

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
- $\pm 0.05\%$ Accuracy
- $\pm 0.02\%$ 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-mode rejection 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.

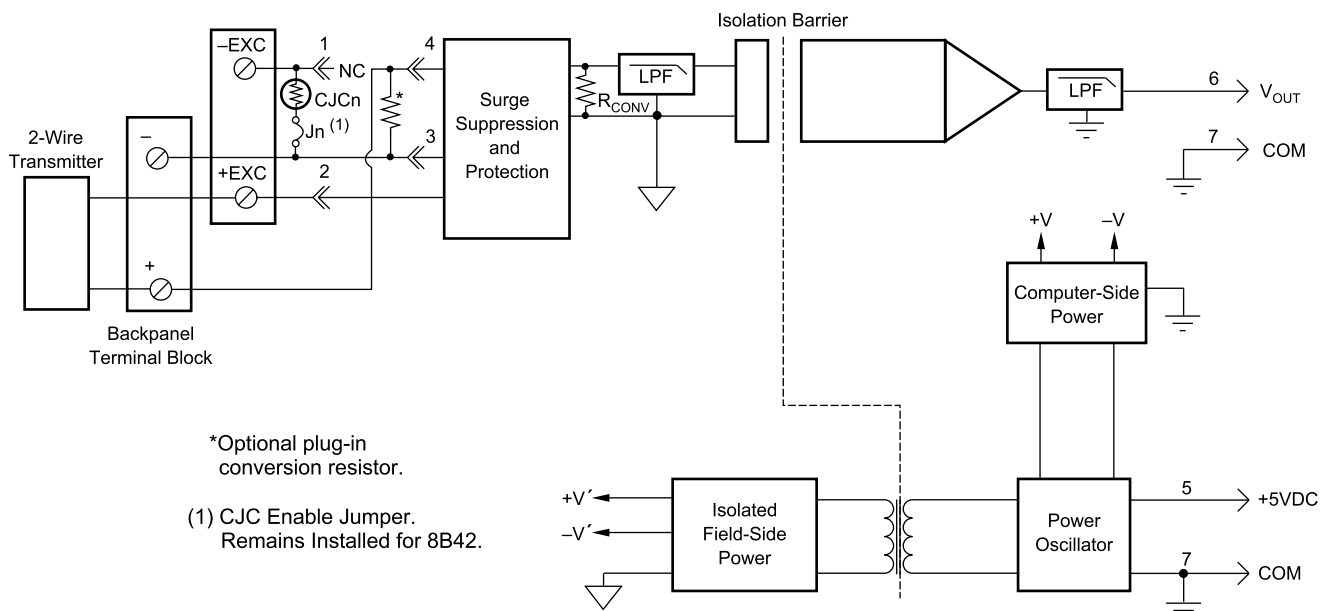
SPECIFICATIONS

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

		DI-8B42
Input Range		4mA to 20mA
Input Resistance	Normal Power Off	35 Ω 35 Ω
Input Protection	Continuous Transient	40VAC 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*		$\pm 0.05\%$ Span
Nonlinearity		$\pm 0.02\%$ Span
Stability	Offset Gain	$\pm 25\text{ppm}/^\circ\text{C}$ $\pm 75\text{ppm}/^\circ\text{C}$
Noise	Output, 100kHz	500 μVrms
Bandwidth, -3dB		100Hz
Response Time, 90% Span		5ms
Output Range		0 to +5V
Output Protection	Transient	Continuous Short to Ground ANSI/IEEE C37.90.1
Power Supply Voltage		+5VDC $\pm 5\%$
Power Supply Current		140mA
Power Supply Sensitivity		$\pm 50\text{ppm}/\%$
Mechanical Dimensions		1.11" \times 1.65" \times 0.40" (28.1mm \times 41.9mm \times 10.2mm)
Environmental	Operating Temperature Storage Temperature Relative Humidity	-40 $^\circ\text{C}$ to +85 $^\circ\text{C}$ -40 $^\circ\text{C}$ to +85 $^\circ\text{C}$ 0 to 95% Noncondensing
*Includes nonlinearity, hysteresis, and repeatability.		

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Block Diagram



Ordering Information

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



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