ReeR

Your future's safe!

SIXTY
sessanta
ReeR 1959

MOSAIC

modular safety integrated controller

short form

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, RFID 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

Watch the video!

EN 8120/50

RoHS Compliant

communication   speed monitoring   safe...

MBx   MCT   MV0   MV1   MV2   MR2   MR

MBx

Field-bus units

MBP Profibus DP
MBD DeviceNET
MBC CANopen
MBEI EthernetIP
MBEI2B EthernetIP
MBEC EtherCAT
MBEP Profinet
MBMR Modbus RTU
MBEM Modbus TCP
MBU USB

MBCCL CC-Link

new

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
(TTL, HTL or SIN/COS)

MV2
Input for 2 incremental encoders
and 2 proximity switches
(TTL, HTL or SIN/COS)

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)

MR2/MR4

Safety relay out...

MR2
2 safety relays with
2 NO + 1 NC contac...
1 NC contacts for ED...

MR4
4 safety relays with
4 NO + 2 NC contac...
2 NC contacts for ED...

MOR4/MOR4S8

Safety relay output units

MOR4

4 safety relays with guided contac...
4 NO contacts (250 VAC 6 A)
4 inputs for Start/Restart interloc...
It is possible to select two differe...
configurations via MSD:
4 independent single channel out...
2 dual channel outputs

MOR4S8
As MOR4, with 8 status outputs (...

Master Units

...ety relays

additional I/O

MOR4   MOR4   MOR4S8

M1   M1S

MI8O2   MI8O4

new

M1S

Enhanced Master Unit

8 digital inputs

4 inputs for Start/Restart interlock and EDM

4 single (or 2 pairs) OSSD safety outputs (PNP 400 mA)

4 status outputs (PNP 100 mA)

4 test outputs (for short-circuits monitoring)

M1

Standard Master Unit

8 digital inputs

2 inputs for Start/Restart interlock and EDM

2 pairs OSSD safety outputs (PNP 400 mA)

2 status outputs (PNP 100 mA)

4 test outputs (for short-circuits monitoring)

MI8O2/...

Input/Ou...

MI8O2

8 digital inp...

2 inputs for...

2 pairs OSS...
(PNP 400 m...

2 status ou...
(PNP 100 m...

4 test outp...

MI8O4

8 digital inp...

4 inputs for...

4 single (or...
safety outp...

4 status ou...
(PNP 100 m...

4 test outp...

...put units

...guided contacts
...s (250 VAC 6 A)
...DM feedback

...guided contacts
...s (250 VAC 6 A)
...DM feedback

...cts

...k and EDM
...t

...puts

...PNP 100 mA)

New operators

Timer and delay with longer limits.

2 steps restart.

Multi-level thresholds for speed monitor, timers, etc. (comparators).

New restart including signal for the push button light (flashing for restart request, off for other conditions).

I/O

4 single (or 2 double) safety outputs (PNP 400 mA).

Status outputs can be converted in feedback inputs (up to 4 feedback input for the 4 single-channel outputs).

New footprint map for fieldbus modules.

Features*	M1	M1S
Fieldbus inputs	8	32
Safety outputs	16	32
Status outputs	32	48
MSD Operators	64	128
Timer	32	48
Muting	4	8
Safety guard lock	4	8
Probes	16	32

Features of the System composed by M1/M1S + 14 expansion...

MOSAIC

...Unit

additional inputs

MI8   MI16   MI12T8

additional outputs

MO2   MO4   MO4LHCS8   MOS8   MOS16

---

new

MI8O4
...tput unit

...uts
...r Start/Restart interlock and EDM
...D safety outputs
...mA)
...tputs
...mA)
...uts (for short-circuits monitoring)

...uts
...r Start/Restart interlock and EDM
... 2 pairs) OSSD
...uts (PNP 400 mA)
...tputs
...mA)
...ts (for short-circuits monitoring)

...units

MO2/MO4

Output units

MO2
2 pairs OSSD safety outputs
(PNP 400 mA)

2 inputs for Start/Restart interlock and EDM

2 status outputs (PNP 100 mA)

MO4
4 pairs OSSD safety outputs
(PNP 400 mA)

4 inputs for Start/Restart interlock and EDM

4 status outputs (PNP 100 mA)

MO4L HC S8

High current output unit

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

4 inputs for Start/Restart
interlock and EDM

8 status outputs
(PNP 100 mA)

POWER 2A


MI8/MI16/MI12T8

Input units

MI8
8 digital inputs
4 test outputs (for short-circuits monitoring)

MI16
16 digital inputs
4 test outputs (for short-circuits monitoring)

MI12T8
12 digital inputs
8 test outputs (for short-circuits monitoring)
Can manage up to 4 independent safety mats/edges

MOS8/MOS16

Non-safety output units
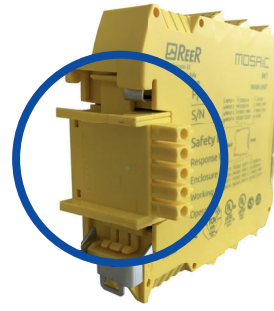
MOS8
8 status outputs
(PNP 100 mA)

MOS16
16 status outputs
(PNP 100 mA)
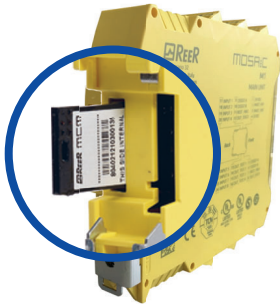
MCM

Mosaic Configuration Memory

Removable memory card. Ideal for saving Mosaic configuration data for subsequent transfer to a new device (without connecting to a PC) or for backup

MSC

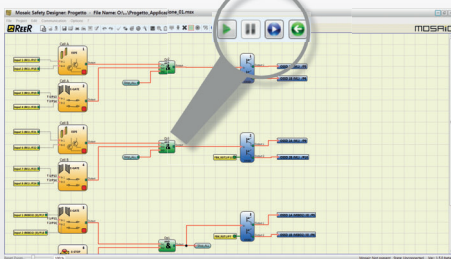## Mosaic Safety Communication

Allows communication between the various units through a proprietary high-speed safety bus
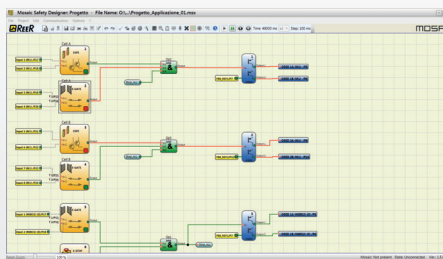
MSD

Mosaic Safety Designer

Easy-to-use designer software included with M1 and M1S Master Units. Drag & Drop functionality allows to easily create all logic scenarios in a machine directive compliant environment.

Built-in Monitor

Built-in Simulator **new**

Drag & Drop

User-frendly

Real-time monitor

Design validation

Simulation

Security password

Reports and log files

Project information

MTB

Screw Terminal Blocks

Removable terminal blocks with screw contacts

MCT

Remote Interface Units

Interface module allowing the connection of remote expansion units via the MSC safety bus

MTBC **new**

Clamp Terminal Blocks

Removable terminal blocks with clamp contacts

ReeR

Your future's safe!

60 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.

Made in Italy
since 1959

SIXTY
sessanta
ReeR 1959

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