Pub #105226revB

FieldLink™ process networking solutions

Junction Module (JM™) Enclosure with:

FOUNDATION Fieldbus Input/Externally Powered Output Module (JMM94_)

These I/O Modules are designed to function as FOUNDATION fieldbus nodes with termination points for connecting switches/sensors (discrete and analog), as well as outputs to operate devices such as low power solenoid valves and relays.

Inputs and Outputs

- Two (2) Discrete Inputs
- Two (2) Discrete Externally Powered Outputs
- One (1) Analog Input (4-20mA)
- One (1) Analog Output (4-20mA)

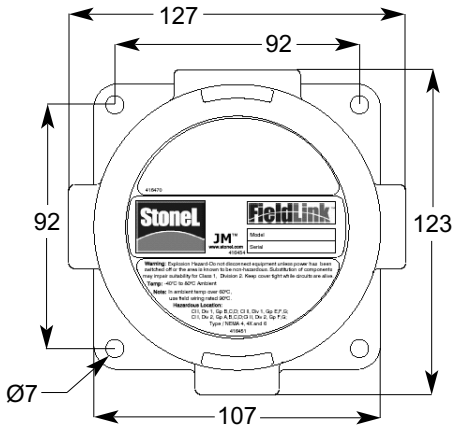
Features

- LED input displays for Inputs 1 & 2
- Date of Last Service
- Pre-determined output Fail State

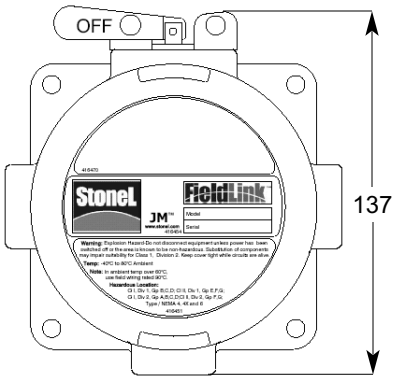
(See Page 4 detailed wiring instructions)

JM Enclosure Dimensions (in mm)

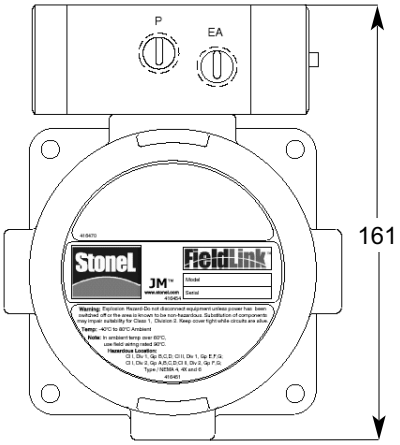
Standard Enclosure

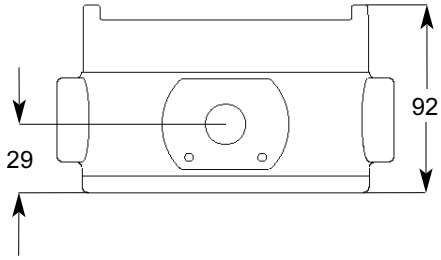


Switched Enclosure



Enclosure w/Cyclone Valve





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JM Model Options

Example: JMM9411E3

	Function	Solenoid	Enclosure	Conduit Entries
JM	**M94** I/O Module (2 DI/2 DO/1 AI/1 AO), FOUNDATION Fieldbus (H1)	**11** No Solenoid (Not available with solenoid option)	**C** Clear Cover **E** Epoxy Coated Aluminum	**3** (3) 1/2" NPT **N** (4) 1/2" NPT **6** (3) M20 **M** (4) M20 **9** (3) 3/4" NPT **T** (4) 3/4" NPT

General Specifications

Operating Life	Unlimited
Materials of Construction	
Housing and Cover	Marine grade anodized aluminum epoxy coating
Clear Cover	Lexan® Polycarbonate
Elastomer Seals	Buna-N
Fasteners	Stainless Steel
Warranty	
Complete Assemblies	Two Years

Lexan is a registered trademark of General Electric Corporation.

Temperature Range	-40° to +80° C (-40° to 180° F)
Enclosure Protection	NEMA 4, 4X & 6; IP67

Hazardous Area Ratings

Explosion Proof (Aluminum Cover)
Class I, Div. 1 and 2, Groups B,C,D
Class II, Div. 1 and 2, Groups E,F,G

Non-incendive (Clear Cover)
Class I, Div. 2, Groups A,B,C,D
Class II, Div. 2, Groups E,F,G
(Not all units carry approvals, consult factory)

Mounting Instructions

Mounting The JM Enclosure

1. Locate the position where the JM enclosure will be mounted. Ensure that there is sufficient room to operate the disconnect switch levers and to remove the cover.
2. Attach the JM enclosure to a wall or other stationary flat surface using the mounting holes provided.
3. Secure the cover until hand tight

Attaching Conduit and Fittings

1. Conduit entries are provided for the convenient attachment of threaded conduit and threaded conduit fittings. Attach threaded fittings and conduits securely.
2. Follow all applicable NEC codes and other regulations.

Installing & Removing Cover

1. To insure NEMA 4, 4X. 6 and hazardous location ratings are maintained the cover **must be** completely closed and the O-Ring sealed to keep out water.

Specifications

Operating Voltage	9-32 VDC via Foundation Fieldbus voltage
Bus Current Draw	16mA
External Voltage	24 VDC (For Analog I/O and Discrete Outputs)
External Power Max Current	Analog Input - 25mA; Analog Output - 25mA; Discrete Outputs - Total 166mA available
Discrete Inputs	(2) Low power dry contact capable of operating at <.045mA @ 6.5 VDC or solid state PNP capable of operating at <1mA and 6.5 VDC
Discrete Outputs	(2) 24 VDC (4 Watts total power available)
Analog Input	(1) Analog (4-20 mA) input. 10 bit resolution (0.1%)
Analog Output	(1) Analog (4-20 mA) output. 10 bit resolution (0.1%)
Function Blocks	2 DI; 2 DO; 1 AI; 1AO
Indication	Input 1 = Red LED Input 2 = Green LED

Standard Channel Assignments

Channel 1 (DI1) - Discrete Input 1 (Red LED);	1 = True; 0 = False
Channel 2 (DI2) - Discrete Input 2 (Green LED);	1 = True; 0 = False
Channel 3 (DO1) - Discrete Output 1 (OUT 1);	1 = True; 0 = False
Channel 4 (DO2) - Discrete Output 2 (OUT 2);	1 = True; 0 = False
Channel 5 (AI1) - Analog Input (AIN);	% of 4-20mA Input Range (0 = 4mA; 100 = 20mA)
Channel 6 (AO1) - Analog Output (AOUT);	% of 4-20mA Input Range (0 = 4mA; 100 = 20mA)

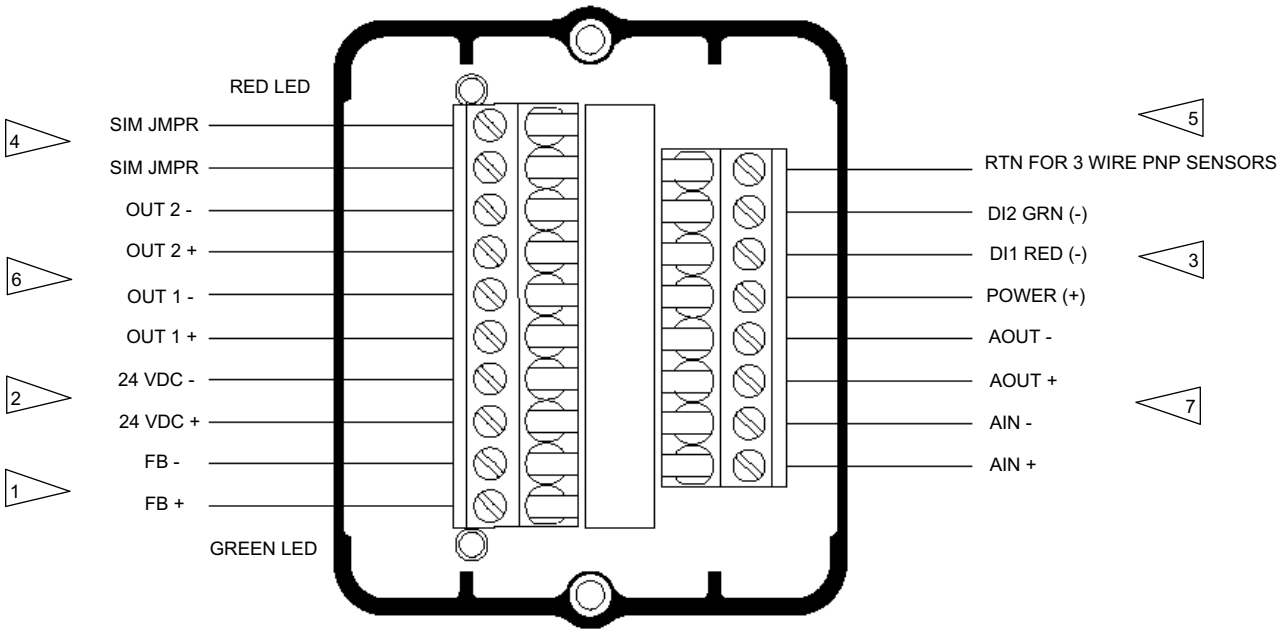
Special Channel Assignments

Channel 7 (AO1) - Analog Output (AOUT) with state report from Analog Input (READBACK_D)
Channel 8 (DO1) - Discrete Output 1 (OUT 1) with state report from Discrete Input 1 (READBACK_D)
Channel 9 (DO2) - Discrete Output 2 (OUT 2) with state report from Discrete Input 2 (READBACK_D)

Valve Control Single Block Mode

Channel 10 (DO1) - Discrete Output 1 (OUT 1) with state report Discrete Inputs 1&2 (READBACK_D):
READBACK_D Values:
0 = None
1 = Discrete Input 1 is True
2 = Discrete Input 2 is True
3 = Both Discrete Inputs 1&2 are True

Wiring Diagram and Installation Notes



INSTALLATION NOTES:

1. FOUNDATION Fieldbus bus communications connection points.
2. Connection points for external 24VDC power for Analog I/O and Discrete Outputs.
3. Bus powered Discrete Input connection points for low power dry contacts capable of operating at <.045mA @ 6.5VDC or solid state PNP sensors capable of operating at <1mA and 6.5VDC. Red LED is local indication of discrete input DI1 RED on/off status and the Green LED for DI2 GRN on/off status.

<u>NOTE</u>: The Discrete Inputs (DI) are not galvanically isolated from the FOUNDATION signal wires. Therefore, the DI connections should not be attached to ground. If the cable runs to the DI's are long or can be exposed to electrical noise, external Opto-isolators on the DI wires may be needed to provide isolation.

4. These connection points not used by the consumer.
5. Connection point for the "return" of 3 wire PNP sensors. (See Note 3)
6. Connection points for 24VDC externally powered Discrete Outputs (4 watts total power available) for low power solenoid valves and relays. For models with single coil pneumatic valves, coil is pre-wired to Output 1 (Channel 3). For models with dual coil pneumatic valves, coil one is pre-wired to Output 1 (Channel 3) and coil two is pre-wired to Output 2 (Channel 4). (See Note 2)
7. Connection points for 2 wire, 24VDC, 4-20mA analog devices. (See Note 2)