ReeR MOSAIC MBEI EtherNet/IP Communications Module

The ReeR MOSAIC (MOdular SAfety Integrated Controller) MBEI EtherNet/IP Communications Module allows connection to the most commonly used industrial fieldbus systems for diagnostics and data transmission. The MBEI adds an EtherNet/IP connection.

Features

- Adds EtherNet/IP connectivity
- LED status/diagnostic signaling
- Module is configured through a Type B mini-USB connector via a software configurator
- Connection to M1 via MSC 5-way ReeR proprietary bus. Bus connector included.

<table>
<thead>
<tr>
<th>MOSAIC MBEI Expansion Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part Number</strong></td>
</tr>
<tr>
<td>H0-PSCM</td>
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</table>

MOSAIC MBEI Specifications

<table>
<thead>
<tr>
<th><strong>General Specifications</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>Operating Temperature</strong></td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
</tr>
<tr>
<td><strong>Vibration Resistance</strong></td>
</tr>
<tr>
<td><strong>Degree of Protection</strong></td>
</tr>
<tr>
<td><strong>Housing</strong></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
</tr>
<tr>
<td><strong>Agency Approvals and Standard</strong></td>
</tr>
<tr>
<td><strong>Terminal Designation per EN 50 005</strong></td>
</tr>
<tr>
<td><strong>Wire Fixing</strong></td>
</tr>
<tr>
<td><strong>USB Connection</strong></td>
</tr>
</tbody>
</table>

**Specifications**

- **Nominal Voltage**: 24VDC
- **Voltage Range**: ±20%
- **Maximum Consumption**: 5W
- **Comunication**: EtherNet/IP

Note: See product manual for complete details.

Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number’s web page.
Electrical connections to MOSAIC MBEI

- Wire size range: AWG 12-30 (solid/stranded) (UL).
- Use 60/75°C copper (Cu) conductor only.
- Turn off power before making connections.
- The supply voltage must be 24VDC ± 20% (PELV, in compliance with the standard EN 60204-1 (Chapter 6.4).
- Do not use the MOSAIC to supply external devices.
- The same ground connection (0VDC) must be used for all system components.
- Separate power supplies are recommended for the safety module and for other electrical power equipment (electric motors, inverters, frequency converters) or other sources of disturbance.
- Cables used for connections of longer than 50m [164ft] must have a cross-section of at least 1mm² (AWG16).

### Dimensions

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Signal</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24VDC</td>
<td>–</td>
<td>24VDC power supply</td>
</tr>
<tr>
<td>2</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4</td>
<td>0VDC</td>
<td>–</td>
<td>0VDC power supply</td>
</tr>
</tbody>
</table>
ReeR MOSAIC

Accessories

ReeR MOSAIC MSC-C Connector

The ReeR MOSAIC (MOdular SAfety Integrated Controller) MSC-C Safety Communication Connector with terminal end caps (MSCPC) permits communication between various system units. Required to connect any additional cards to the MOSAIC-M1.

Features

- 5-way connector for communication among MOSAIC modules
- Comes in the box with all expansion modules and only needed for the M1 unit

<table>
<thead>
<tr>
<th>MOSAIC MSC-C Expansion Unit</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>Price</td>
<td>Description</td>
</tr>
<tr>
<td>MOSAIC-MSC-C</td>
<td>$14.50</td>
<td>Safety communication connector with terminal end caps (MSCPC). Permits communication between various system units.</td>
</tr>
</tbody>
</table>

Note: See product manual for complete details.
Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number’s web page.

ReeR MOSAIC MCM Memory Card

The ReeR MOSAIC (MOdular SAfety Integrated Controller) MCM Memory Card is a proprietary removable memory card that can be used to save MOSAIC configuration data for subsequent transfer to a new device without using a PC.

Features

- Type A USB connector on one end for connection to the PC
- Type B mini-USB connector on the other end for connection to the M1 module
- Cable length is 1.8 m (5.91 ft)

<table>
<thead>
<tr>
<th>MOSAIC-CSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>MOSAIC-MCM</td>
</tr>
</tbody>
</table>

Note: See product manual for complete details.
Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number’s web page.

ReeR MOSAIC CSU Cable

The ReeR MOSAIC (MOdular SAfety Integrated Controller) CSU cable is an interconnection cable used to connect the MOSAIC M1 to a PC for programming with the MSD configuration software.

Features

- Type A USB connector on one end for connection to the PC
- Type B mini-USB connector on the other end for connection to the M1 module
- Cable length is 1.8 m (5.91 ft)

<table>
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</table>

Note: See product manual for complete details.
# MOSAIC-M1
Main unit able to control any other expansion modules. Eight digital inputs, two inputs for Start/Stop interlock and device monitoring (EDM), two OSSD pairs, four test outputs and two programmable digital signal outputs. Screw contacts.

### MOSAIC-M1 Features
- **Inputs:**
  - 8 digital inputs
  - 2 EDM/RST
  - 2 status outputs
- **Outputs:**
  - 2 safety outputs
  - 2 status outputs
- **Expansion Options:**
  - ...or with up to 14 additional modules
  - 128 inputs
  - 16 EDM/RST
  - 32 status outputs

*No more than four of any one type of module

### MOSAIC-M1 Components
- **MOSAIC-MBI:**
  - Expansion unit for connection to the industrial Fieldbus: EtherNet/IP.
- **MOSAIC-MBEM:**
  - Expansion unit for connection to the industrial Fieldbus: ModBus TCP/IP.
- **MOSAIC-MI8:**
  - Input expansion unit.
  - Eight digital inputs and four test outputs. Screw contacts.
- **MOSAIC-MI16:**
  - Input expansion unit.
  - Sixteen digital inputs and four test outputs. Screw contacts.
- **MOSAIC-MI802:**
  - Eight digital inputs.
  - Two inputs for Start/Restart interlock and device monitoring (EDM), two OSSD pairs, four test outputs and two programmable digital signal outputs. Screw contacts.

### I/O Expansion Unit
- **MOSAIC-M802:**
  - Eight digital inputs.
  - Two inputs for Start/Restart interlock and device monitoring (EDM), two OSSD pairs, four test outputs and two programmable digital signal outputs. Screw contacts.

### Input Expansion Units
- **MOSAIC-M16:**
  - Input expansion unit.
  - Eight digital inputs and four test outputs.

### Outputs Expansion Units
- **MOSAIC-MO2:**
  - Output expansion unit.
  - Two inputs for Start/Stop interlock and device monitoring (EDM), two OSSD pairs and two programmable digital signal outputs. Screw contacts.
- **MOSAIC-MO4:**
  - Output expansion unit.
  - Four inputs for Start/Stop interlock and device monitoring (EDM), four OSSD pairs and four programmable digital signal outputs. Screw contacts.

### Safety Relays
- **MOSAIC-MR2:**
  - Two relays – two N.O. + one N.C. connectable to one OSSD pair + one N.C. contact for external device monitoring. Two safety relays with guided contacts. Screw contacts.
- **MOSAIC-MR4:**
  - Four relays – four N.O. + two N.C. connectable to two OSSD pairs + two N.C. contacts for external device monitoring. Four safety relays with guided contacts. Screw contacts.

*These extension relays can connect to the outputs on the M1 or to any of the output cards*

### Status Outputs
- **MOSAIC-MOS8:**
  - Automation expansion module with eight programmable digital signal outputs. Screw contacts.
- **MOSAIC-MOS16:**
  - Automation expansion module with 16 programmable digital signal outputs. Screw contacts.

### Accessories
- **MOSAIC-MSC-C:**
  - Type A USB to Mini-USB cable connects MOSAIC M1 to PC for configuration with MSD configuration software.
- **MOSAIC-MCM:**
  - Type A USB to Mini-USB cable connects MOSAIC M1 to PC for configuration with MSD configuration software.

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