



FOUNDATION Fieldbus Input/Externally Powered Output Modules

461054 - (Flat mount)

465015 - (DIN rail mount)

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 relay outputs to operate devices such as low power solenoid valves and relays. Outputs can be configured to "Fail On" or "Fail Off".

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)

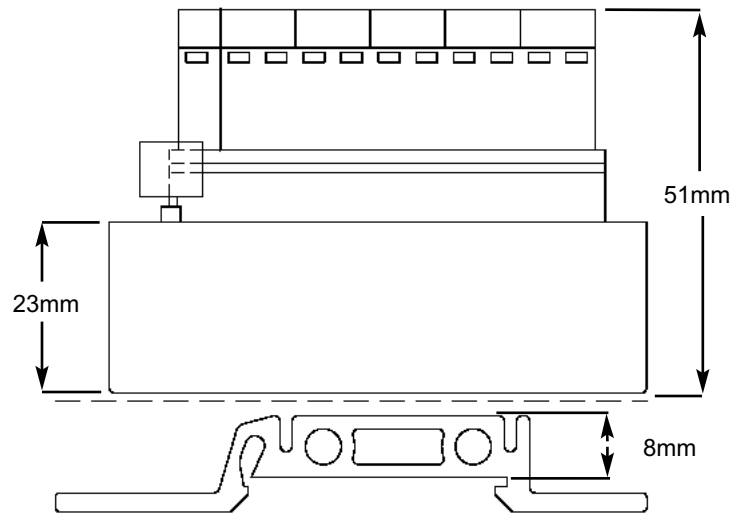
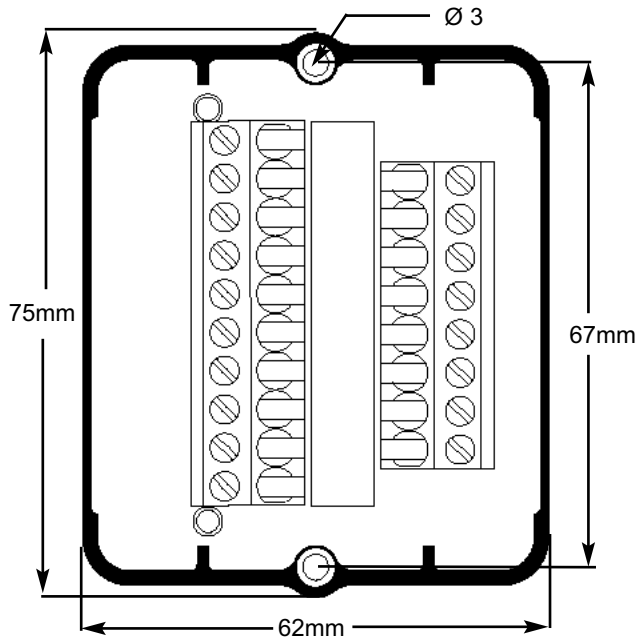
Features

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



(See Page 3 detailed wiring instructions)

Input/Relay Output Module Dimensions (in mm)



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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 input (4-20 mA). 10 bit resolution (0.1%)
Analog Output	(1) Analog output (4-20 mA). 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

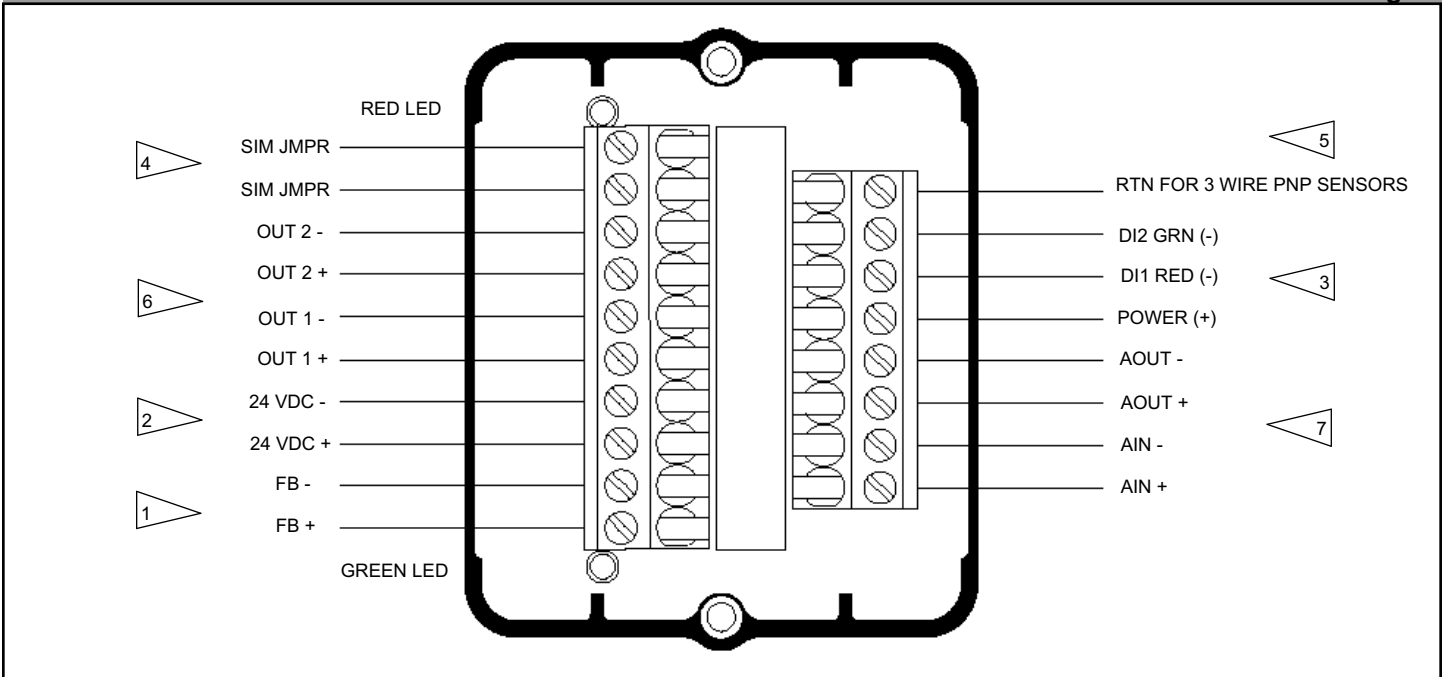
- Channel 7 (AO1) - Analog Output (AOUT) with state report from Analog Input (READBACK_D)
- Channel 8 (DO1) - Discrete Output 1 (OUT 1) with state report from Discrete Input 1 (READBACK_D)
- Channel 9 (DO2) - Discrete Output 2 (OUT 2) with state report from Discrete Input 2 (READBACK_D)

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



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 <math><.045\text{mA}</math> @ 6.5VDC or solid state PNP sensors capable of operating at <math><1\text{mA}</math> 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.

NOTE: 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. (See Note 2)
- 7. Connection points for 2 wire, 24VDC, 4-20mA analog devices. (See Note 2)