

# MOSAIC

**MOSAIC** is the new modular and configurable safety controller of ReeR.

This new safety device is capable of monitoring several safety sensors and commands at the same time such as safety light curtains, safety photocells, emergency stops, safety mats, magnetic or mechanical switches, two-hand controls, etc.

Thanks to MOSAIC's modular and expandable structure, it is possible to adapt its I/O configuration and functionality to the demands of many different applications. This makes MOSAIC a highly versatile and flexible safety controller.

MOSAIC has solid state and/or relay outputs. They can be instantaneous or delayed.



Mosaic is certified to the highest safety levels established by industrial safety standards: SIL 3, SILCL 3, PL e, Cat. 4.

## Main system features

- Compact design: single module dimensions 22.5 x 99 x 114.5 mm
- Removable terminal blocks, screw contacts
- Can be used with the main safety sensors and commands
- Easy, intuitive graphic configuration software (MSD - Mosaic Safety Designer) provided with the M1 at no extra cost
- Wide range of software-configurable safety functions and logical operators
- Removable memory card for configuration data storage (MCM - Mosaic Configuration Memory)
- Communication between units on proprietary high-speed bus (MSC - Mosaic Safety Communication)
- Max. 14 expansion units in addition to the M1 Master, excluding relay modules
- Max. 128 inputs and 8 OSSD pairs
- MSC bus transfer up to 100 m through I/O remote expansion units
- Digital safety inputs, programmable individually or in pairs, with the possibility of monitoring via dedicated output signals
- Possibility of programming filters and delays for each single input
- Possibility of programming output activation and de-activation delays
- Possibility of independent control of pairs of outputs
- Programmable diagnostic output signals
- Simple diagnostics via front led signalling, configuration software and bus expansion modules



**MSC** Mosaic Safety Communication



Safety level:

**SIL 3**

**SIL 3 – SILCL 3  
PL e – Cat. 4**

**Main unit and expansion units features**

- M1 stand alone main unit:
  - 8 safety inputs, 2 OSSD pairs - 400 mA output current - with separate EDM and Start/Restart, 4 test outputs and 2 programmable status outputs
  - configurable via PC through USB interface
  - MCM (Mosaic Configuration Memory card) slot for program storage
- MI802 expansion unit:
  - 8 safety inputs, 2 OSSD pairs - 400 mA output current - with separate EDM and Start/Restart, 4 test outputs and 2 programmable status outputs
- MI8 and MI16 expansion units:
  - 8 and 16 safety inputs, 4 test outputs
- MI12T8 expansion unit:
  - 12 safety inputs, 8 test outputs - ideal for 4 wires safety mats and safety edges (can control up to 4 devices)
- MO2 and MO4 expansion units:
  - 2 and 4 OSSD pairs - 400 mA output current - with separate EDM and Start/Restart, 2/4 programmable status outputs
- MR2 and MR4 relay units:
  - 2 and 4 safety relays with 2 NO + 1 NC 6 A, 250 Vac guided contacts
- MB expansion units for the connection to the most common industrial Field-bus systems:
  - MBP-PROFIBUS DP, MBD-DeviceNet, MBC-CANopen, MBEI-Ethernet IP, MBEC-EtherCAT, MBEP-PROFINET

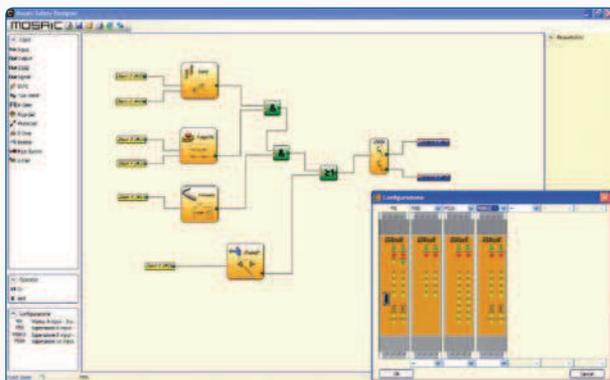
**Mosaic Safety Designer**

Mosaic Safety Designer (MSD) software is a user-friendly configuration tool which makes the programming of MOSAIC possible in just a few simple steps. By clicking on the functional icons it is easy to 'Drag&Drop' and configure any safety functions.

Thanks to an accurate functional test incorporated into the Mosaic Safety Designer (MSD) software, configuration errors are detected immediately. This also helps to guarantee that configuration errors cannot lead to an unsafe situation and valuable time is not lost during the commissioning of the machine.

In addition, the multi-level password management of Mosaic Safety Designer (MSD) gives further security against non-authorized access to the configuration software.

Through the MONITOR I/O feature it is possible to perform a real time monitoring of the I/Os status and the diagnostic of a working Mosaic system



**MSD** Mosaic Safety Designer



**MCM** Mosaic Configuration Memory Chip