## **DI-8B42 2-Wire Transmitter Interface Modules**

#### **FEATURES**

- +12VDC Loop Supply
- Provides Isolation for Non-Isolated 2-Wire Transmitters
- High Level Voltage Outputs
- 1500Vrms Transformer Isolation
- ANSI/IEEE C37.90.1 Transient Protection
- Input Protected to 40VAC Continuous
- 100dB CMR
- 100Hz Bandwidth
- ±0.05% Accuracy
- ±0.02% Linearity
- Low Drift with Ambient Temperature
- UL, CSA, FM and CE Certifications Pending
- Mix and Match Module Types

### **DESCRIPTION**

DI-8B modules are an optimal solution for monitoring real-world process signals and providing high level signals to a data acquisition system. Each DI-8B42 module provides power to a current transmitter, then isolates, filters and amplifies the resulting process current input signal and provides an analog voltage output.

Current to voltage conversion is accomplished internal to the module to ensure high accuracy.

Signal filtering is accomplished with a three-pole filter optimized for time and frequency response which provides 60dB per decade of normal-moderejection above 100Hz. One pole of this filter is on the field side of the isolation barrier for anti-aliasing, and the other two are on the system side.

A special input circuit on the DI-8B42 module provides protection against accidental connection of power-line voltages up to 40VAC. Clamp circuits on the I/O and power terminals protect against harmful transients.

Isolation is provided by optical coupling to suppress transmission of common mode spikes or surges. The module is powered from +5VDC,  $\pm 5$ %.

The modules are designed for installation in Class I, Division 2 hazardous locations and have a high level of immunity to environmental noise.

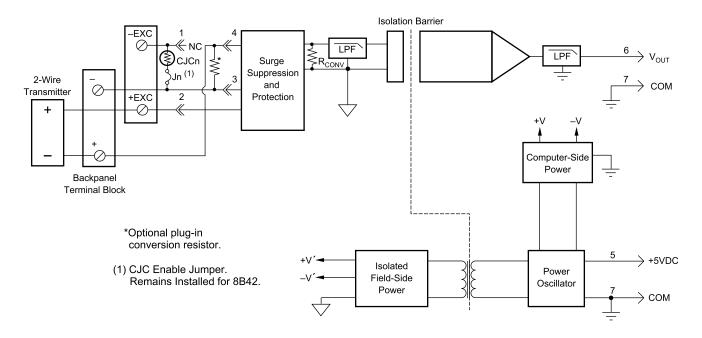
### **SPECIFICATIONS**

Typical at  $T_A = +25^{\circ}C$  and +5V Power

	DI-8B42	
Input Range	4mA to 20mA	
Input Resistance		
Normal	$35\Omega$	
Power Off	35Ω	
Input Protection		
Continuous	40VAC	
Transient	ANSI/IEEE C37.90.1	
Loop Supply Voltage	12VDC	
Loop Supply Protection	40VAC	
CMV, Input to Output	1500Vrms max	
Transient, Input to Output	ANSI/IEEE C37.90.1	
CMR (50Hz or 60Hz)	100dB	
NMR	60dB per decade above 100Hz	
Accuracy*	±0.05% Span	
Nonlinearity	±0.02% Span	
Stability		
Offset	±25ppm/°C	
Gain	±75ppm/°C	
Noise	500 M	
Output, 100kHz	500μVrms	
Bandwidth, -3dB	100Hz	
Response Time, 90% Span	5ms	
Output Range	0 to +5V	
Output Protection	Continuous Short to Ground	
Transient	ANSI/IEEE C37.90.1	
Power Supply Voltage	+5VDC ±5%	
Power Supply Current	140mA	
Power Supply Sensitivity	±50ppm/%	
Mechanical Dimensions	1.11" × 1.65" × 0.40"	
	$(28.1\text{mm} \times 41.9\text{mm} \times 10.2\text{mm})$	
Environmental		
Operating Temperature	-40°C to +85°C	
Storage Temperature	-40°C to +85°C	
Relative Humidity	0 to 95% Noncondensing repeatability.	

# **DI-8B42 2-Wire Transmitter Interface Modules**

### **Block Diagram**



# **Ordering Information**

Model Number	Input Range	Output Range
DI-8B42-01	4mA to 20mA	0V to +5V



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### **Data Acquisition Product Links**

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