ROC800-Series Pulse Input Module

The Pulse Input (PI) module for the ROC800-Series Remote Operations Controller provides the ROC with the ability to monitor various pulse input field values.

The PI module provides two channels for measuring either a low speed or high speed pulse signal. The PI module processes signals from pulse-generating devices and provides a calculated rate and an accumulated total. The PI is most commonly used to interface to relays or to open collector or open drain type solid-state devices. The Pulse Input can be used to interface to either self-powered or ROC800-Series powered devices. The high speed input supports signals up to 12 KHz, while the low speed input is used on signals less than 125 Hz.

All modules have removable terminal bocks for convenient wiring and servicing. The terminal blocks can accommodate a wide range of wire gauges up to 12 American Wire Gauge (AWG).

Each module provides 2500 V dc of isolation from other modules and the backplane including power and signal isolation.

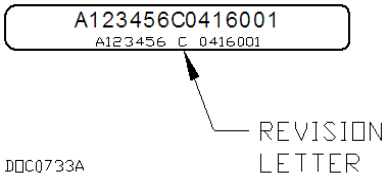
PI modules have their own integrated short-circuit protected isolated power supply. This power supply allows the field circuitry to be completely isolated from the backplane and the Central Processor Unit (CPU). This protection limits current during a short-circuit and is auto-recoverable after the fault clears.

Light-emitting diodes (LEDs) indicate the current status for each channel of the module.

Compatibility and Installation

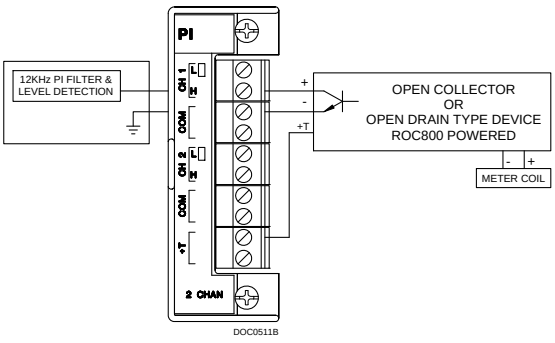
PI modules can be installed in any module slot on a Series 1 or Series 2 ROC800. The module can easily be installed or removed from the module slots at any time by removing the two captive screws accessible from the front of the unit. PI modules (Rev. D or later) are hot-swappable, meaning the module can be removed and another module of the same type can be installed under power. PI modules (Rev. D or later) are also hot-pluggable, meaning they may be installed directly into unused module slots under power. The modules are also self-identifying via ROCLINK™ 800 Configuration Software.

To determine the revision level of your module, locate the label on the module's board. The label consists of a single letter surrounded by two letter/number sequences.

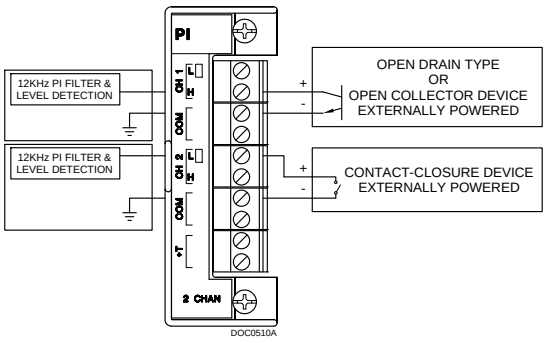


Module Revision Letter

The need for fuses has been eliminated on the Input/Output (I/O) modules through the extensive use of current-limiting short-circuit protection and surge protection techniques. This results in less maintenance for remote locations. The I/O modules are self-resetting after the fault clears.



Pulse Input Wiring (ROC800-Series powered)

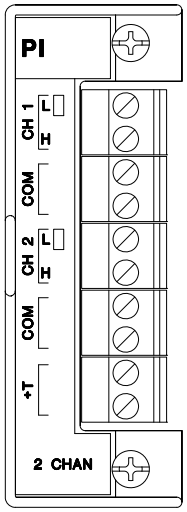


Pulse Input Wiring (externally powered)

D301275X012

ROC800-Series Pulse Input Module

Field Wiring Terminals



DOC0902A

Terminal	Label	Definition
1	CH1 L	CH1 Low Speed
2	CH1 H	CH 1 High Speed
3	COM	CH 1 Common
4	COM	CH 1 Common
5	CH2 L	CH 2 Low Speed
6	CH2 H	CH 2 High Speed
7	COM	CH 2 Common
8	COM	CH 2 Common
9	+T	Loop Power
10	+T	Loop Power

Inputs

Quantity	Two channels.	
Type	Optically isolated inputs, common voltage source, and terminal selectable high/low speed hardware filter on each channel.	
Filter Cutoff Frequency	High Speed Input	12 KHz
	Low Speed Input	125 Hz
Input Impedance	2 KΩ typical	
Isolation	Field to Logic	2500 V dc, 1 minute minimum
	Field to Power	2500 V dc
	Module to Module	2500 V dc
Minimum On-state Input Current	2.0 mA	
Maximum Off-state Input Current	1.7 mA	

Power

Consumption	Main power supply loading at the Battery Terminals (at 12.0 V dc)		
	No Channels Active	21 mA	
	Additional loading that may apply	Per Active Channel	7.4 mA
		Per Active LED	1.5 mA
		+T @ 12 V	1.25 x Measured Current Draw at +T Terminal
		+T @ 24 V	2.5 x Measured Current Draw at +T Terminal

Physical	
Dimensions	26 mm W by 75 mm H by 133 mm D (1.03 in. W by 2.96 in. H by 5.24 in. D).
LEDs	Two green LEDs indicate the status of the channels
Weight	56.7 g (2.0 oz)
Wiring	12 AWG at the removable terminal block.
Environmental	
Same as the ROC800-Series unit in which it is installed.	
Approvals	
Same as the ROC800-Series unit in which it is installed.	

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