

8B49

Voltage 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 8B49 module accepts an input signal from a non-isolated source, then isolates, filters and converts the signal to a high-level process voltage output (Figure 1).

Signal filtering is accomplished with a 4-pole filter optimized for time and frequency response which provides 80dB per decade of normal-mode rejection above 100Hz. One pole of this filter is on the system side and the other three are on the isolated field side.

A special output circuit in the 8B49 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
- · Isolated Process Voltage Output
- 1500Vrms Isolation
- ANSI/IEEE C37.90.1 Transient Protection
- Output Protection to 40VAC Continuous
- 110dB CMR
- 100Hz Signal Bandwidth
- ±0.05% Accuracy
- ±0.02% Linearity
- Low Drift with Ambient Temperature
- C-UL-US Listed
- CE Compliant
- ATEX Compliance Pending
- · Mix and Match Module Types on Backpanel

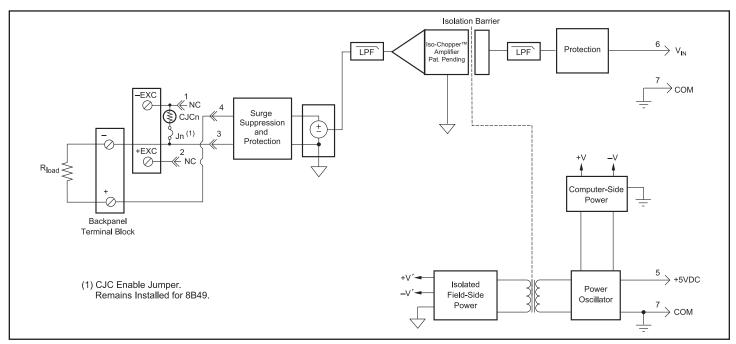


Figure 1: 8B49 Blok Diagram



Specifications Typical* at T_A = +25°C and +5VDC power

Specifications Typical	Α '
Module	8B49
Input Voltage Range Input Voltage Maximum Input Resistance	\pm 5V, 0 to +5V, \pm 10V, 0 to +10V \pm 20V (no damage) ≥1MΩ
Output Voltage Range Over Range Capability Output Drive Output I Under Fault, max Output Protection Continuous Transient	±5V, 0 to +5V, ±10V, 0 to +10V 5% at 10V output ±20mA max 30mA 40VAC max ANSI/IEEE C37.90.1
CMV, Output to Input Continuous Transient CMR (50 or 60Hz) NMR (–3dB at 100Hz)	1500Vrms max ANSI/IEEE C37.90.1 110dB 80dB per Decade above 100Hz
Accuracy ⁽¹⁾ Linearity Stability Offset Gain Noise Output, 100kHz Bandwidth, –3dB Response Time, 90% Span	±0.05% Span (0 to 10mA Load) ±0.075% Span (10 to 20mA Load) ±0.02% Span ±10ppm/°C ±50ppm/°C 800μVrms 100Hz 5ms
Power Supply Voltage Power Supply Current Power Supply Sensitivity	+5VDC ±5% 100mA Full Load, 30mA No Load ±100ppm/%
Mechanical Dimensions (h)(w)(d)	1.11" x 1.65" x 0.40" (28.1mm x 41.9mm x 10.2mm)
Environmental Operating Temperature Range Storage Temperature Range Relative Humidity Emissions EN61000-6-4 Radiated, Conducted Immunity EN61000-6-2 RF ESD,EFT NOTES:	-40°C to +85°C -40°C to +85°C 0 to 95% Noncondensing ISM, Group 1 Class A ISM, Group 1 Performance A ±0.5% Span Error Performance B

Ordering Information

Model	Input Range	Output Range
8B49-01 8B49-02 8B49-03 8B49-04 8B49-05 8B49-06	0V to +5V -5V to +5V -5V to +5V 0V to +10V -10V to +10V -10V to +10V	-5V to +5V -5V to +5V 0V to +5V -10V to +10V -10V to +10V 0V to +10V
8B49-07	–5V to +5V	-10V to +10V

Installation Notes:

- 1.) This Equipment is Suitable for Use in Class I, Division 2, Groups A, B,C, D, or Non-Hazardous Locations Only.
- 2.) WARNING Explosion Hazard Substitution of Any Components May Impair Suitability for Class I, Division 2.
- 3.) WARNING Explosion Hazard Do Not Disconnect Equipment Unless Power Has Been Switched Off or The Area is Known to be Non-Hazardous.

^{*}Contact factory or your local Dataforth sales office for maximum values.
(1) Includes linearity, hysteresis and repeatability.