

FF-SRST Emergency Stop Module with Timer

FEATURES

- Complies with the Machinery Directive for 98/37/EC, IEC 204, EN 60204, DIN VDE 0113 and UL 508
- Dual channel input
- Safety outputs: two direct NO contacts, one direct NC contact, two NO delayed contacts and one NC delayed contact
- Wide range of fixed and adjustable delay times
- Switching current from 1 mA to 5 A
- Automatic start or manual start mode with short-circuit detection on the push-button input
- Selectable cross-fault detection in emergency stop control circuit
- LEDs indicate power and internal relays status
- Mechanical life up to ten million operations
- Electrical life up to one million operations
- Overvoltage and short-circuit protection
- Removable terminal strips for ease of maintenance
- 45 mm / 1.77 in width

APPLICATIONS

- Emergency stop circuits on machines
- Category 1 emergency stop circuits per EN 418 and NFPA79: delayed isolation of power after machine stoppage
- Door protection: delayed opening of an interlocked protective gate



(Direct safety contacts)



(Delayed safety contacts)



The FF-SRST Emergency Stop modules with Timer are designed to be used in emergency stop circuits where danger to personnel or machinery is present. This device has four internal standard safety relays with positive-guided contacts, of which two of these safety relays are delayed.

In the **manual start mode**, the module accepts input from the safety device (safety light curtain, safety mat, safety switches, etc.) between S21/S22 and S31/S32 after activation of the push-button between S33 and S34.

In the **automatic start mode**, the module accepts immediate input from the safety device between S21/S22 and S31/S32.

After restart, the normally open safety contacts (13/14, 23/24, 47/48, 57/58) will close and the normally closed contacts (31/32, 65/66) will open. If an emergency stop condition occurs (safety device is actuated), the normally open contacts (13/14, 23/24) will open and the normally closed contact (31/32) will close immediately. After the selected delay time has elapsed the normally open contacts (47/48, 57/58) will open and the normally closed contact (65/66) will close.

This emergency stop condition is signalled by the direct safety contacts (13/14, 23/24, 31/32) for the machine control circuitry to first stop the dangerous motion and then to remove power after a certain time by the delayed contacts (57/58, 65/66).

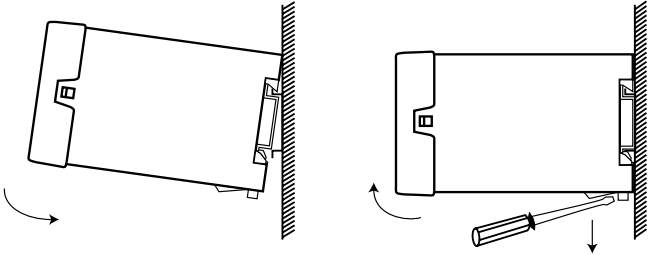
WARNING

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.

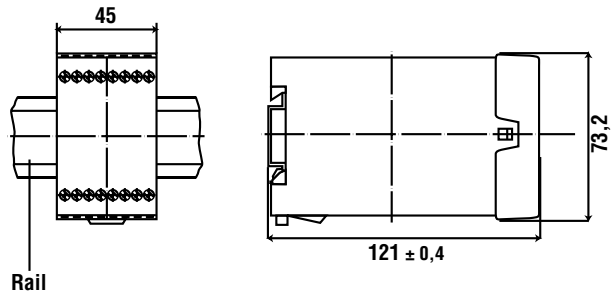
Failure to comply with these instructions could result in death or serious injury.

INSTALLATION DIAGRAM

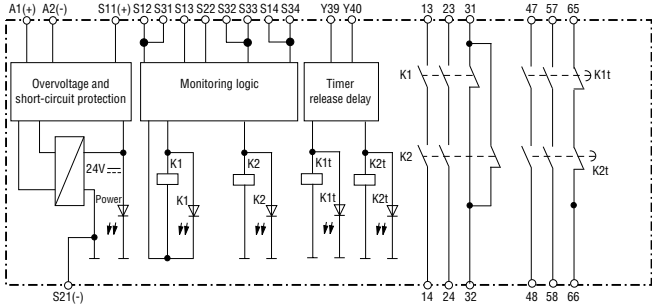


MOUNTING DIMENSIONS

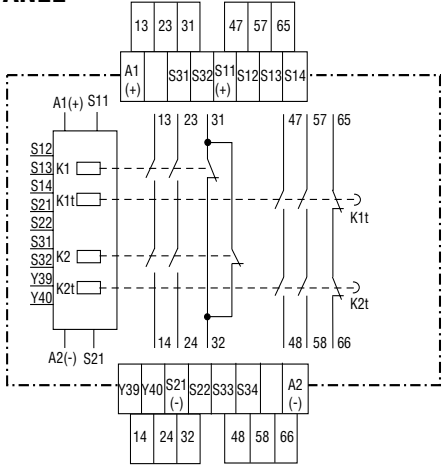
Width: 45 mm/1.7 in; Height: 74 mm/2.91 in; Depth: 121 mm/4.76 in



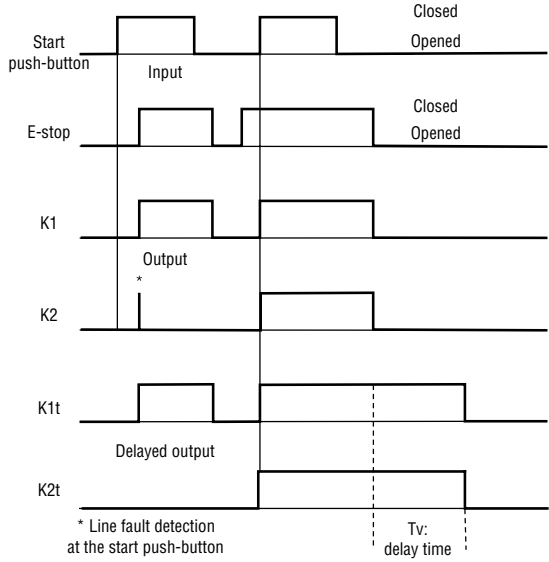
INTERNAL CIRCUITRY



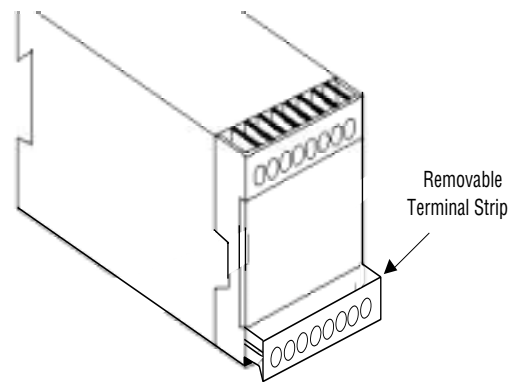
FRONT PANEL



FUNCTIONAL DIAGRAM



REMOVABLE TERMINAL BLOCKS



SETTING OF START MODE

Start Mode	Jumper between S13/S14	Start push-button between S33/S34	
Manual start mode	• not connected •		This module offers the possibility to function in the automatic start mode or manual start mode.
Automatic start mode	• connected •	• •	Insert the start push-button between terminals S33/S34 for manual start mode . Insert a jumper between S13/S14 for automatic start mode to function.

SETTING OF THE DELAYED CONTACTS

The off-delayed safety relays K1t and K2t (safety contacts 47/48 to 65/66) are only operational, if a jumper is set between Y39/Y40.

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