



DIGITAL INPUTS	8
SAFETY OUTPUTS	2 pairs OSSD
EDM/RESTART	2
TEST OUTPUTS	4
STATUS OUTPUTS	2
LOGICAL OPERATORS	64

## APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive".
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61131-2:2007 "Programmable controllers - Part 2. Equipment requirements and tests"
- EN 61508-1:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - General requirements"
- EN 61508-2:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems"
- EN 61508-3:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems: Software requirements"
- EN 61508-4:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - Definitions and abbreviations"
- IEC 62061:2005/A2:2015 (SILCL 3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1:2008 (Cat. 4 PL e) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- IEC 61784-3:2008 "Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions"
- UNI EN 81-20:2014 "Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Part 20: Passenger and goods passenger lift"
- UNI EN 81-50:2014 "Safety rules for the construction and installation of lifts. Examinations and test. Part 50: Design rules, calculations, examinations and tests of lift components"
- UL (C+US) mark for USA and Canada
- ANSI / UL 1998: "Safety Software in Programmable Components"
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe

## Certifications



LIVELLO DI SICUREZZA

**SIL 3**

SIL3 - SILCL 3  
PL e - Cat. 4



## M1

### STANDARD MASTER UNIT

Master unit, also usable as a stand-alone device, able to control any other expansion unit. With 8 digital inputs and 2 pairs OSSD safety outputs.

### APPLICATION EXAMPLE

**Standalone:** To provide protection for a smaller machinery connecting for example 1 safety light curtain, 1 e-stop, 1 magnetic sensor and 1 two-hand switch.

**As Master unit:** To control a more complex system providing protection for bigger machineries.

### TECHNICAL FEATURES

Digital inputs	8 digital inputs
Safety outputs	2 pairs OSSD - PNP 400 mA output current
EDM	2 inputs for Start/Restart interlock and external device monitoring (EDM)
Status outputs	2 programmable digital signal outputs PNP 100 mA output current
Test outputs	4 test outputs for sensor monitoring
LED signalling	Input/output status and fault diagnostics
Configuration	With PC via USB interface using MSD (Mosaic Safety Designer) software
MSC bus connection	With MSC connector (optional)
MCM	Mosaic Configuration Memory (optional)

### ACCESSORIES

**MSC Rear Bus connector:** necessary to connect the M1 Master unit to any expansion module. As the M1 Master unit can be used as standalone, the bus connector must be ordered separately.

**MCM Card (Mosaic Configuration Memory):** memory card designed to store the M1 Master unit configuration as a back-up. Can be used to restore the saved configuration onto a new M1 Master unit or to duplicate the current configuration to other M1 Master units.

### PART NUMBERS

Code	Description
1100000	M1 Master unit - Screw terminal blocks
1100002	M1C Master unit - Clamp terminal blocks
1100060	MCM - Memory card
1100061	MSC - Mosaic Safety Communication connector
1100099	MSC-C - Mosaic Safety Communication connector with terminal end cap
1100062	USB configuration cable (A-mini B, length 1,8 m)
1100079	CPM - Polarizing keys for Mosaic connectors



- DIGITAL INPUTS  
8
- SAFETY OUTPUTS  
4 single OSSD (or 2 pairs)
- EDM/RESTART  
4
- TEST OUTPUTS  
4
- STATUS OUTPUTS  
4
- LOGICAL OPERATORS  
128

## APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive".
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61131-2:2007 "Programmable controllers - Part 2. Equipment requirements and tests"
- EN 61508-1:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - General requirements"
- EN 61508-2:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems"
- EN 61508-3:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems: Software requirements"
- EN 61508-4:2010 (SIL3) "Functional safety of electrical / electronic / programmable electronic safety related systems - Definitions and abbreviations"
- IEC 62061:2005/A2:2015 (SILCL 3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1:2008 (Cat. 4 PL e) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- IEC 61784-3:2008 "Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions"
- UNI EN 81-20:2014 "Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Part 20: Passenger and goods passenger lift"
- UNI EN 81-50:2014 "Safety rules for the construction and installation of lifts. Examinations and test. Part 50: Design rules, calculations, examinations and tests of lift components"
- UL (C+US) mark for USA and Canada
- ANSI / UL 1998: "Safety Software in Programmable Components"

## Certifications



LIVELLO DI SICUREZZA

SIL 3



SIL3 - SILCL 3  
PL e - Cat. 4

## M1S new

### ENHANCED MASTER UNIT

Master unit, also usable as a stand-alone device, able to control any other expansion unit. With 8 digital inputs, 4 single OSSD safety outputs or 2 pair OSSD safety output.

### APPLICATION EXAMPLE

The enhanced version of the master unit allows to control complex system and machinery that require a greater number of safety outputs, status outputs and logical operators

### TECHNICAL FEATURES

Digital inputs	8 digital inputs
Safety outputs	4 single OSSD (or 2 pairs) - PNP 400 mA output current
EDM	4 inputs for Start/Restart interlock and external device monitoring (EDM)
Status outputs	4 programmable digital signal outputs PNP 100 mA output current
Test outputs	4 test outputs for sensor monitoring
LED signalling	Input/output status and fault diagnostics
Configuration	With PC via USB interface using MSD (Mosaic Safety Designer) software
MSC bus connection	With MSC connector (optional)
MCM	Mosaic Configuration Memory (optional)

### ACCESSORIES

**MSC Rear Bus connector:** necessary to connect the M1S Master unit to any expansion module. As the M1S Master unit can be used as standalone, the bus connector must be ordered separately.

**MCM Card (Mosaic Configuration Memory):** memory card designed to store the M1S Master unit configuration as a back-up. Can be used to restore the saved configuration onto a new M1S Master unit or to duplicate the current configuration to other M1S Master units.

### PART NUMBERS

Code	Description
1100003	M1S Master unit - Screw terminal blocks
1100004	M1SC Master unit - Clamp terminal blocks
1100060	MCM - Memory card
1100061	MSC - Mosaic Safety Communication connector
1100099	MSC-C - Mosaic Safety Communication connector with terminal end cap
1100062	USB configuration cable (A-mini B, length 1,8 m)
1100079	CPM - Polarizing keys for Mosaic connectors