CS MF pre-programmed multifunction safety modules

Introduction

GEMNIS

An increasing number of users requires products which carry out several safety functions without needing the complex management of a safety PLC or the complex wiring of many traditional safety modules. Such problems arise mainly when the safety functions are typically greater than 3 or 4, and/or when managing a safety PLC software (software purchase, training courses, programming of all modules, software management and filing, updates etc.) turns out to be too great an overhead in relation to problem complexity.
Pizzato Elettrica introduces Gemnis, a series of electronic modules which are pre-programmed for specific customer applications or for generic safety macro-functions commonly used in industrial contexts. The following pages list some of the pre-programmed products for generic macro-functions commonly used in the industrial sector. These products are also available for individual purchase. Any customer requiring a product pre-programmed to their particular specification can contact the Pizzato Elettrica technical department (minimum volumes are requested).
The resulting advantages for customers typically include simplified product management (purchase of finished components) and reduced general costs (no software to be installed and managed, products are immediately operational).
All Gemnis series products are able to provide circuit solutions at SIL 3 (EN 62061), PL e (EN ISO 13849-1) or category 4 (EN ISO 13849-1) levels.

Quality marks:

EC type examination certificate:	M6A 075157 0032
UL approval:	E131787
CCC approval:	2024010305656748
TÜV SÜD approval:	Z10 075157 0031
EAC approval:	RU Д-IT.PA07.B.37848/24

Code structure

CS MF201M0-P••

Hardware code	
•••	hardware code

Program code	
P••	program code

Connection type	
M	Connector with screw terminals
X	Connector with spring terminals

Supply voltage	
0	24 Vdc

Product list

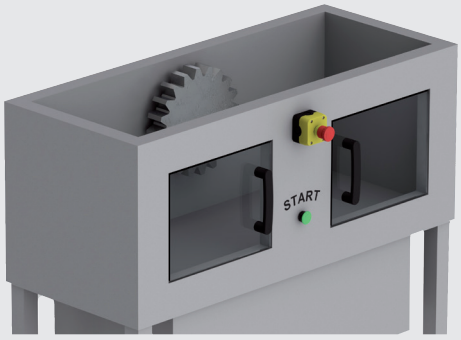
Product code	Functions executed	Safety outputs	Signalling outputs	Page
CS MF201M0-P1	Monitoring of 2 guards in AND and 1 emergency stop with automatic start or manual monitored start.	3 NO	4 PNP	123
CS MF202M0-P2	Monitoring of 4 guards in AND, 1 bypass selector, 1 emergency stop, automatic start or manual monitored start, general enabling signal.	4 PNP	4 PNP	124
CS MF202M0-P3	Monitoring of 6 guards in AND (2NC contacts), 1 emergency stop, automatic start or manual monitored start.	4 PNP	4 PNP	125
CS MF202M0-P4	Monitoring of 6 guards in AND (1NO+1NC contacts), 1 emergency stop, automatic start or manual monitored start.	4 PNP	4 PNP	126
CS MF202M0-P5	Monitoring of 4 guards with independent outputs, 1 bypass selector, 1 emergency stop, automatic start or manual monitored start, general enabling signal.	4 PNP	4 PNP	127
CS MF202M0-P6	Monitoring of 2 guards, 1 bypass selector, 1 emergency stop, automatic start or manual monitored start, general enabling signal. Three instantaneous outputs and one delayed output with selector switch with 4 times. Selectable On/Off delay.	4 PNP	4 PNP	128
CS MF202M0-P7	Monitoring of 4 guards (AND linked) with switches with guard locking, operating principle "D", 1 emergency stop, monitored start. Two instantaneous outputs and two delayed outputs with selector switch with 4 times.	4 PNP	4 PNP	129
CS MF202M0-P8	Monitoring of 4 guards in AND with switches with guard locking, operating principle "E", 1 emergency stop, monitored start. Two instantaneous outputs and two delayed outputs with selector switch with 4 times.	4 PNP	4 PNP	130
CS MF204M0-P10	Monitoring of 4 guards in AND (OSSD outputs) and 1 emergency stop with automatic start or manual monitored start.	3 NO	4 PNP	131

Legend:

- Movable guard monitoring
- Monitoring of a movable guard with lock
- Emergency stop
- Start function
- Bypass selector
- Time selector
- Enabling input

CS MF201M0-P1 pre-programmed module

Product code
CS MF201M0-P1



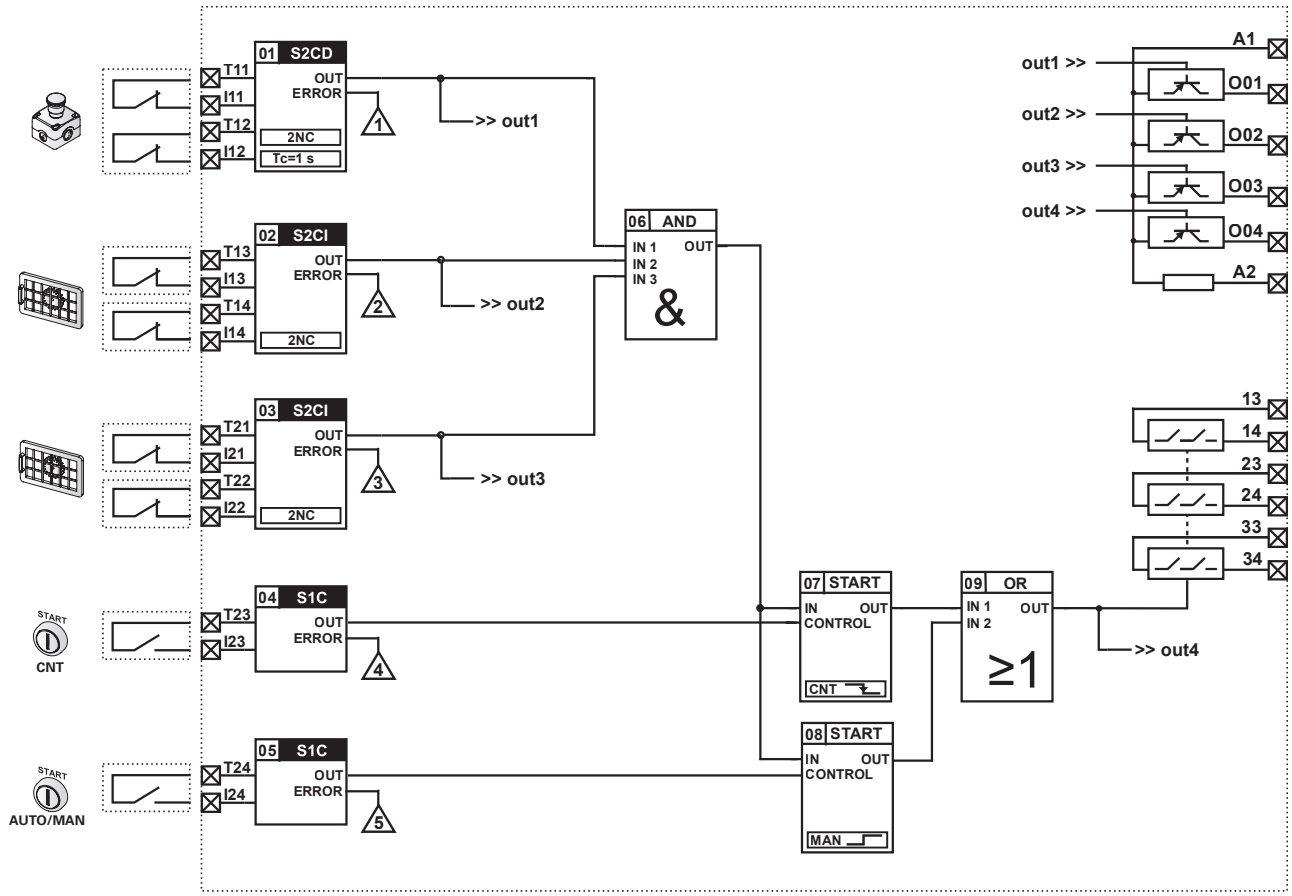
Main functions
- Monitoring of 2 guards
- Monitoring of 1 emergency stop
- Automatic start or monitored manual start

Outputs
- 3 NO safety outputs
- 4 PNP signalling outputs

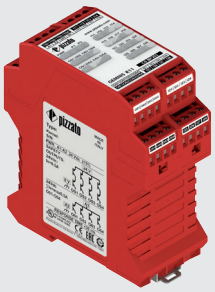
Technical data: see CS MP201M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

Application program: P1

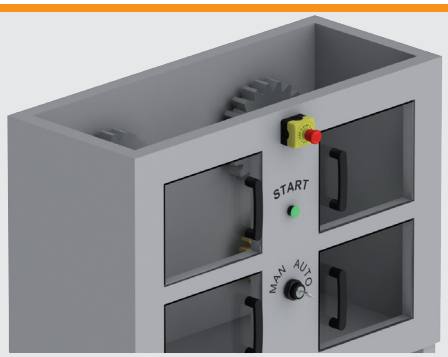
The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P2 pre-programmed module



Product code
CS MF202M0-P2



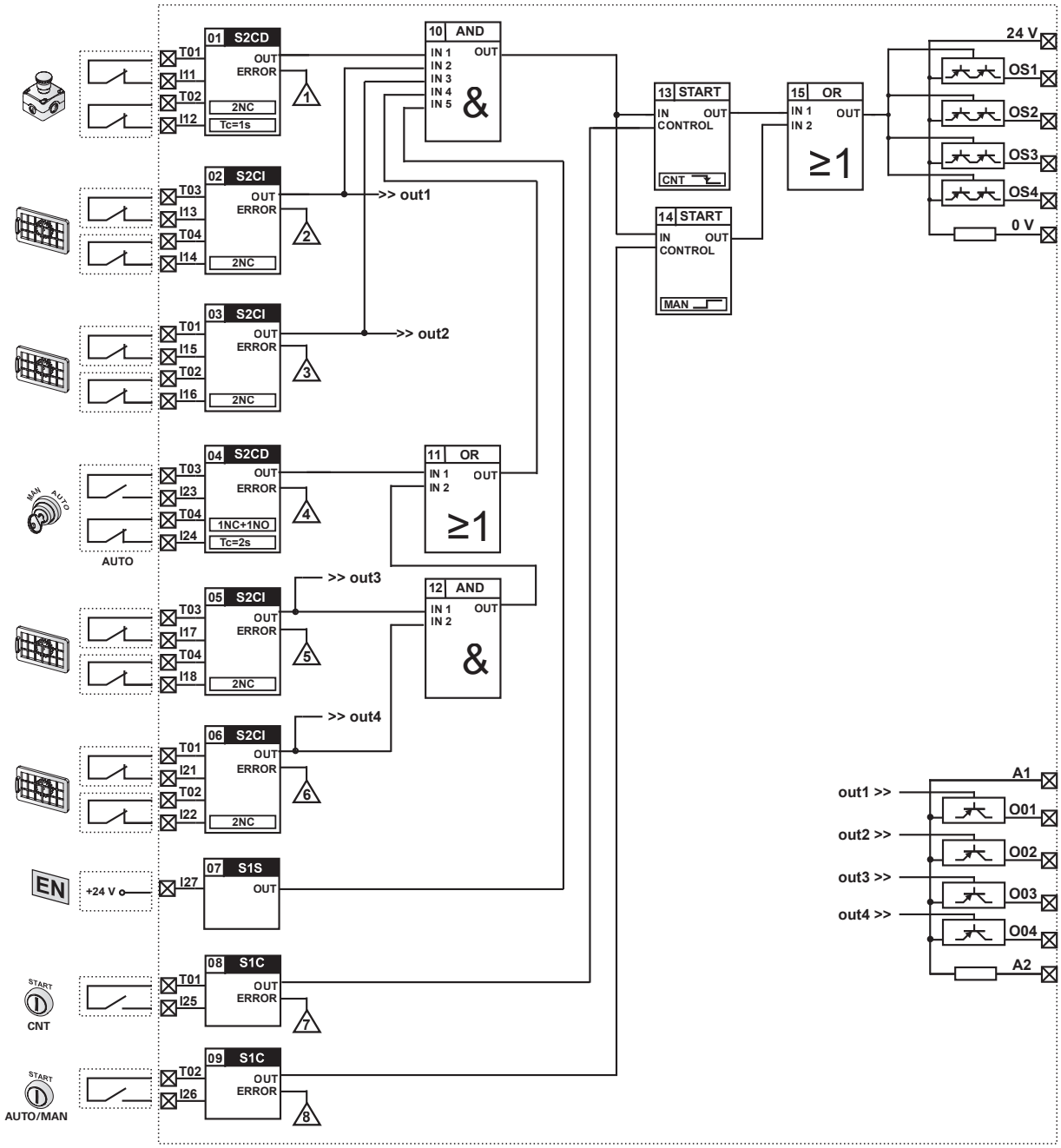
Main functions
- Monitoring of 4 guards
- 1 bypass selector
- 1 emergency stop
- Automatic start or monitored manual start
- General enabling signal

Outputs
- 4 PNP safety outputs
- 4 PNP signalling outputs

Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

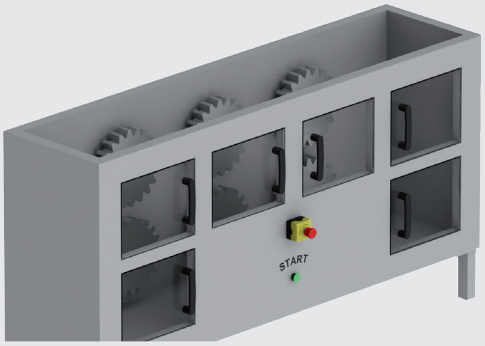
Application program: P2

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P3 pre-programmed module

Product code
CS MF202M0-P3



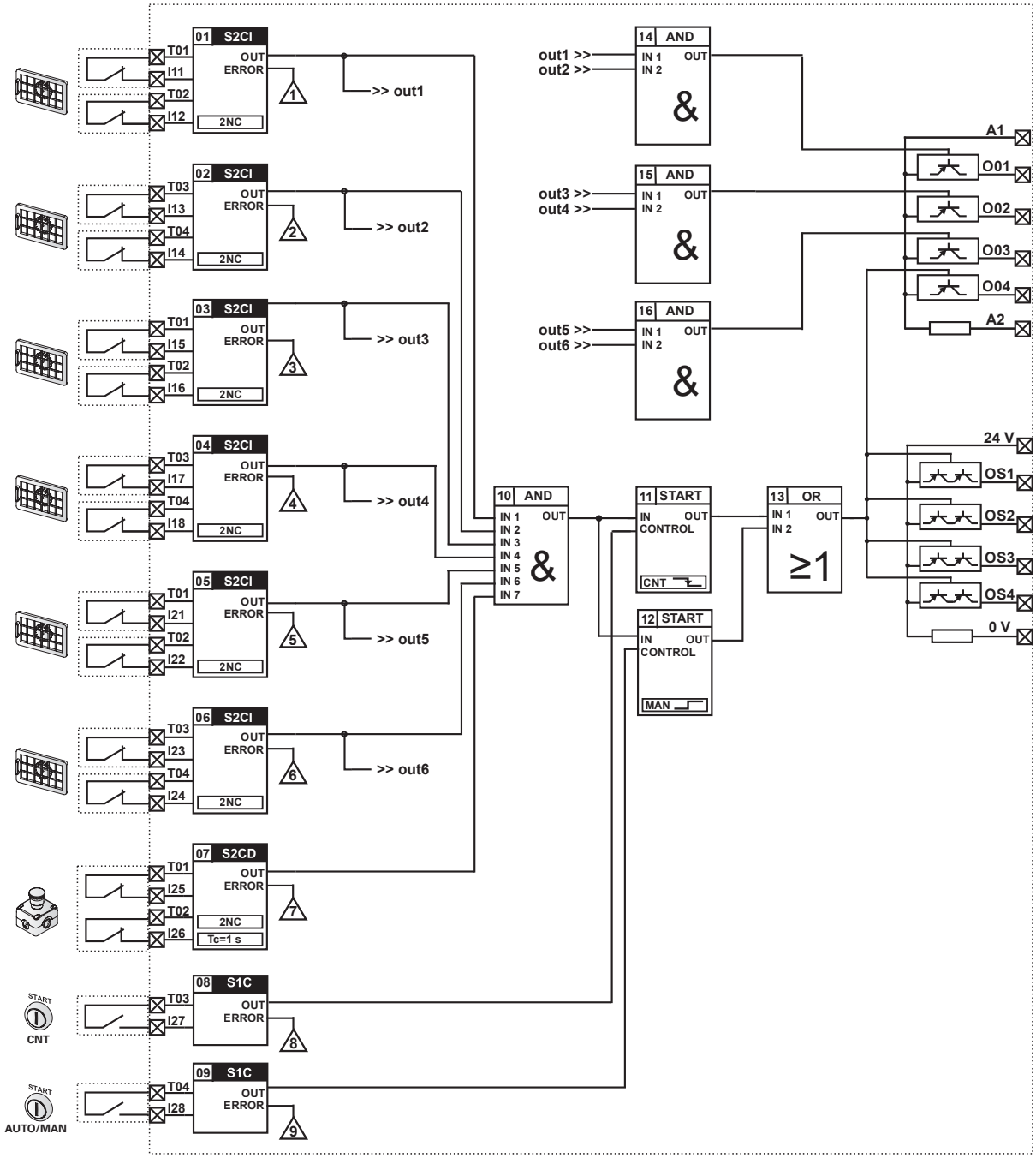
Main functions
- Monitoring of 6 guards (2NC contacts)
- 1 emergency stop
- Automatic start or monitored manual start

Outputs
- 4 PNP safety outputs
- 4 PNP signalling outputs

Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

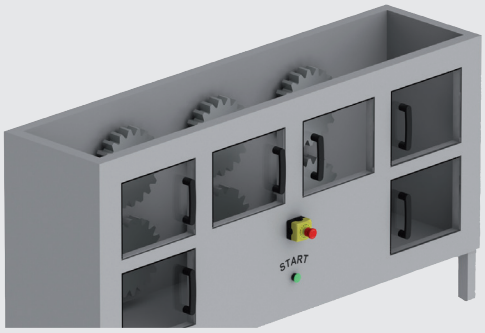
Application program: P3

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P4 pre-programmed module

Product code
CS MF202M0-P4



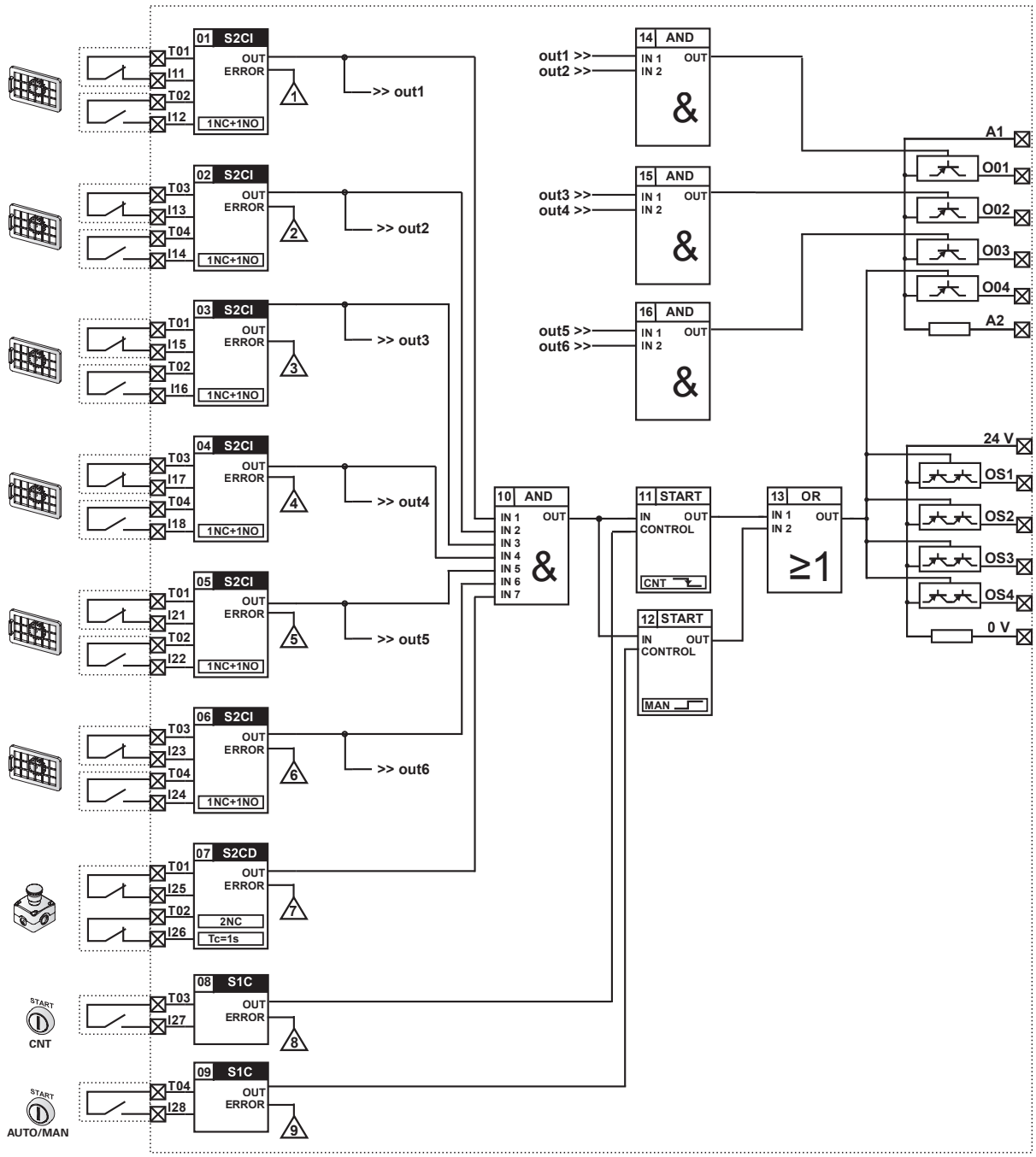
Main functions
- Monitoring of 6 guards (1NC+1NO contacts)
- 1 emergency stop
- Automatic start or monitored manual start

Outputs
- 4 PNP safety outputs
- 4 PNP signalling outputs

Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

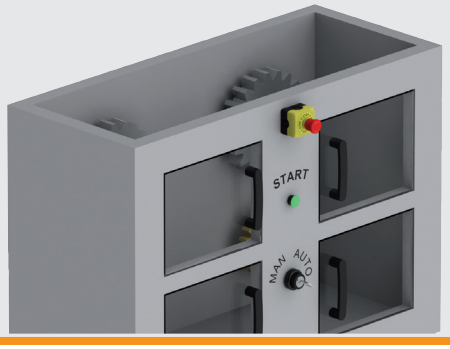
Application program: P4

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P5 pre-programmed module

Product code
CS MF202M0-P5



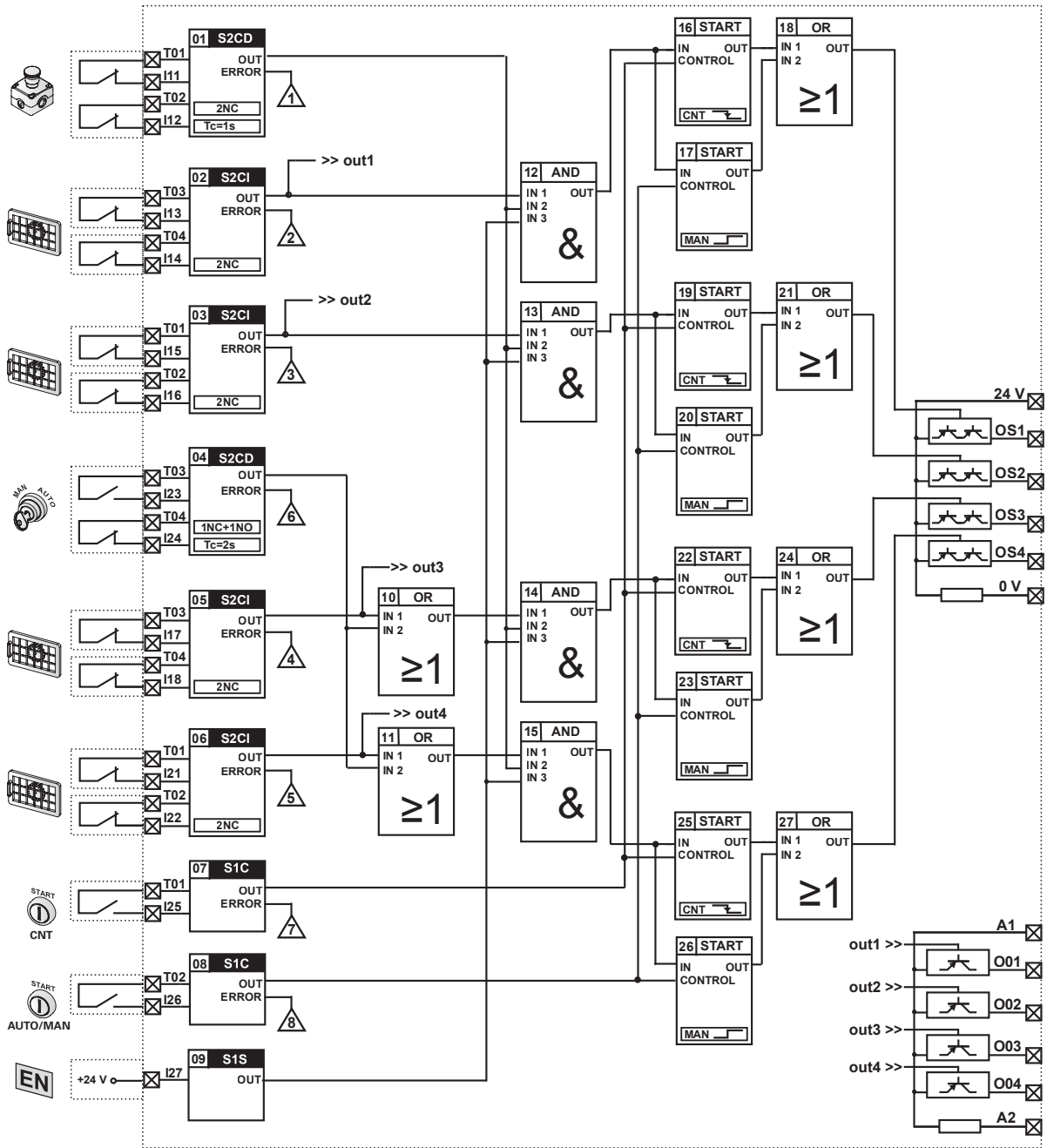
Main functions
- Monitoring of 4 guards with independent outputs
- 1 bypass selector
- 1 emergency stop
- Automatic start or monitored manual start
- General enabling signal

Outputs
- 4 PNP safety outputs
- 4 PNP signalling outputs

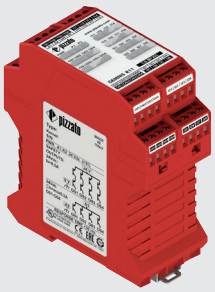
Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

Application program: P5

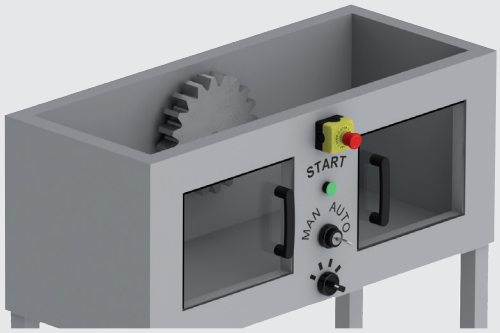
The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P6 pre-programmed module



Product code
CS MF202M0-P6



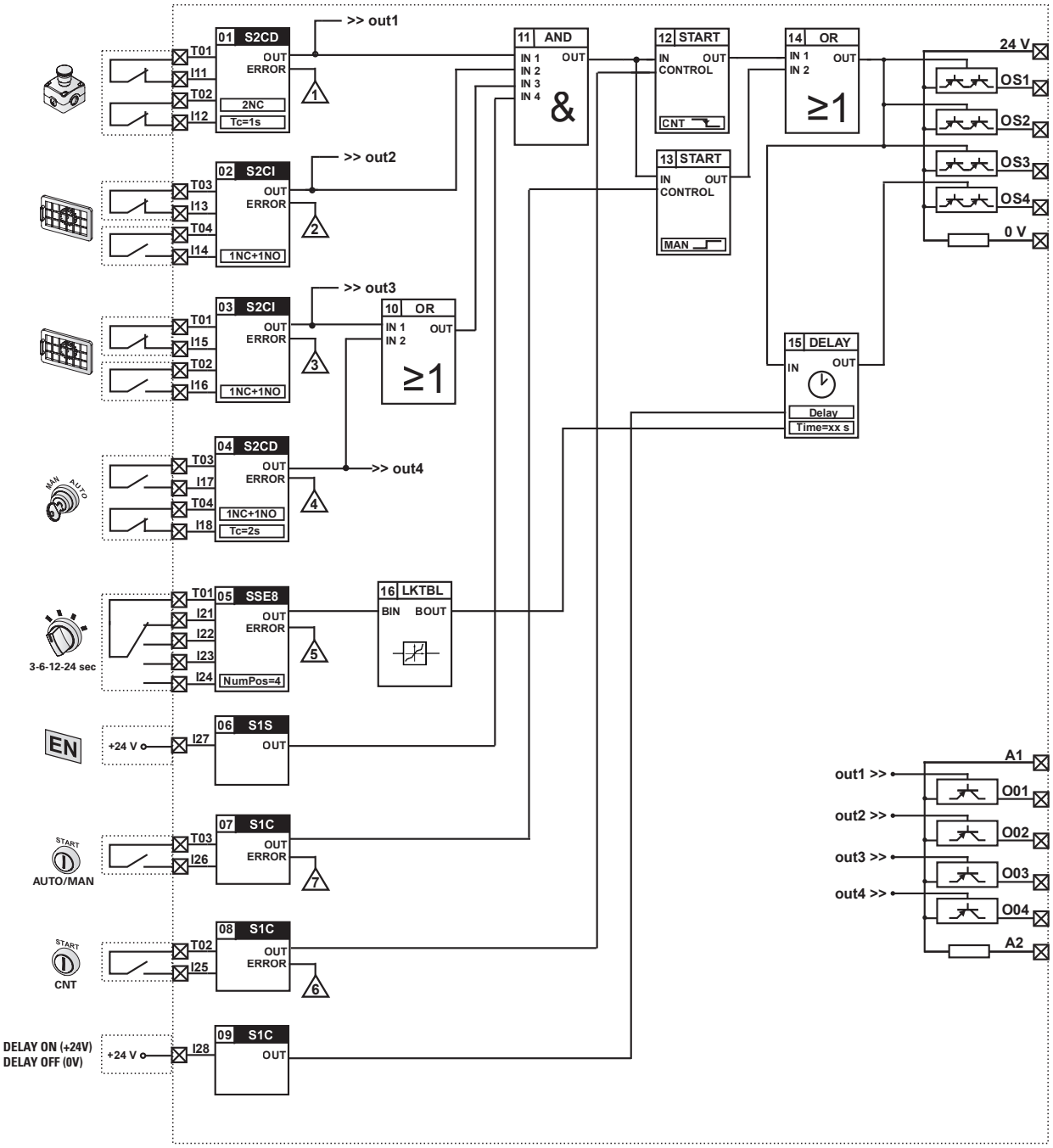
Main functions
- Monitoring of 2 guards
- 1 bypass
- 1 emergency stop
- Automatic start or monitored manual start
- General enabling signal
- Selectable On/Off delay
- Selector switch with 4 times

Outputs
- Three instantaneous outputs and one delayed PNP safety output
- 4 PNP signalling outputs

Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

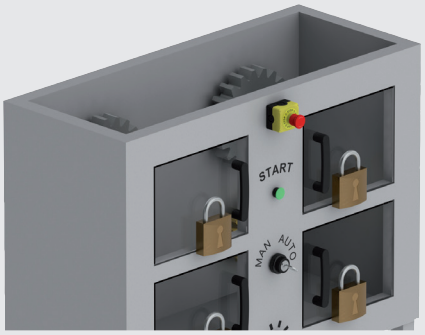
Application program: P6

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P7 pre-programmed module

Product code
CS MF202M0-P7



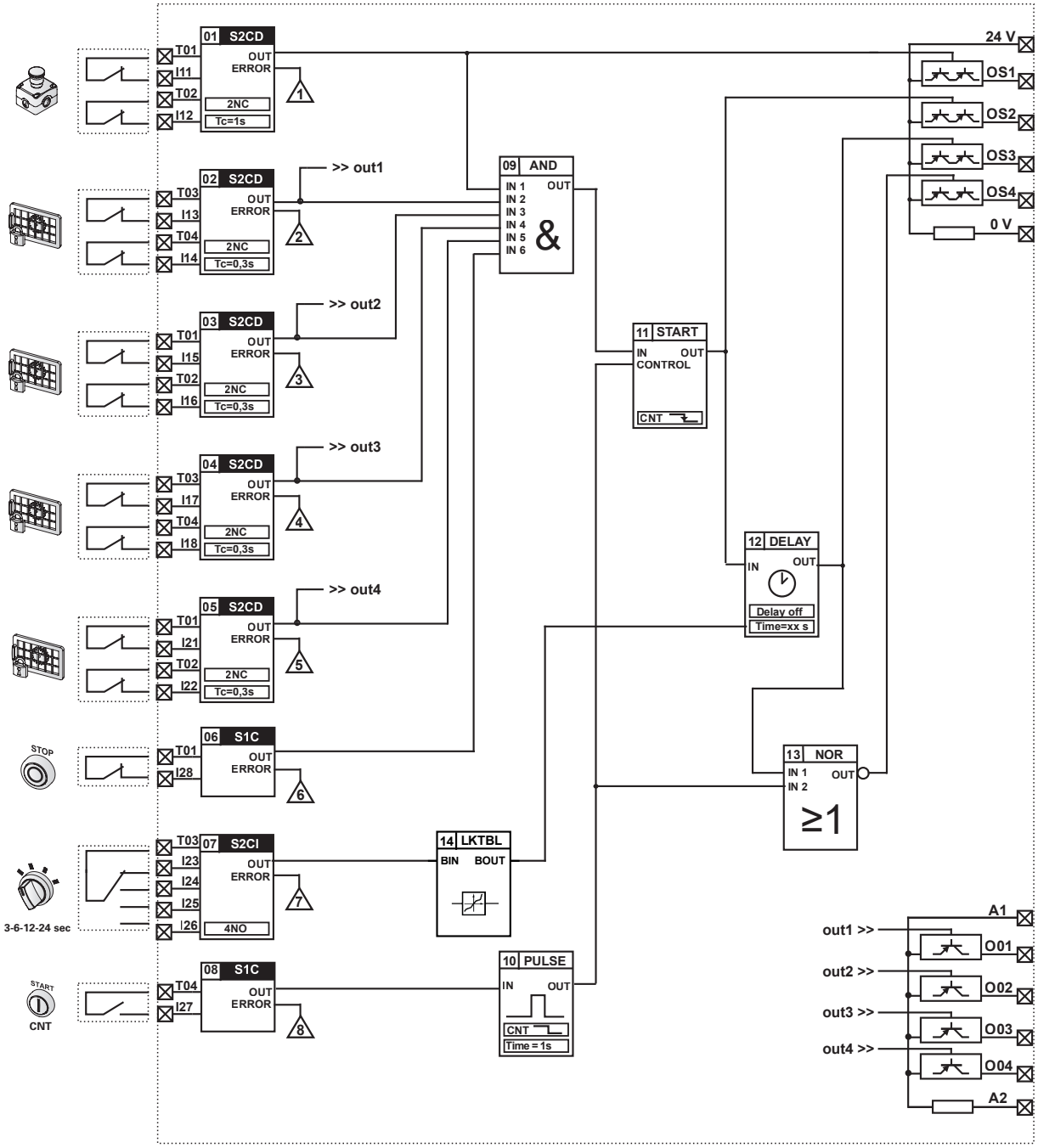
Main functions
- Monitoring of 4 guards with switches with guard locking, operating principle "D" (guard locked if solenoid is de-energised)
- 1 emergency stop
- Monitored start

Outputs
- 2 instantaneous outputs and 2 delayed PNP safety outputs with selector switch with 4 times
- 4 PNP signalling outputs
- OS4 output for door locking control

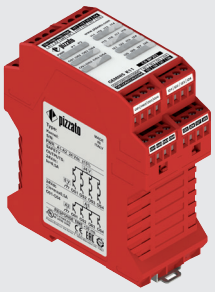
Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

Application program: P7

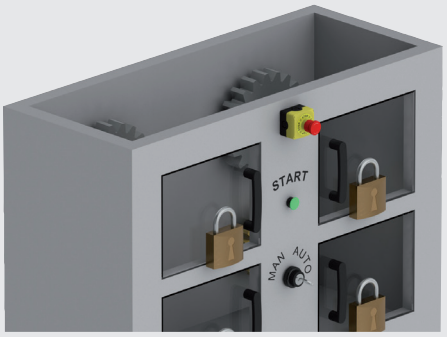
The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF202M0-P8 pre-programmed module



Product code
CS MF202M0-P8



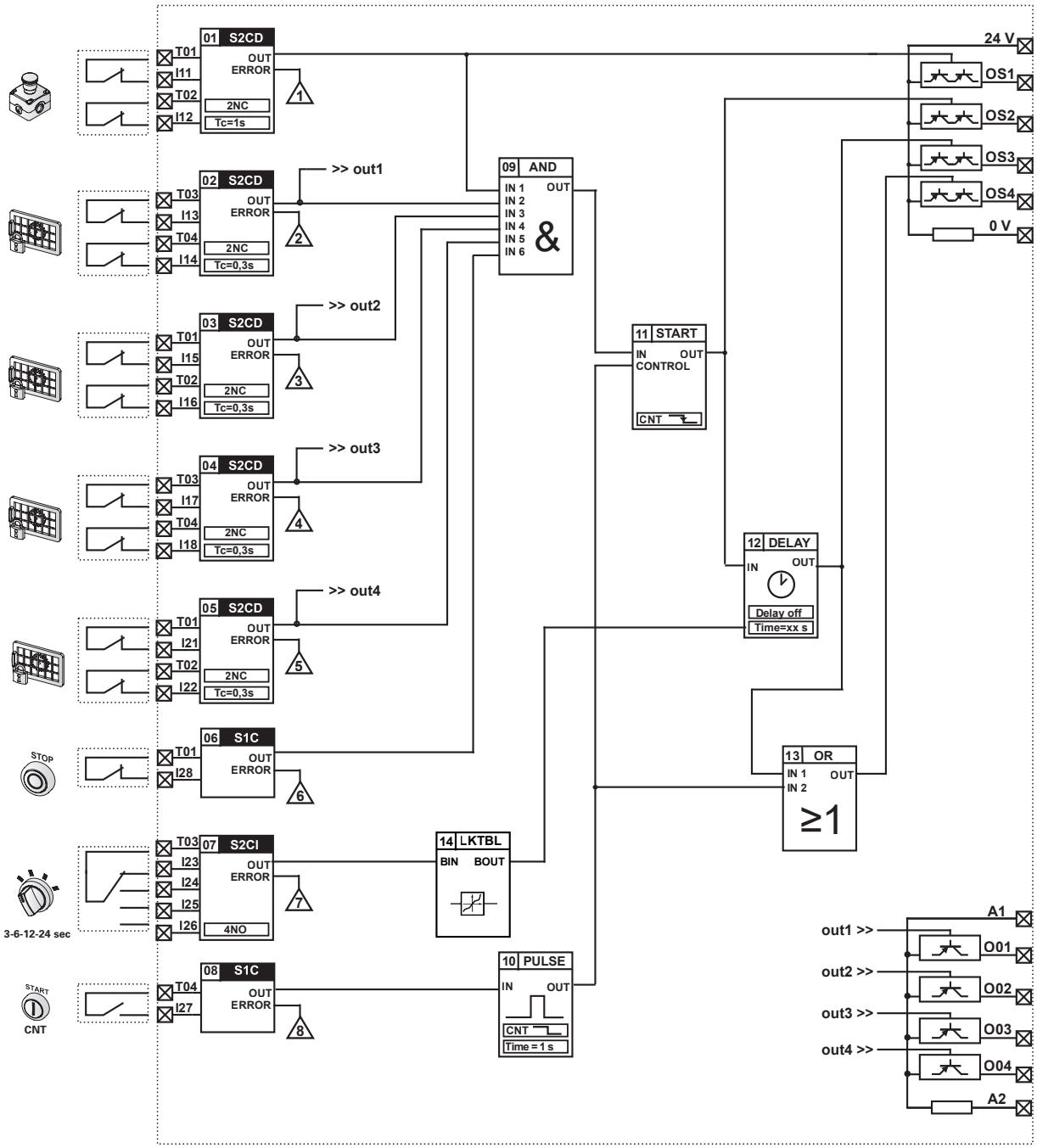
Main functions
- Monitoring of 4 guards with switches with guard locking, operating principle "E" (guard locked if solenoid is energised)
- 1 emergency stop
- Monitored start

Outputs
- 2 instantaneous outputs and 2 delayed PNP safety outputs with selector switch with 4 times
- 4 PNP signalling outputs
- OS4 output for door locking control

Technical data: see CS MP202M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

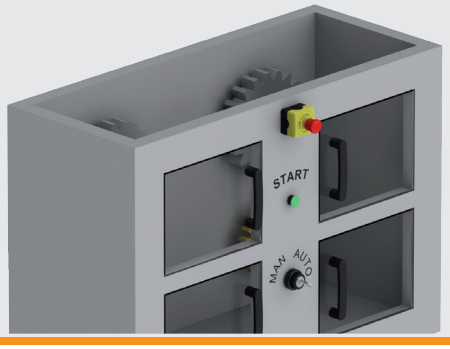
Application program: P8

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



CS MF204M0-P10 pre-programmed module

Product code
CS MF204M0-P10



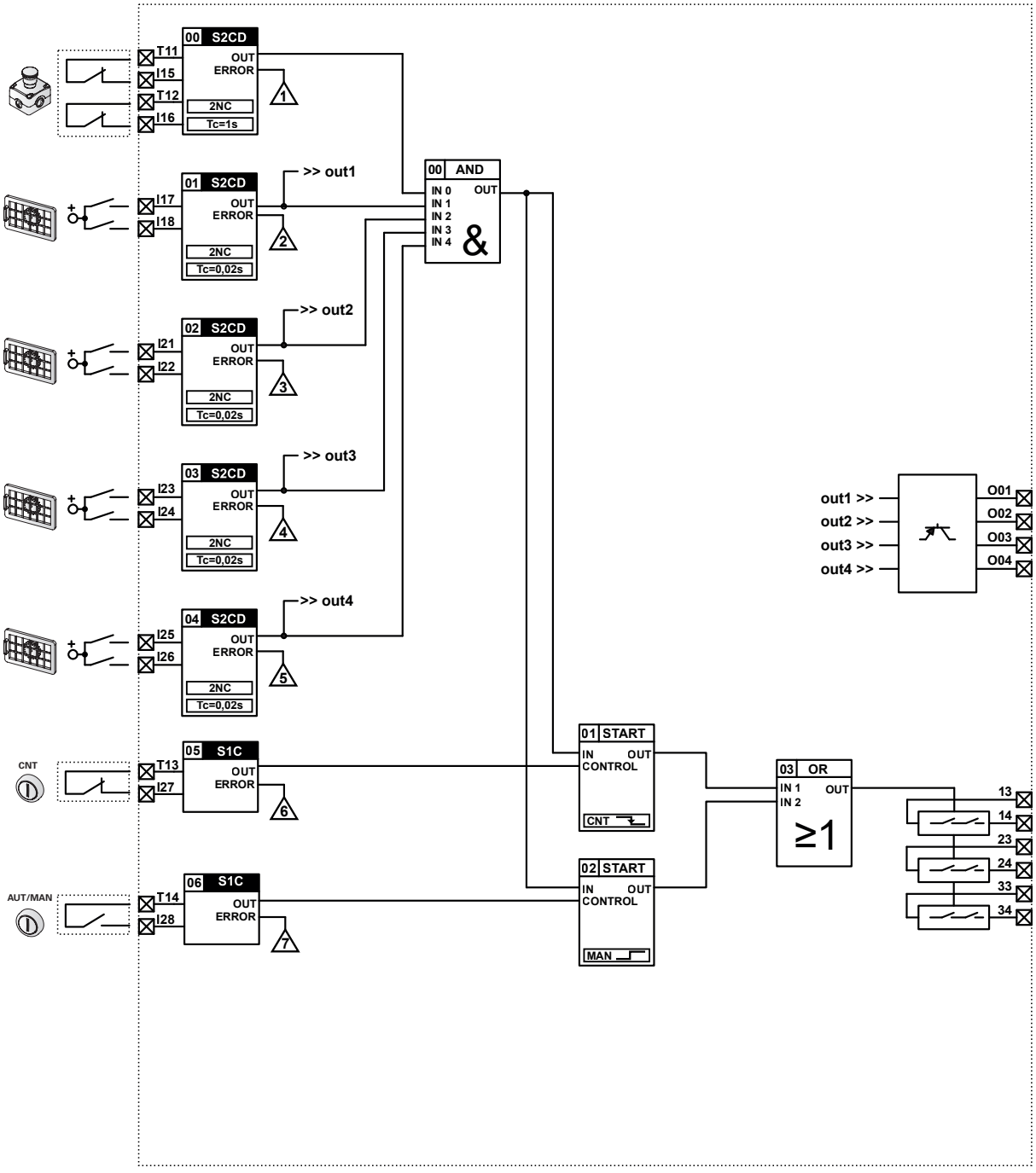
Main functions
- Monitoring of 4 guards in AND (OSSD outputs)
- 1 emergency stop
- Automatic start or monitored manual start

Outputs
- 3NO safety outputs
- 4 PNP signalling outputs

Technical data: see CS MP204M0
Dimensions, cable cross sections, terminal tightening torque: page 136, design C
Internal wiring diagram: page 138
Terminal layout: page 138

Application program: P10

The application program stored in the module executes one or more safety functions, as shown in the following block diagram:



Notes