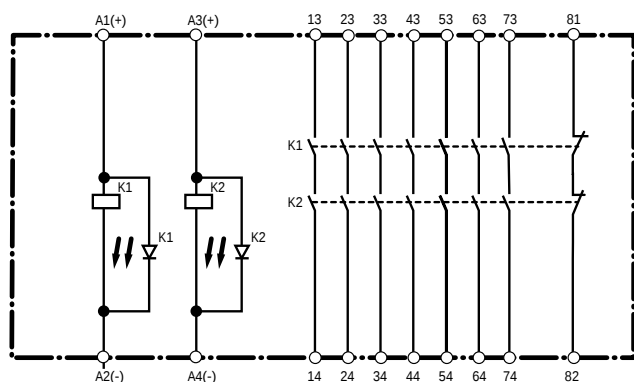


MOUNTING DIMENSIONS

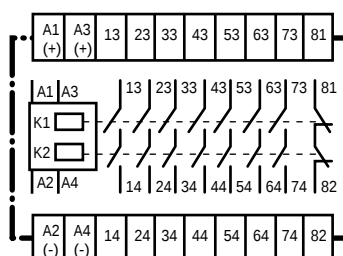
Width: 100 mm / 3.94 in; Height: 74 mm / 2.91 in;
Depth: 121 mm / 4.76 in



INTERNAL CIRCUITRY



WIRING DIAGRAM



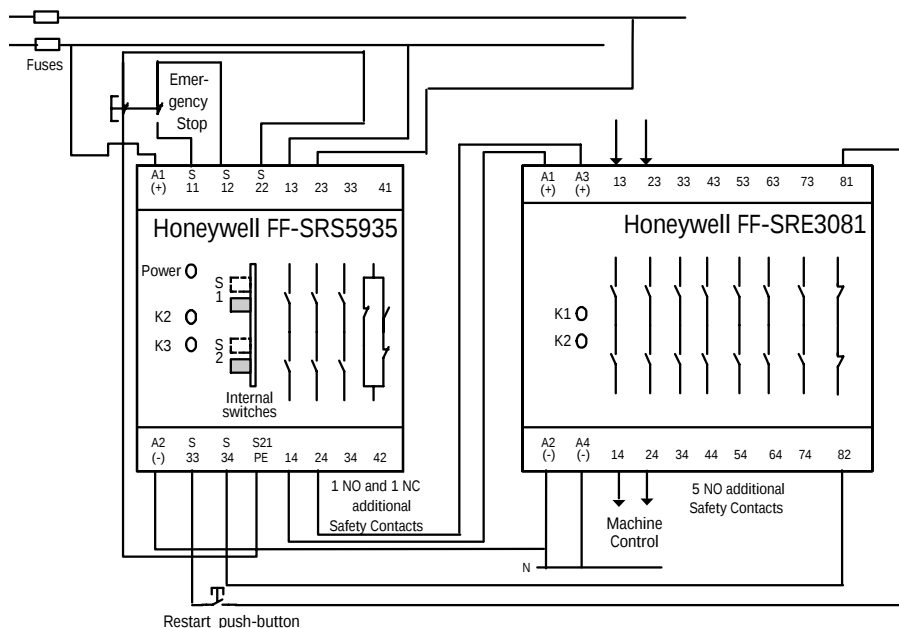
APPLICATION EXAMPLE

The FF-SRE3081 application example above illustrates contact multiplication of an emergency stop module FF-SRS5935 using a two-channel connection. A single-channel connection of a FF-SRE3081 to an emergency stop module is also possible.

One failure in an extension module that is connected to a safety control circuit will switch off all the modules in a control system due to redundant interfacing.

Multiple contacts of FF-SRE, used to switch one load, reduce the current of each contact and improve the life of the device.

When incorporating a FF-SRE3081 device into an installation, observe the applicable local safety regulations.



FF-SRE3081