

# ROC800-Series Discrete Input Module

The Discrete Input (DI) module provides the ROC800-Series Remote Operations Controller (ROC800) with the ability to monitor various discrete input field values.

The DI module provides eight discrete input channels. The module monitors the status of relays, open-collector or open-drain type solid-state switches, and other two-state devices.

Each DI channel can also be software configured to function as a latched DI. A latched DI remains in the active state until reset. Other parameters can invert the field signal and gather statistical information on the number of transitions and the time accumulated in the on or off state. The module can read each channel up to 250 times per second.

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.

The DI module provides 2500 Vdc of isolation from other modules and the backplane including power and signal isolation.

The DI module has its 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 Processing Unit (CPU). This protection limits current during a short-circuit and auto-recovers after the fault clears.

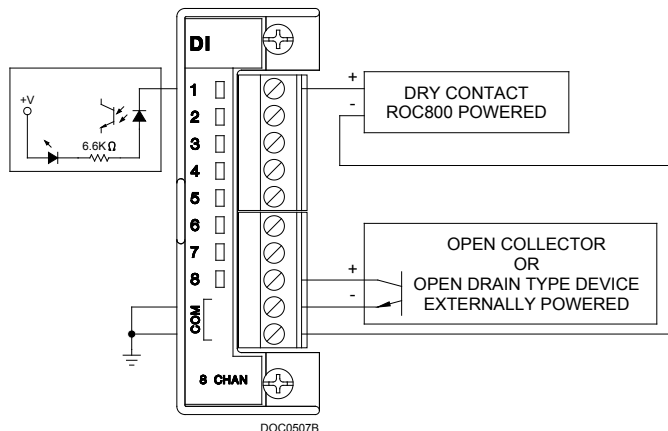
Light-emitting diodes (LEDs) indicate the status for each channel of the module.

## Compatibility and Installation

DI modules can be installed in any module slot on a ROC800 unit with a Series 1 or Series 2 CPU. Modules 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.

The module is hot-swappable, meaning the module can be removed and another module of the same type can be installed under power. The module is hot-pluggable, meaning it may be installed directly into an unused module slot under power. The module is also self-identifying via ROCLINK™ 800 Configuration Software.

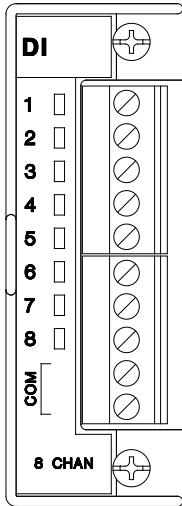
The DI module has removable terminal blocks for convenient wiring and servicing. The terminal blocks can accommodate a wide range of wire gauges up to 12 American Wire Gauge (AWG).



Discrete Input Wiring

## ROC800-Series Discrete Input Module

### Field Wiring Terminals



DOC0912A

Terminal	Label	Definition
1	1	CH1 Positive
2	2	CH 2 Positive
3	3	CH 3 Positive
4	4	CH 4 Positive
5	5	CH 5 Positive
6	6	CH 6 Positive
7	7	CH 7 Positive
8	8	CH 8 Positive
9	COM	Common
10	COM	Common

### Inputs

Quantity	8 channels	
Type	Optically isolated inputs, common voltage source	
Scan Rate	Series 2 ROC809 and ROC827	4 to 43200 ms
	Series 1 ROC809	4 to 43200 ms
	Series 1 ROC827	50 to 43200 ms
Input Impedance	6.6 K $\Omega$	
Maximum Input Overload Voltage	$\pm$ 24 Vdc, continuous	
Minimum On-state Input Current	1.1 mA	
Maximum Off-state Input Current	0.35 mA	

### Power

Consumption	Main power supply loading at the Battery Terminals (at 12.0 Vdc):			
	No Channels Active	19 mA		
	Additional loading that may apply	Per Active Channel	3.2 mA	
		Per Active LED	1.5 mA	
Isolation	Field to Logic	2500 Vdc, 1 minute minimum		
	Field to Power	2500 Vdc, 1 minute minimum		
	Module to Module	2500 Vdc, 1 minute minimum		

**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	8 green LEDs indicate the status of the channels
Weight	49.9 g (1.76 oz)
Wiring	12 to 22 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

## Headquarters:

**Emerson Process Management**

Remote Automation Solutions  
6005 Rogerdale Road  
Houston, TX 77072 U.S.A.  
T +1 281 879 2699 | F +1 281 988 4445  
[www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)

## Europe:

**Emerson Process Management**

Remote Automation Solutions  
Unit 8, Waterfront Business Park  
Dudley Road, Brierly Hill  
Dudley UK DY5 1LX  
T +44 1384 487200 | F +44 1384 487258  
[www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)

## North American/Latin America:

**Emerson Process Management**

Remote Automation Solutions  
6005 Rogerdale Road  
Houston TX USA 77072  
T +1 281 879 2699 | F +1 281 988 4445  
[www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)

## Middle East/Africa:

**Emerson Process Management**

Remote Automation Solutions  
Emerson FZE  
P.O. Box 17033  
Jebel Ali Free Zone – South 2  
Dubai U.A.E.  
T +971 4 8118100 | F +971 4 8865465  
[www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)

## Asia-Pacific:

**Emerson Process Management**

Remote Automation Solutions  
1 Pandan Crescent  
Singapore 128461  
T +65 6777 8211 | F +65 6777 0947  
[www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)

© 2007-2013 Remote Automation Solutions, a business unit of Emerson Process Management. All rights reserved.

Bristol, Inc., Bristol Canada, BBI SA de CV and Emerson Process Management Ltd, Remote Automation Solutions division (UK), are wholly owned subsidiaries of Emerson Electric Co. doing business as Remote Automation Solutions, a business unit of Emerson Process Management. FloBoss, ROCLINK, Bristol, Bristol Babcock, ControlWave, TeleFlow, Helicoid, OpenEnterprise, and METCO are trademarks of Remote Automation Solutions. AMS, PlantWeb and the PlantWeb logo are marks of Emerson Electric Co. The Emerson logo is a trademark and service mark of the Emerson Electric Co. All other marks are property of their respective owners.

The contents of this publication are presented for informational purposes only. While every effort has been made to ensure informational accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. Remote Automation Solutions reserves the right to modify or improve the designs or specifications of such products at any time without notice. All sales are governed by Remote Automation Solutions' terms and conditions which are available upon request. Remote Automation Solutions does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Remote Automation Solutions product remains solely with the purchaser and end-user.