



BN-35I

24VDC Panel Meter
3 1/2 Digit 0.56" LED
in a 1/16 DIN Case

Isolated Power LED Voltmeter in a Compact DIN 96x24mm Case.

General Features

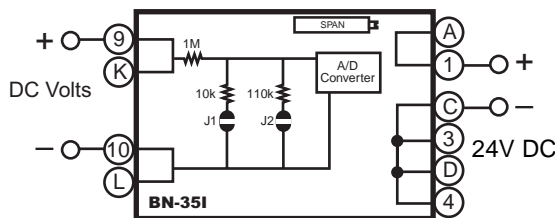
The BN-35I is a low cost pin for pin functional replacement for the Newport model 215, with many more features. It is a 3 1/2 digit voltmeter in a compact 96x24mm case with an internal isolated power supply. 5V, 12V, 15V or 24VDC power options are available. The case has a short depth of just 2.83 inches (72mm) behind the panel.

The meter has four user-selectable ranges of 200mV, 2V, 20V and 200V. The BN-35I may also be calibrated at the factory for these ranges or specially scaled for other ranges (see Ordering Information below). Provision to offset the zero is also available as an option for 4-20mA signals.

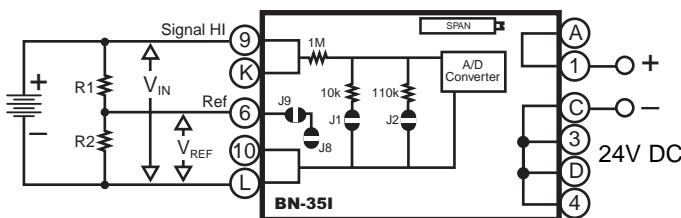
The display is shipped standard with red LEDs, but green LEDs or super bright LEDs for high ambient light environments are also offered. Display Segment Test, Display Blank and Hold Reading are standard features.

Typical Application Connections

DC Volts Single-ended measurement



Ratiometric Voltmeter with external reference.



For using the BN-35I as a ratiometric voltmeter with an external reference, open J8 and close J9 jumpers.

$$\text{Meter display} = \frac{V_{IN}}{V_{REF}} \times 1000$$

If Signal Low is common to the 24VDC Power Ground, remove resistor R307 and replace it with a jumper (i.e. short the resistor R307).

Compatibility

The BN-Series have a matching DIN case style that is complementary to the Lynx, Leopard and Tiger family of meters. BN-Meters are the OEM's choice for economical switchboard and process indication. For economy, each model is dedicated to a specific application and designed for quick and easy installation.



Specifications

- Input Configuration:** True differential
- Full Scale Ranges:** $\pm 199.9\text{mVDC}$ $\pm 1.999\text{VDC}$ (standard)
 $\pm 19.99\text{VDC}$ $\pm 199.9\text{VDC}$
- Input Impedance:** Exceeds $100\text{M}\Omega$ on 200mV, 2V ranges.
 $1\text{M}\Omega$ other ranges.
- Input Protection:** $\pm 100\text{V AC/DC}$ for 200mV, 2V and 20V ranges.
 $\pm 250\text{VAC/DC}$ for 200V range
- Conversion Rate:** 3 readings per second
- Common Mode:** 80dB at DC
- Normal Mode:** 60dB at 50/60Hz for 200mV and 2V ranges.
- Common mode voltage:** .. 100VDC between Signal Low and the Power Ground
- Accuracy:** $\pm (0.05\%$ of reading + 1 digit)
- Tem. Coefficient:** $5\text{ppm}/^\circ\text{C}$ in ratiometric mode $50\text{ppm}/^\circ\text{C}$ in 200mV / 2V ranges
- Maximum Resolution:** $100\mu\text{V}$ in 200mV range.
- Zero Stability:** Autozeroed. 0.1 counts per $^\circ\text{C}$
- Display:** 0.56" high red LEDs. Display Hold, Blank and Test provided.
- Overrange Indication:** The most significant digit "1" is displayed with all the other digits blanked.
- Power Supply:** 24VDC @ 90mA standard 5VDC @ 200mA; 12VDC @ 160mA; 15VDC @ 120mA; depending on option
- Operating Temperature:** 0°C to 60°C
- Storage Temperature:** -40°C to 85°C
- Relative humidity:** 95% (non condensing)
- Case Dimensions:** Bezel: 96X24 mm (3.62" X 0.95")
Depth behind bezel: 56.5 mm (2.23")
Plus 27 mm (1.06") for Push-On connector or plus 17.5 mm (0.68") for Edge connector
- Weight:** 85 gms (3 oz)
125 gms (4.4 oz) when packed

BN-Series, For Those Applications Where Space Is A Premium

- BN-35**0.2/2/20/200V DC ranges, 3.5 digit, 5V DC Powered
- BN-35BCD** Parallel or Multiplex BCD, 3.5 digit, 5V DC Powered
- BN-35CL**4 to 20mA, Isolated 24V DC, 3.5 digit
- BN-35I**0.2/2/20/200V DC ranges, Isolated 24V DC, 3.5 digit

- BN-40BCD** Parallel or Multiplex BCD, 4.0 digit, 5V DC Powered
- BN-45**2/20/200V DC ranges, 4.5 digit, 5V DC Powered
- BN-45I**2/20/200V DC ranges, Isolated 24V DC, 3.5 digit