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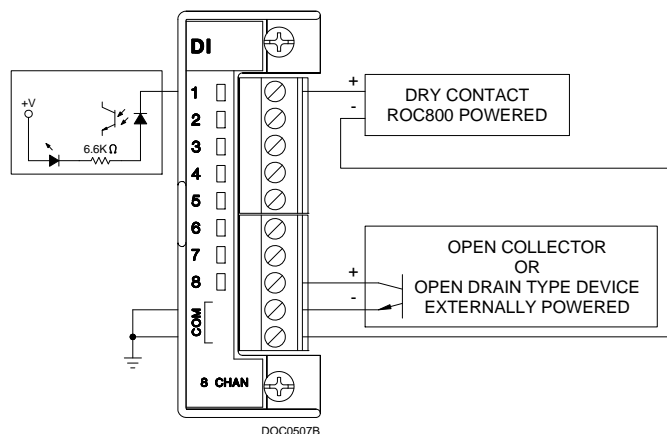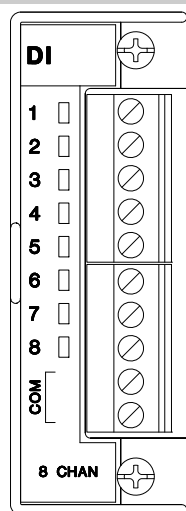

Discrete Input Wiring

D301274X012

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Technical Specifications

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 KΩ	
Maximum Input Overload Voltage	±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	

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