

Safety. Detection. Control.



MOSAIC

MODular SAFETY Integrated Controller

SIL 3 configurable safety controller

REER

# A unique safety controller: modular, expandable and configurable

## Key features

Mosaic is a safety hub able to manage all safety functions of a machinery or a plant.

Configurable and scalable.

Allows cost reductions and minimal wiring.

## Mosaic can manage safety sensors and signals such as

Light curtains, photocells, laser scanners, emergency stops, electromechanical switches, guard-lock safety door switches, magnetic switches, safety mats and edges, two-hands controls, hand grip switches, encoders and proximities for safety speed control.

## Advantages

Reducing the number of devices and wiring used and, therefore, the overall size of the project.

Speeding-up control panel construction.

Allows tamper-proof system configurations.

All logic is configured through a graphic interface. No more laborious wiring is needed as with traditional solutions.

A lower number of electromechanical components also means a better Performance Level and, therefore, a higher Safety Level.

The project report provides the actual values of PFH, DCavg and MTTFd according to EN 13849-1 and EN 62061.



# MOSAIC

## MOdular SAFety Integrated Controller



communication

speed monitoring



### MBx

Field-bus units

MBD Profibus DP

MBD DeviceNET

MBC CANopen

MBEI EthernetIP

MBEI2B EthernetIP

MBEC EtherCAT

MBEP Profinet

MBMR Modbus RTU

MBEM Modbus TCP/IP

MBU USB

### MCT

Interface connection units

Interface module allowing the connection of remote expansions via the proprietary MSC bus

#### MCT1

1 connection interface  
(1 I/O cable)

#### MCT2

2 connection interface  
(2 I/O cables)

### MV0/MV1/MV2

Speed monitoring units

Safety speed monitoring (up to PL e) for: Zero speed control, Maximum speed control, Speed range control, Direction

#### MV0

Input for 2 proximity switches

#### MV1

Input for 1 incremental encoder and 2 proximity switches

#### MV2

Input for 2 incremental encoders and 2 proximity switches

# MOdular SAfety Integrated Control

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# Connect up to 14 expansion units to the M1 master unit

safety relays



## MR2/MR4

Safety relay output units

### MR2

2 safety relays with guided contacts

2 NO + 1 NC contacts (250 VAC 6 A)

1 NC contacts for EDM feedback

### MR4

4 safety relays with guided contacts

4 NO + 2 NC contacts (250 VAC 6 A)

2 NC contacts for EDM feedback

## MOR4/MOR4S8

Safety relay output units

### MOR4

4 safety relays with guided contacts

4 NO contacts (250 VAC 6 A)

It is possible to select two different configurations via MSD:

4 independent single channel outputs

2 dual channel outputs

4 inputs for Start/Restart interlock and EDM

Single channel LED signaling

### MOR4S8

As MOR4, with 8 status outputs (PNP 100 mA)

additional I/O



## M1

### Master unit

8 digital inputs

2 inputs for Start/Restart interlock and EDM

2 pairs OSSD Cat. 4 safety outputs (PNP 400 mA)

2 status outputs (PNP 100 mA)

4 test outputs (for short-circuits monitoring)

additional inputs



## M1802

Input/Output units

8 digital inputs

2 inputs for Start/Restart interlock and EDM

2 pairs OSSD Cat. 4 safety outputs (PNP 400 mA)

2 status outputs (PNP 100 mA)

4 test outputs (for short-circuits monitoring)



## M18/M16

Input units

### M18

8 digital inputs

4 test outputs (for short-circuits monitoring)

### M16

16 digital inputs

4 test outputs (for short-circuits monitoring)

## M12T8

Input module with test unit

12 digital inputs

8 test outputs (for short-circuits monitoring)

Can manage up to 4 independent safety mats/edges

# additional outputs



## MO2/MO4

### Output units

#### MO2

2 pairs OSSD Cat. 4 safety outputs (PNP 400 mA)

2 inputs for Start/Restart interlock and EDM

2 status outputs (PNP 100 mA)

#### MO4

4 pairs OSSD Cat. 4 safety outputs (PNP 400 mA)

4 inputs for Start/Restart interlock and EDM

4 status outputs (PNP 100 mA)

## MO4LHCS8

### High current output units

4 single channel or 2 pairs OSSD Cat. 4 safety outputs (PNP 2,0 A)

4 inputs for Start/Restart interlock and EDM

8 status outputs (PNP 100 mA)

## MOS8/MOS16

### Non-safety output units

#### MOS8

8 status outputs (PNP 100 mA)

#### MOS16

16 status outputs (PNP 100 mA)

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## More than 50 years of quality and innovation

Founded in Turin, Italy in 1959, ReeR distinguished itself for its strong commitment to innovation and technology.

A steady growth throughout the years allowed ReeR to become a point of reference in the safety automation industry at a worldwide level.

The Safety Division is in fact today a world leader in the development and manufacturing of safety optoelectronic sensors and controllers.

ReeR is ISO 9001, ISO 14001 and BS OHSAS 18001 certified.



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