

Function name: TS – Safety timing relay

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

If the emergency-stop button is actuated, the motor should not stop immediately but only after 2 seconds (stop category 1 to EN IEC 60204-1).

This looks as follows in the electrical circuit diagram:

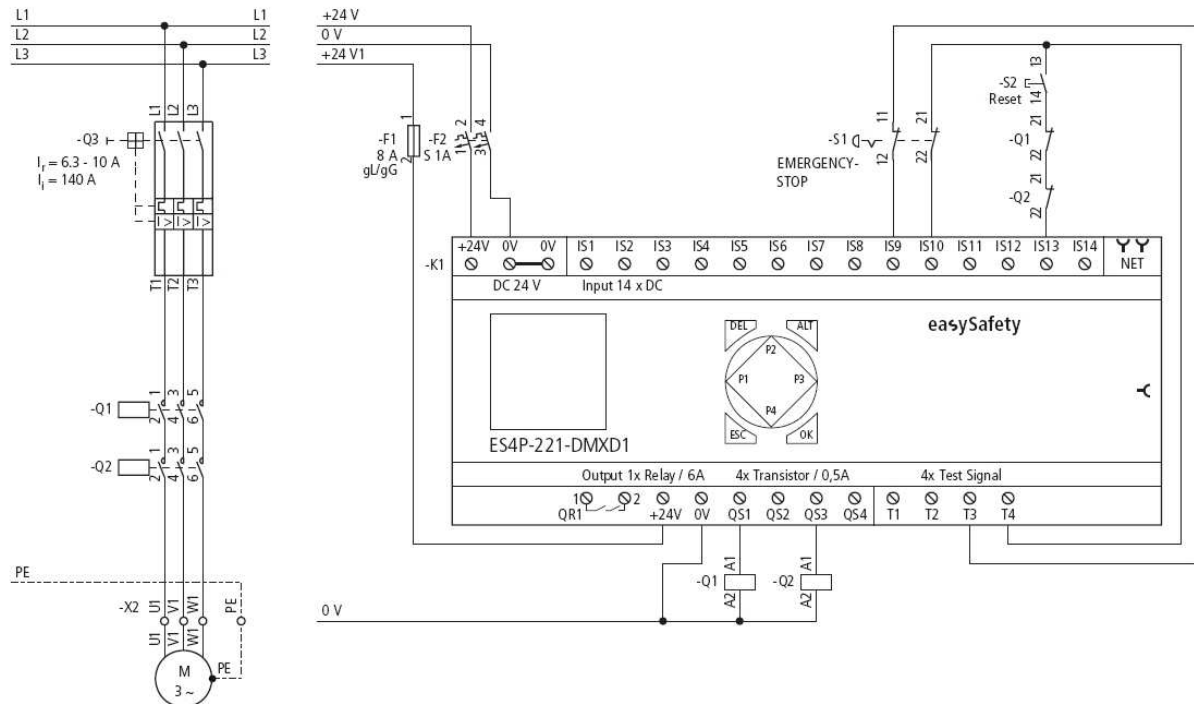


Figure 1: Electrical circuit diagram

Function name: TS – Safety timing relay

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

- The start of the timing relay, triggered by the emergency stop function block.
- The deactivation of the outputs after the delay time of 2 seconds has elapsed.

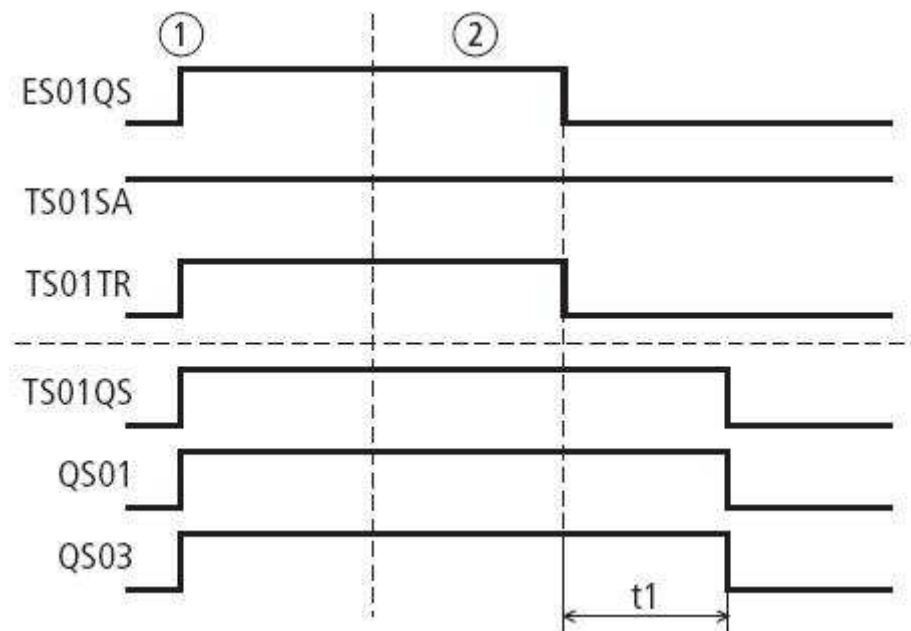


Figure 2: Signal diagram

- 1 Normal operation, emergency-stop not actuated, ES01QS closed.
- 2 Emergency-stop is actuated, enable contact ES01QS opened. The assignment of the contact ES01QS to the trigger coil of the timing relay causes the off-delayed time to run down. After two seconds, the contact of timing relay TS01QS opens and switches off the two device inputs QS01 and QS03.

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