

3-Belt Conveyor Control

Task definition

easy is required to control 3 conveyor belts.

Start is used to switch on the system and Stop to switch it off.

With Start switched on, the conveyor belts start up with a delay of two seconds (belt 1->2->3), as soon as an object is detected in front of the Conveyor start proximity switch. Each conveyor belt is on for 10 seconds after activation. If no object is reported at the Conveyor start proximity switch within this time, the conveyor belts switch off automatically with a 10-second delay (belt 1->2->3).

The daily unit quantity of transported parts is counted at the end of conveyor belt 3 at the Belt 3 proximity switch. The monitored quantity is also retained in the event of a power failure. The daily quantity value is cleared at the end of the day (23:59 pm).

If a fault occurs when the conveyor system is switched on (Emergency-Stop or motor-protective circuit-breaker tripped), the outputs Q01 to Q03 are deactivated and a fault signal is output via Q04.

The fault signal has a fast pulse frequency (flashing 0.5 seconds) and a slow pulse frequency (flashing 1 second):

The fast pulse indicates an actuated Emergency-Stop and the slow pulse a tripped motor-protective circuit-breaker. If both faults occur simultaneously, the Emergency-Stop signal has priority. A fault signal remains active until you have rectified the fault and reset the fault message via Fault reset.

When the system is switched on and there is no fault signal, a text display is activated to show the currently recorded daily quantity.

If a fault signal is output, an appropriate text display is activated for the fault signal concerned. This text display stays activated until the fault has been rectified and reset.

Device class used

easyE4

Wiring Inputs

I01	Start button
I02	Stop button
I03	Conveyor start proximity switch
I04	Belt 3 proximity switch
I05	Motor protection 1-3 aux. contact
I06	Run empty button
I07	Emergency-stop button
I08	Fault reset button

Outputs

Q01	Belt 1 motor
Q02	Belt 2 motor
Q03	Belt 3 motor
Q04	Fault indicator light

Parameters

C05	Daily unit quantity
H01	Counter reset (night)
T01	Pulse generation
T02	Belt 1 operation
T03	Belt 2 delay
T04	Belt 2 operation
T05	Belt 3 delay
T06	Belt 3 operation
T07	Emergency-Stop fault signal pulse
T08	Motor fault signal pulse