

Dual Voltage Buffer with Current Drive Model BUF-01

Features

- ◆ Dual Fully Independent Channels
- ◆ Output drive of 50 mA per Channel
- ◆ ± 10 V True Differential Inputs
- ◆ Low pass filter to remove high frequency noise.
- ◆ 24 VDC Powered (9-36 VDC)
- ◆ DIN Rail Enclosure

Applications

- ◆ Signal Noise Reduction
- ◆ Valve Driver
- ◆ High Current drive output
- ◆ Differential to Single-Ended conversion

General Description

The BUF-01 Voltage Buffer is a dual channel buffer capable of driving up to 50 mA of current on each channel at up to ± 10 V output. The buffer has a 2nd order low pass filter with 3 dB point of 119 kHz to remove high frequency noise. The unit's differential inputs are built to withstand high DC over-voltages up to ± 50 VDC and greater than ± 100 V transients. Gain of the unit is 1 allowing for minimal insertion issues.



Key Specifications

- ◆ Output ± 10 V with up to 50 mA
- ◆ Gain accuracy to $\pm 0.04\%$
- ◆ Voltage offset ± 6 mV max
- ◆ Differential input with ± 50 VDC input protection. 100 G Ω input impedance.
- ◆ ± 10 V output settles in 6 μ S to 0.1%
- ◆ 24 VDC Powered

BUF-01 Specifications

Input (Channel 1, 2)

Input Range: ± 10 Volts, true differential input

Absolute Max input: ± 50 Volts DC; 100 V pulse

Input Impedance : 100 G Ω

Outputs (Channel 1, 2)

Voltage Outputs: ± 10 Volts at 50 mA output current max,

Input to Output Step response Settle time to 0.1%: 6 μ S typical

Maximum Slew Rate: 2 V/ μ S

Output drive stage is capacitive load tolerant.

Power

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

Power Consumption: 6 W max, 1.2 W typical with no load.

Isolation: 1500 VDC, Power to Input or Output

Filter

The 2nd order filter has a 119 kHz 3 dB operating point differential mode, please note that for full scale input voltages the slew rate limits the response before the filtering. Values given with ± 0.5 V input, Output load of 1 k Ω .

Accuracy

Gain Accuracy (G=1, DC Input) : $\pm 0.04\%$

Voltage Offset : ± 6 mV max;

Voltage Offset Temperature Drift : ± 3 μ V/ $^{\circ}$ C

Filter attenuation effect at 10% of 3 dB cut-off: -0.029 dB

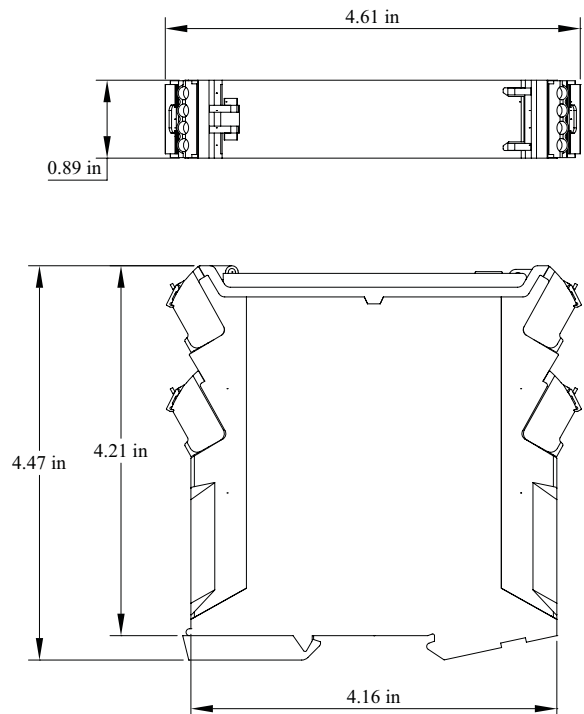
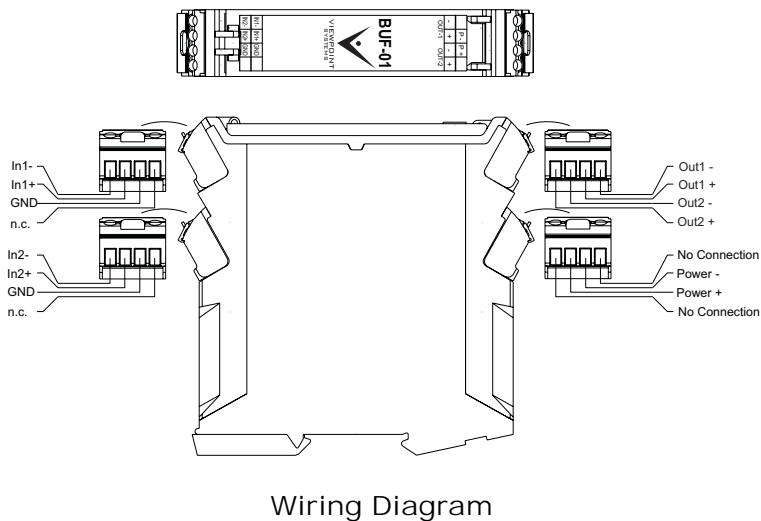
Environment

0 to 70 $^{\circ}$ C operating, -40 to 85 $^{\circ}$ C storage

Options

± 15 VDC power supply (consult factory)

Custom Low pass filter 3 dB point (consult factory)



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