

Function name: TH – Two-hand button TYPE III

Example - architecture of category 4 to EN 954-1 and ISO 13849-1

Monitoring of a 2-channel two hand button with crosscircuit detection. Actuation of the button triggers the enable.
The two hand button S2 is connected to the device terminals IS10 to IS13, the safety relay outputs QS1 and QS2 switch the contactors Q1 and Q2 directly.

This looks as follows in the electrical circuit diagram:

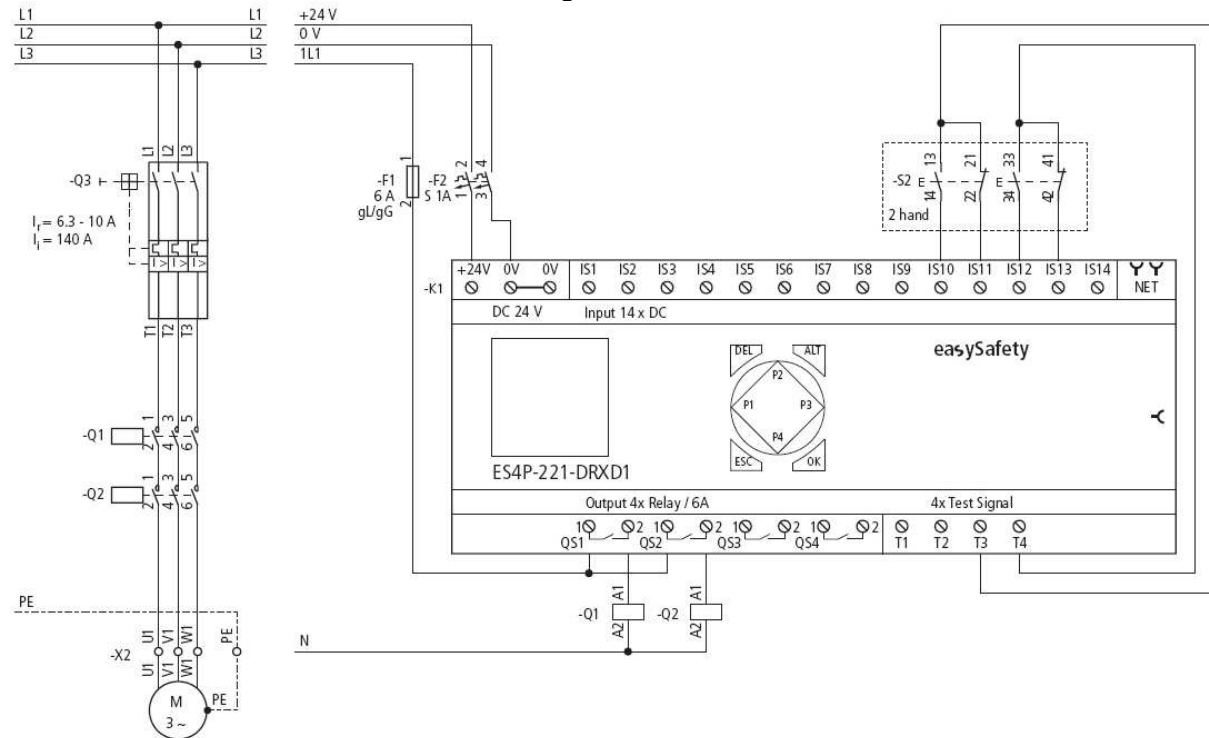


Figure 1: Electrical circuit diagram

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

- the dependence of the enable contact TH01QS on the status of coil TH01I1 and TH01I4:

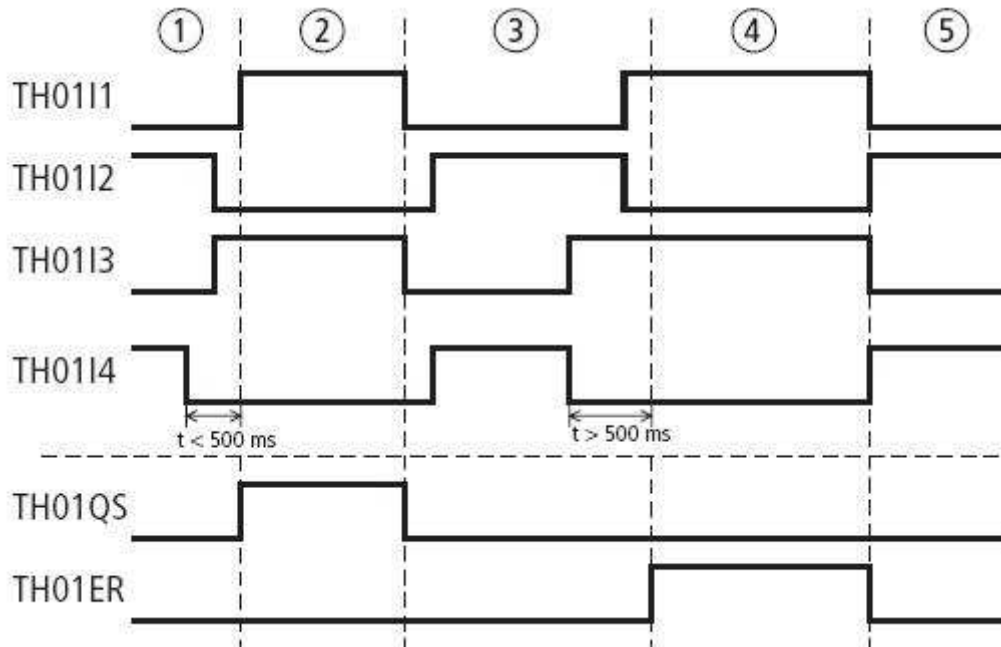


Figure 2: Signal diagram

- 1 Two-hand control starting non-actuated, then actuation of both make/break contact combinations within $t < 500$ ms.
- 2 No error: TH01QS closes.
- 3 Release of the two hand button, TH01QS opens, subsequent renewed actuation of both make/break combinations within ($t > 500$ ms).
- 4 Error: TH01ER closes.
- 5 Error acknowledgement: TH01I1 and TH01I3 drop out and pickup of TH01I2 and TH01I4.

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