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 or M1S via MSC 5-way ReeR proprietary bus. Bus connector included.

MOSAIC-MBEI

MOSAIC-MBEI Expansion Unit				
Part Number	***Price***	***Voltage***	***Description***	***Connection***
MOSAIC-MBEI	$02exa:	24VDC	Expansion unit for connection to industrial field bus systems. Adds EtherNet/IP connectivity.	Removable terminal blocks, screw contacts, two RJ45 connectors (EtherNet/IP protocol)

MOSAIC-MBEI Specifications	
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	200g [7.05 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).
USB Connection	Type B mini-USB connector
Specifications	
Nominal Voltage	24VDC
Voltage Range	± 20%
Maximum Consumption	5W
Comunication	EtherNet/IP

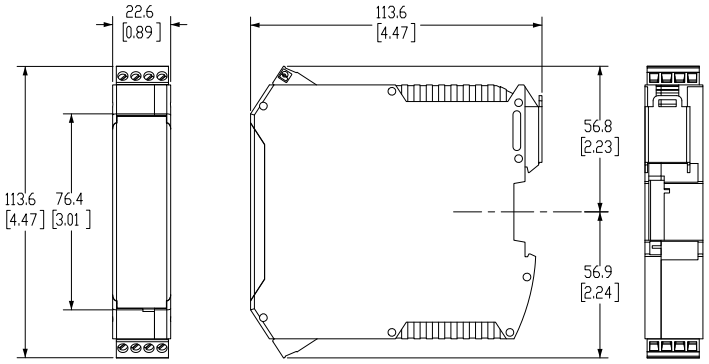
Note: See product manual for complete details.
Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

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 1mm^2 (AWG16).

Dimensions

mm [inches]



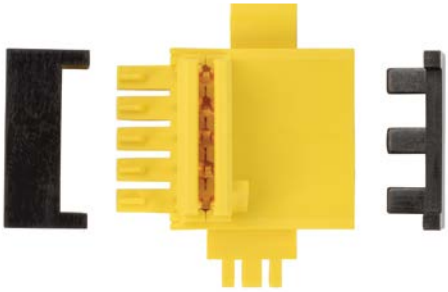
MBEI Module Connections			
Terminal	***Signal***	***Type***	***Description***
Terminal Block (Side A – TOP)			
1	24VDC	–	24VDC power supply
2	Not connected	–	–
3	Not connected	–	–
4	0VDC	–	0VDC power supply
Terminal Block (Side B – BOTTOM)			
5	Not connected	–	–
6	Serial line	–	RS-485-(A)
7	0VDC	–	0VDC power supply
8	Serial line	–	RS-485+(B)

Note: RS-485 connections are used for proprietary connections. Not for general use.

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, MOSAIC-M1S, or MOSAIC-M1S-USBC.



MOSAIC-MSC-C

Features

- 5-way connector for communication among MOSAIC modules
- Comes in the box with all expansion modules and is only needed for the MOSAIC-M1, MOSAIC-M1S, or MOSAIC-M1S-USBC unit

MOSAIC-MSC-C Connector		
Part Number	***Price***	***Description***
MOSAIC-MSC-C	$2ex8:	Safety communication connector with terminal end caps (MSCPC). Permits communication between various system units.

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.

MOSAIC-MCMB

MOSAIC-MCM Memory Card			
Part Number	***Price***	***For Use With***	***Description***
MOSAIC-MCM	$2ex7:	MOSAIC-M1 and M1S	Proprietary removable memory card that can be used to save MOSAIC configuration data for subsequent transfer to a new device without using a PC.
MOSAIC-MCMB	$6azb:	MOSAIC-M1S-USBC	

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 Programming Cable

The ReeR MOSAIC (MOdular SAfety Integrated Controller) programming cable is an interconnection cable used to connect the MOSAIC-M1, MOSAIC-M1S, or MOSAIC-M1S-USBC to a PC for programming with the MSD configuration software.

MOSAIC-CSU

MOSAIC CSU Cable					
Part Number	***Price***	***Connector A***	***Connector B***	***Cable Length (ft [m])***	***For Use With***
MOSAIC-CSU	$2ex9:	USB-A	USB-B Mini	5.91 [1.8]	MOSAIC-M1 and MOSAIC-M1S
USB-CBL-AC6	$4vz8:		USB-C	6 [1.83]	MOSAIC-M1S-USBC

Note: See product manual for complete details.

MOSAIC

MODULAR SAFETY INTEGRATED CONTROLLER

The MOSAIC system is a unique safety controller that's modular, expandable and configurable for managing all safety functions of a single machine or an entire plant. It offers cost reductions with minimal wiring.

MOSAIC SYSTEM

MOSAIC-M1

MOSAIC-M1S-USBC

MOSAIC M1, M1S, or M1S-USBC controller units are able to interface with up to 14 individual expansion modules (up to a maximum of 4 of any one module type).

Controller units can also be used in a stand-alone configuration.

Blue-highlighted modules work only with the MOSAIC-M1S or MOSAIC-M1S-USBC controller.

COMMS

MOSAIC-MBEI
Industrial Fieldbus: EtherNet/IP.

MOSAIC-MBEM
Industrial Fieldbus: ModBus TCP/IP.

DIGITAL INPUTS

MOSAIC-MI8
8 digital inputs and four test outputs.

MOSAIC-MI16
16 digital inputs and 4 test outputs.

MOSAIC-MI12T8
12 digital inputs, 8 test outputs.

I/O EXPANSION UNIT

MOSAIC-MI8O2
8 digital inputs, 2 EDM/RST inputs, 4 test outputs, 2 OSSD pairs, and 2 status outputs.

MOSAIC-MI8O4
8 digital inputs, 4 test outputs, 4 individual or 2 pair OSSD outputs, and 4 configurable I/O.

SPEED MONITORING

MOSAIC-MV0
2 prox switch inputs.

MOSAIC-MV1T
1 TTL encoder and 2 prox switch inputs.

MOSAIC-MV1H
1 HTL encoder and 2 prox switch inputs.

MOSAIC-MV1S
1 SIN/COS encoder and 2 prox switch inputs.

MOSAIC-MV2T
2 TTL encoder and 2 prox switch inputs.

MOSAIC-MV2H
2 HTL encoder and 2 prox switch inputs.

MOSAIC-MV2S
2 SIN/COS encoder and 2 prox switch inputs.

SAFETY RELAYS

MOSAIC-MR2
2 relays – 2 NO + 1 NC connectable to 1 OSSD pair + 1 NC contact for external device monitoring. 2 safety relays with guided contacts. Screw contacts.

MOSAIC-MR4
4 relays – 4 NO + 2 NC connectable to 2 OSSD pair + 2 NC contacts for external device monitoring. 4 safety relays with guided contacts. Screw contacts.

These extension relays can connect to the outputs on the MOSAIC M1, M1S, or to any of the output cards

DIGITAL OUTPUTS

MOSAIC-MO2
2 EDM/RST inputs, 2 OSSD pairs and 2 status outputs.

MOSAIC-MO4
4 EDM/RST inputs, 4 OSSD pairs and 4 status outputs.

MOSAIC-MOR4
4 single-channel outputs or 2 dual-channel outputs.

MOSAIC-MOR4S8
4 single-channel outputs or 2 dual-channel outputs with 8 status outputs.

MOSAIC-MO4L
4 individual or 2 pair OSSD outputs, and 4 configurable I/O.

ANALOG INPUTS

MOSAIC-MA4
4 analog inputs.

STATUS OUTPUTS

MOSAIC-MOS8
8 status outputs.

MOSAIC-MOS16
16 status outputs.

ACCESSORIES

MOSAIC-MSC-C
Safety communication bus connector and terminal end caps. Required to connect additional module to MOSAIC-M1, MOSAIC-M1S, or MOSAIC-M1S-USBC.

MOSAIC-MCM, MOSAIC-MCMB
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.

Safety Products

Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

AutomationDirect does not provide design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with the safety requirements for any application.