

ReeR MOSAIC-MR4

Safety Relay



The ReeR MOSAIC (MODular Safety Integrated Controller) MR4 safety relay module provides four relays (4 NO) safety contacts plus 2 NC connectable to two OSSD pairs plus 2 NC auxiliary contacts for external device monitoring.

Features

- Four NO dry contact safety outputs
- Two NC dry contact monitoring outputs
- Two NC contacts for external device monitoring
- Four safety relays with guided contacts
- Removable terminal block plus screw contacts
- MR4 is not on the MSC 5-way ReeR proprietary bus



MOSAIC-MR4

Safety Data per EN 13849-1

Category	4
Performance level	e
MTTF_d (years)	2335
DC_{avg}	98.9%

Safety Data per IEC/EN 62061, IEC/EN 61508

SIL CL	3
SIL	3
HFT	1
DC_{avg}	98.9%
SFF	99.6%
PFH_d (t-20a)	Please refer to product insert

**Safety data is dependent on circuit architecture.
See manual for further details.**

MOSAIC-MR4 Expansion Unit

Part Number	Price	Voltage	Description	Connection
MOSAIC-MR4	\$214.00	24VDC	Safety relay extension module, 4 NO safety outputs, 2 NC monitoring output	Removable terminal block, screw contacts



MOSAIC-MR4 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	260g [9.17 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 or clamp terminal blocks with 8, 16 or 24 terminals, plus rear panel plug-in connector. Terminal tightening torque 5-7 lb•in (0.6-0.7 N•m).
Input Specifications	
Nominal Voltage	24VDC
Voltage Range	± 20%
Maximum Consumption	3W
Output Specifications	
Electrical Contact Life	>10 ⁵ switching cycles
Mechanical Life	>20x10 ⁶
Contact Type	4 NO positively driven, 2 NC auxiliary contacts
Operate Delay	Typ. 10ms
Release Delay	Typ. 5ms
Nominal Output Voltage	240VAC
Thermal Current (I_{th})	Max 6A
Short Circuit Strength	Fuse: NO contacts 10 A gG/gL / NC contacts: 6A gG/gL IEC/EN 60269
Switching Capacity	AC15: 3A/250VAC – DC13:2A/24VDC
Switching Frequency	Max 20 switching cycles/min

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.

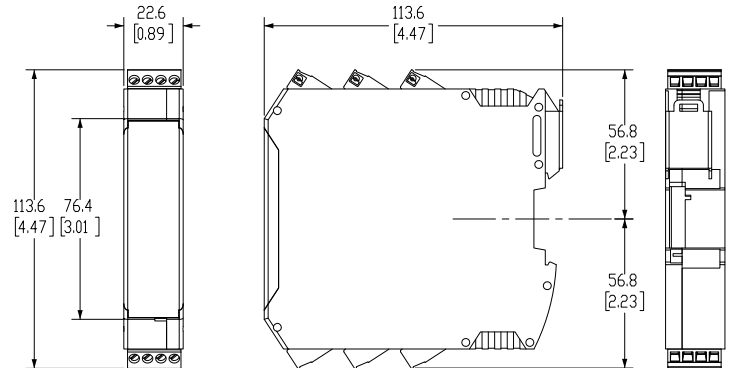
Electrical Connections to MOSAIC-MR4



- 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 \pm 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

mm [inches]



MR4 Module Connections

Terminal	Signal	Type	Description
1	24VDC	–	24VDC power supply
4	0VDC	–	0VDC power supply
5	OSSD1_A	Input	Control ZONE 1
6	OSSD1_B	Input	
7	FBK_K1_K2_1	Output	Feedback K1K2 ZONE 1
9	A_NC1	Output	NC contact ZONE 1
10	B_NC1	Output	
13	A_NO11	Output	NO1 contact ZONE 1
14	B_NO11	Output	
15	A_NO12	Output	NO2 contact ZONE 1
16	B_NO12	Output	
11	A_NC2	Output	NC contact ZONE 2
12	B_NC2	Output	
17	OSSD2_A	Input	Control ZONE 2
18	OSSD2_B	Input	
19	FBK_K1_K2_2	Output	Feedback K1K2 ZONE 2
21	A_NO21	Output	NO1 contact ZONE 2
22	B_NO21	Output	
23	A_NO22	Output	NO2 contact ZONE 2
24	B_NO22	Output	

Please see the Mosaic manual for wiring examples.

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.

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