

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

Module	8B38-0x	8B38-3x
Input Range	$\pm 10\text{mV}$ to $\pm 100\text{mV}$	*
Input Bias Current	$\pm 0.5\text{nA}$	*
Input Resistance		
Normal	50M Ω	*
Power Off	200k Ω	*
Overload	200k Ω	*
Input Protection		
Continuous ⁽¹⁾	240VAC	*
Transient	ANSI/IEEE C37.90.1	*
Excitation Output (-x1)	+3.333V $\pm 2\text{mV}$	*
Load Resistance	100 Ω to 10k Ω	*
Excitation Output (-x2,-x5)	+10V $\pm 5\text{mV}$	*
Load Resistance	300 Ω to 10k Ω	*
Excitation Load Regulation	15ppm/mA	*
Excitation Stability	50ppm/ $^\circ\text{C}$	*
Excitation Protection	120VAC	*
CMV, Input to Output	1500Vrms max	*
Transient, Input to Output	ANSI/IEEE C37.90.1	*
CMR (50Hz or 60Hz)	100dB	*
NMR	100dB per decade above 3kHz	70dB at 60Hz
Accuracy ⁽²⁾	$\pm 0.05\%$ Span	*
Nonlinearity	$\pm 0.02\%$ Span	*
Stability		
Offset	$\pm 25\text{ppm}/^\circ\text{C}$	*
Gain	$\pm 100\text{ppm}/^\circ\text{C}$	$\pm 75\text{ppm}/^\circ\text{C}$
Noise		
Output, 100kHz	1mVrms	*
Bandwidth, -3dB	3kHz	3Hz
Response Time, 90% Span	120 μs	150ms
Output Range	$\pm 5\text{V}$	*
Output Protection	Continuous Short to Ground	*
Transient	ANSI/IEEE C37.90.1	*
Power Supply Voltage	+5VDC $\pm 5\%$	*
Power Supply Current	45mA No Exc. Load	*
	125mA Full Exc. Load	*
Power Supply Sensitivity	$\pm 50\text{ppm}/\%$	*
Mechanical Dimensions	1.11" x 1.65" x 0.40"	*
(h)(w)(d)	(28.1mm x 41.9mm x 10.2mm)	
Environmental		
Operating Temp. Range	-40°C to $+85^\circ\text{C}$	*
Storage Temp. Range	-40°C to $+85^\circ\text{C}$	*
Relative Humidity	0 to 95% Noncondensing	*
Emissions EN61000-6-4	ISM, Group 1	*
Radiated, Conducted	Class A	*
Immunity EN61000-6-2	ISM, Group 1	*
RF	Performance A $\pm 0.5\%$ Span Error	*
ESD,EFT,Surge,Voltage Dips	Performance B	*

NOTES:

* Same specification as 8B38-0x.

(1) 240VAC between + and -/+EXC/-EXC terminals. 120VAC between - and +EXC/-EXC terminals and between +EXC and -EXC terminals.

(2) Includes nonlinearity, hysteresis and repeatability.

Ordering Information

Model	Bandwidth	Input Range	Exc.	Sens.	Output Range
8B38-01	3kHz	-10mV to +10mV	+3.333V	3mV/V	-5V to +5V
8B38-02	3kHz	-30mV to +30mV	+10.0V	3mV/V	-5V to +5V
8B38-05	3kHz	-20mV to +20mV	+10.0V	2mV/V	-5V to +5V
8B38-31	3Hz	-10mV to +10mV	+3.333V	3mV/V	-5V to +5V
8B38-32	3Hz	-30mV to +30mV	+10.0V	3mV/V	-5V to +5V
8B38-35	3Hz	-20mV to +20mV	+10.0V	2mV/V	-5V to +5V

8B39

Current Output Modules

Description

8B modules are an optimal solution for monitoring real-world process signals and providing high-level signals to a data acquisition system. Each 8B39 module accepts an input signal from a non-isolated source, then isolates, filters and converts the signal to an analog process current output.

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 system side and the other two are on the isolated field side.

A special output circuit in the 8B39 module provides protection against accidental connection of power-line voltages up to 40VAC continuous. Clamp circuits on the I/O and power terminals protect against harmful transients.

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

► Features

- Accepts High Level Voltage or Process Current Input
- Process Current Output
- 1500Vrms Transformer Isolation
- ANSI/IEEE C37.90.1 Transient Protection
- Output Protected to 40VAC Continuous
- 110dB CMR
- 100Hz Signal Bandwidth
- ±0.05% Accuracy
- ±0.02% Linearity
- Low Drift with Ambient Temperature
- UL and CE Certifications Pending
- Mix and Match Module Types on Backpanel

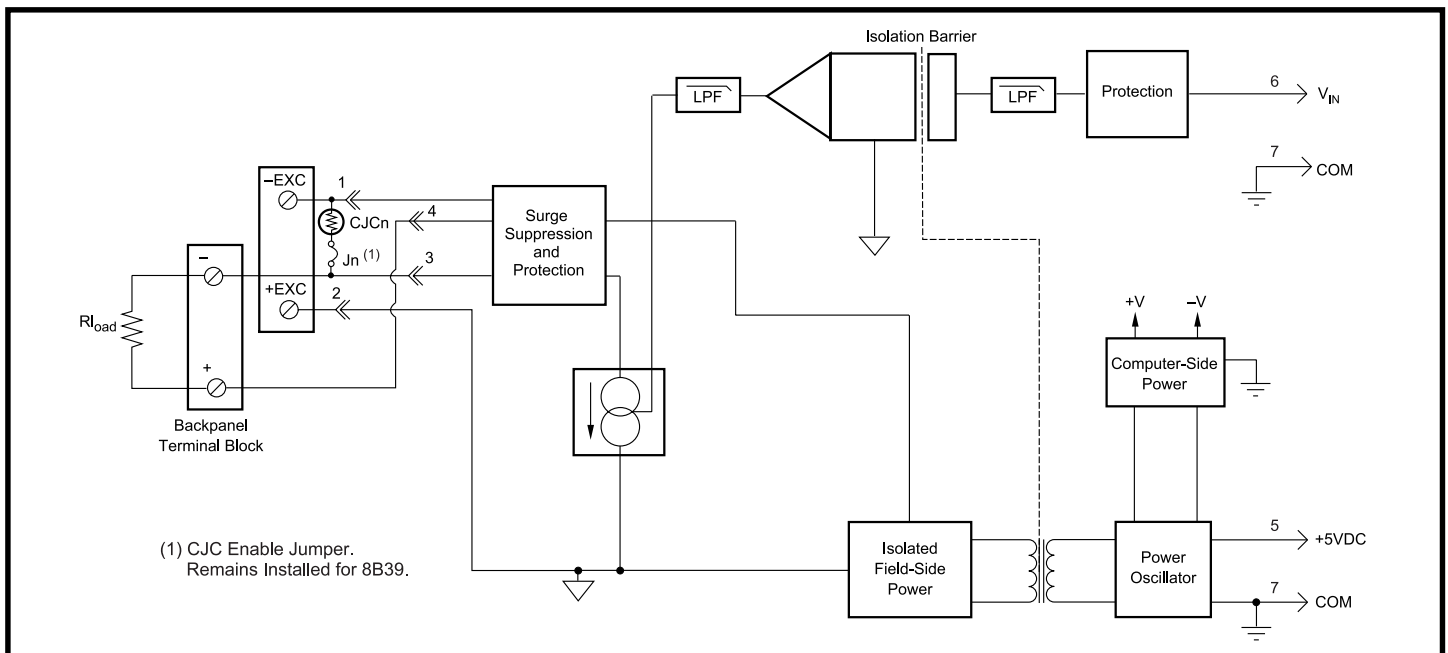


Figure 1: 8B39 Block Diagram