

Function name: FS – Foot switch

Example

Monitoring of a foot switch with cross-circuit monitoring of the external wiring. Activation coil FS01SA is triggered by a key switch.

The foot switch must only be active at reduced speed.

This condition is scanned with the OM (overspeed monitoring) function block.

Moving the switch from position 0 to 1 triggers the enable. The enable contact FS01QS of the function block closes and the signal is assigned to the safety marker MS05 for further processing.

The enable is removed if you hold down the switch to position 2 or take your foot off the switch to thus return it to position 0. When returning from switch position 2 to position 0, there is no enable when passing through position 1. The guard can only be bridged for up to 3 minutes.

This looks as follows in the electrical circuit diagram:

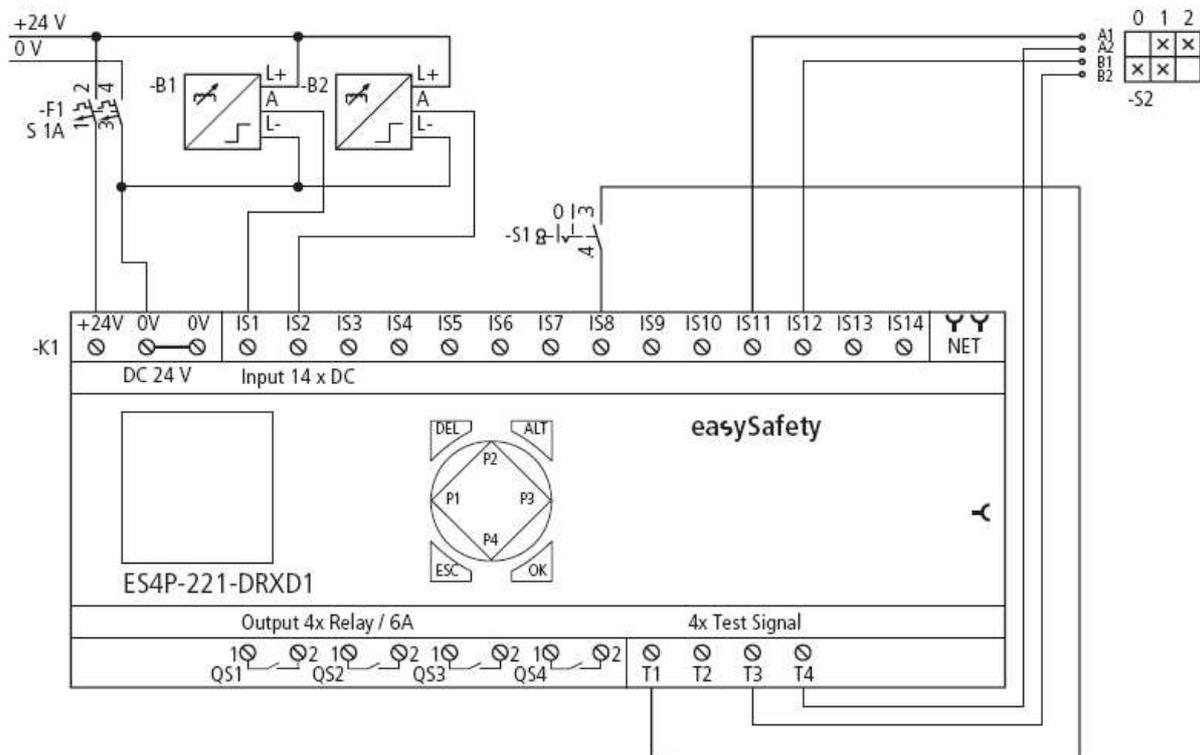


Figure 1: Electrical circuit diagram

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The signal diagram of the function block for this application shows:

- the dependence of the enable contact FS01QS on the status of coils FS01SA, FS01I1 and FS01I2 as well as the timeout of the enable time.

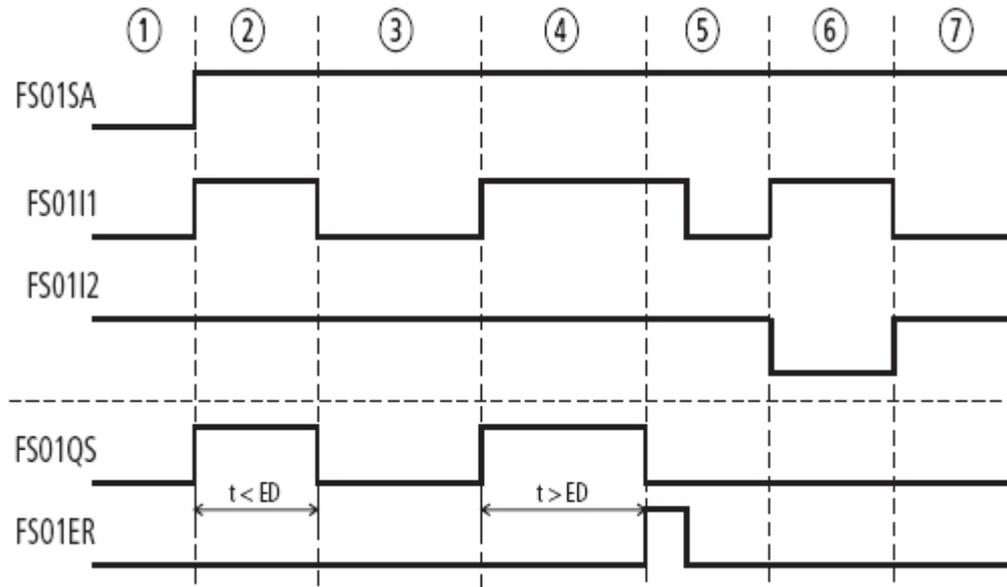


Figure 2: Signal diagram

- 1 The key switch is in the position for setting operation and the motor speed is slow. The foot switch can therefore be activated.
- 2 Actuation of the foot switch (switch position 1). The enable time is less than the time set at ED.
- 3 Release of the foot switch, the enable at FS01QS is removed.
- 4 Actuation of the foot switch (switch position 1). The enable time is greater than the time set at ED. The enable at FS01QS is removed after the enable time has elapsed. The function block outputs an error signal via FS01ER.
- 5 Acknowledgement of the error signal by releasing the foot switch. The foot switch is pressed beyond the pressure point and latches (positively opening contact is activated).
- f After releasing the foot switch with an additional pushbutton, this returns to its home position.

Please note: The master-password for the example file is: "111111".