



## Dual 10th Order Lowpass Filter Model 64-VBF

### Features

- ◆ Dual Fully Independent Channels
- ◆ 10th Order Filter, Fc Switch Selectable
- ◆  $\pm 10$  V True Differential Inputs
- ◆ Linear Phase and DC Accurate
- ◆ 24 VDC Powered (9-36 VDC)
- ◆ DIN Rail Enclosure
- ◆ High Speed DAQ Multiplexer Capable

### Applications

- ◆ Signal Noise Reduction
- ◆ Fast-Settle, High-Drive Output Buffer
- ◆ Differential to Single ended conversion



### General Description

The 64-VBF 10th order Lowpass Filter is a dual channel filter with independent switch settable Cutoff Frequency (Fc). The filter has a linear phase DC accurate root raised cosine response. The unit's differential inputs are built to withstand high DC over-voltages up to  $\pm 50$  VDC and greater than  $\pm 100$  V transients. Gain of the unit is 1 allowing for minimal insertion issues. The output can drive a high speed DAQ multiplexer with its fast settle and capacitive drive capability.

### Key Specifications

- ◆ Switch adjustable cutoff frequencies (Fc) of 50, 100, 300, 480, 900, 3000 and 4300 Hz.
- ◆ Calibrated accuracy to  $\pm 0.05\%$ , uncalibrated  $\pm 1.5\%$
- ◆ Differential input with  $\pm 50$  VDC input protection. 100 G $\Omega$  input impedance.
- ◆  $\pm 10$  V output settles in 60 nS to 0.1%

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# 64-VBF Specifications

## Input (Channel 1, 2)

Input Range:  $\pm 10$  Volts, true differential input

Absolute Max input:  $\pm 50$  Volts DC; 100V pulse

Input Impedance : 100 G $\Omega$

## Outputs (Channel 1, 2)

Voltage Outputs:  $\pm 10$  Volts. 26 mA output current max, 60 nS settle time to 0.1%

Output drive stage is capacitive load tolerant.

## Power

Input: 24 VDC Nominal (9-36 VDC Range)

Power Consumption: 6W

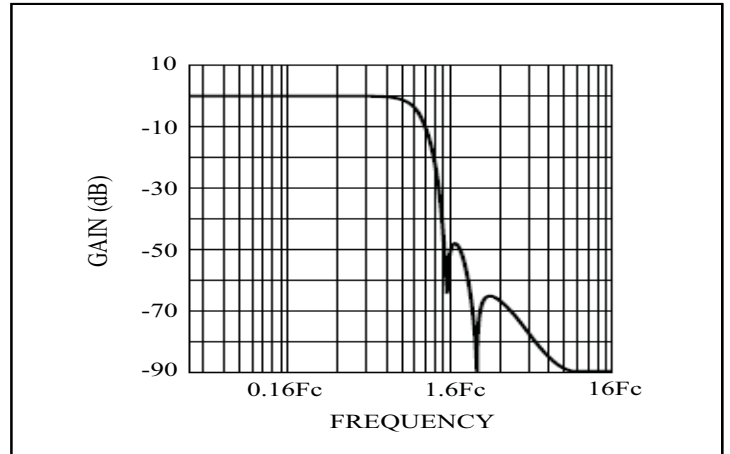
Isolation: 1500 VDC, Power to Input or Output

## Filter

Switch Selectable Cutoff Frequencies (Fc) of: 50, 100, 300, 480, 900, 3000 and 4300 Hz.

Filter type: Linear Phase, DC Accurate 10th Order Lowpass

## Filter Response



## Accuracy (%Reading)

Un-Calibrated Overall:  $\pm 1.5\%$ , Calibrated\* :  $\pm 0.05\%$

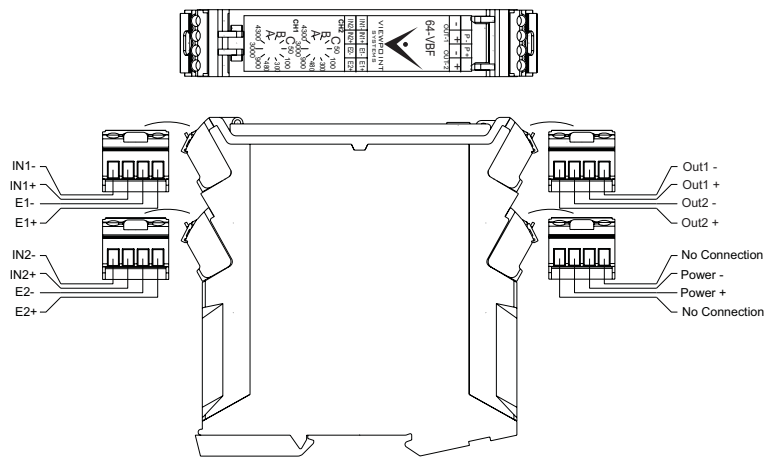
\* Calibration is done externally to unit (in user software)

## Environment

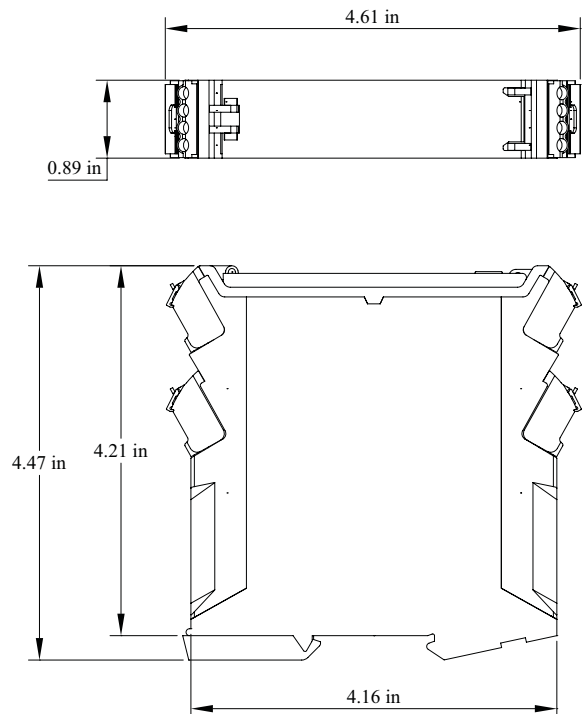
0 to 70 °C operating, -40 to 85 °C storage

## Options

+/- 15 VDC power supplies; Custom Fc in range of 50 to 4300 Hz, (consult factory)



Wiring Diagram



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