The ReeR MOSAIC (MOdular SAfety Integrated Controller) MI8O2 input/output expansion unit provides a variety of inputs and outputs.

### Features
- Eight digital inputs programmable with the MOSAIC Safety Designer Software
- Two inputs for start/restart interlock and device monitoring
- Two OSSD pairs
- Four test outputs
- Two programmable digital signal outputs
- Removable terminal block plus screw contacts
- Connection to M1 via MSC 5-way ReeR proprietary bus

### MOSAIC MI8O2 Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Price</th>
<th>Voltage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOSAIC-MI8O2</td>
<td>$209.00</td>
<td>24VDC</td>
<td>Input/output expansion unit providing a variety of inputs and outputs</td>
</tr>
</tbody>
</table>

### General Specifications
- **Operating Temperature**: -10°C to +55°C [14°F to 131°F]
- **Storage Temperature**: -20°C to +85°C [-4°F to 185°F]
- **Altitude**: 2000m (max)
- **Vibration Resistance**: Tested to IEC 60068-2-6
- **Degree of Protection**: IP 20
- **Housing**: Polyamide
- **Weight**: 240g [8.47 oz]
- **Agency Approvals and Standard**: cULus, CE, TÜV

### Terminal Designation per EN 50 005
- AWG 12-30 solid/stranded. Use 60/75°C copper (Cu) conductor only.

### Wire Fixing
- Screw pluggable terminal blocks. Terminal tightening torque 5-7 lb•in (0.6-0.7 N•m).

### Specifications
- **Nominal Voltage**: 24VDC
- **Voltage Range**: ± 20%
- **Maximum Consumption**: 3W
- **Digital Inputs**: 8 PNP active high
- **Input FBK / Reset**: 2 for EDM control/possible automatic or manual operation with RESTART button
- **Test Outputs**: 4 test outputs to monitor short circuits
- **OSSD Outputs**: 2 pairs solid state safety outputs PNP active high 400mA@24VDC max
- **Signaling Outputs**: 2 programmable PNP high

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 MI8O2**

- 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 modules 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).

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**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>NODE_SEL0</td>
<td>Input</td>
<td>Node selection</td>
</tr>
<tr>
<td>3</td>
<td>NODE_SEL1</td>
<td>Input</td>
<td>Node selection</td>
</tr>
<tr>
<td>4</td>
<td>OVDC</td>
<td>–</td>
<td>OVDC power supply</td>
</tr>
<tr>
<td>5</td>
<td>OSSD1_A</td>
<td>Output</td>
<td>Static safety output 1</td>
</tr>
<tr>
<td>6</td>
<td>OSSD1_B</td>
<td>Output</td>
<td>Static safety output 1</td>
</tr>
<tr>
<td>7</td>
<td>RESTART_FKB1</td>
<td>Input</td>
<td>Feedback/Restart 1</td>
</tr>
<tr>
<td>8</td>
<td>OUT_STATUS1</td>
<td>Output</td>
<td>Programmable signal output</td>
</tr>
<tr>
<td>9</td>
<td>OSSD2_A</td>
<td>Output</td>
<td>Static safety output 2</td>
</tr>
<tr>
<td>10</td>
<td>OSSD2_B</td>
<td>Output</td>
<td>Static safety output 2</td>
</tr>
<tr>
<td>11</td>
<td>RESTART_FKB2</td>
<td>Input</td>
<td>Feedback/Restart 2</td>
</tr>
<tr>
<td>12</td>
<td>OUT_STATUS2</td>
<td>Output</td>
<td>Programmable signal output</td>
</tr>
<tr>
<td>13</td>
<td>OUT_TEST1</td>
<td>Output</td>
<td>Short circuit detected output</td>
</tr>
<tr>
<td>14</td>
<td>OUT_TEST2</td>
<td>Output</td>
<td>Short circuit detected output</td>
</tr>
<tr>
<td>15</td>
<td>OUT_TEST3</td>
<td>Output</td>
<td>Short circuit detected output</td>
</tr>
<tr>
<td>16</td>
<td>OUT_TEST4</td>
<td>Output</td>
<td>Short circuit detected output</td>
</tr>
<tr>
<td>17</td>
<td>INPUT1</td>
<td>Input</td>
<td>Digital input 1</td>
</tr>
<tr>
<td>18</td>
<td>INPUT2</td>
<td>Input</td>
<td>Digital input 2</td>
</tr>
<tr>
<td>19</td>
<td>INPUT3</td>
<td>Input</td>
<td>Digital input 3</td>
</tr>
<tr>
<td>20</td>
<td>INPUT4</td>
<td>Input</td>
<td>Digital input 4</td>
</tr>
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<td>21</td>
<td>INPUT5</td>
<td>Input</td>
<td>Digital input 5</td>
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<td>22</td>
<td>INPUT6</td>
<td>Input</td>
<td>Digital input 6</td>
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<td>23</td>
<td>INPUT7</td>
<td>Input</td>
<td>Digital input 7</td>
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<tr>
<td>24</td>
<td>INPUT8</td>
<td>Input</td>
<td>Digital input 8</td>
</tr>
</tbody>
</table>

Please see the Reer MOSAIC Supplemental Manual for basic wiring examples.
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>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>MOSAIC-MSC-C</td>
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</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>
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<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>
<thead>
<tr>
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<tr>
<td>Part Number</td>
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</tr>
</tbody>
</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-M02
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-M04
Output expansion unit. Four inputs for Start/Stop interlock and device monitoring (EDM), four OSSD pairs and four programmable digital signal outputs. Screw contacts.

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.

MOSAIC-M1
The M1 module may be used stand-alone...
- 8 Inputs
- 2 EDM/RST
...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

SAFETY RELAYS

ACCESSORIES

MOSAIC-MSC-C
Type A USB to Mini-USB cable connects MOSAIC M1 to PC for configuration with MSD configuration software.

MOSAIC-CSU
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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