

1/8 DIN Ultra High Performance Meter

INF-B



INF-B, shown actual size.

- ✓ **Universal Inputs:**
DC Voltage/Current, T/C, RTD, and Strain
- ✓ **Accuracy: $\pm 0.005\%$ Rdg**
- ✓ **6-Digit Patented Color-Changing LED Display**
- ✓ **Up to 142 Readings Per Second**
- ✓ **10-Point Linearization**
- ✓ **4 Isolated Open-Collector Outputs**
- ✓ **Isolated Analog Output (Optional)**
- ✓ **4 Relays (Optional)**
- ✓ **Optional Ethernet or RS232/RS485 Communications**
- ✓ **NEMA 4 (IP65) Front Bezel**
- ✓ **Ratiometric Mode for Strain Gages**

NEWPORT set the world standard for accuracy, performance and quality in digital panel meters. The INF-B raises the bar even higher with accuracy of up to $\pm 0.005\%$ of reading, and up to 142 readings per second.

The versatile INF-B handles a broad spectrum of dc voltage and current ranges, nine thermocouple types, multiple RTD's, and signals from strain gauge transducers such as load cells and pressure transducers, as well as potentiometric inputs.

It also features ten point linearization of input signals, programmable by the user for custom applications.

Built-in excitation to power virtually any sensor or transmitter, and four isolated open collector outputs for control or alarms are standard.

The big, bright, 6 digit patented LED display can be programmed to change color between Red, Amber, and Green at any set point. The digits are 58% bigger than the typical display. Output options include: Isolated programmable analog voltage or current and four relays.

With the Serial Communications option, the user can select from a push-button menu between RS232, RS485, and either a straightforward ASCII protocol or MODBUS. With Omega's award-winning Ethernet/Internet option, the INF-B connects directly to an Ethernet network and transmits data in standard TCP/IP protocol. It is possible to monitor and control a process through a web browser from anywhere on the Internet.

change color

At Any Setpoint*



Totally Programmable Color Displays

The INF-B Meter has totally programmable color displays.

The display can be programmed to change color at any setpoint or alarm point.



Programmable Color Display

The INF-B has totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.

For example, one could use **GREEN** during warm-up, switch to **AMBER** for the normal operating range, and choose **RED** to signal an alarm condition. The changes in color are visible from a distance, allowing the user to react to changing conditions. The colors can be programmed to change back when the value drops back below the alarm point or to "latch" on until being reset by the operator.

The instrument can also display only 1 unchanging color: **GREEN**, **AMBER**, or **RED**. This lets an operator identify process values in 3 separate locations or display 3 different measurements, such as temperature, pressure, and flow.

Quality and Technology

The innovative INF-B meters are backed by a 5-year warranty. Using COB (chip-on-board) and SMT (surface mount technology) assembly techniques and automation, the INF-B packs a wealth of power and features into a compact package. Every instrument is thoroughly calibrated and tested at several stages throughout production. The INF-B has very high accuracy: 0.005% of reading. The analog-to-digital conversion uses patented algorithms and smart filtering.

Universal Inputs

The INF-B offers a broad selection of signal inputs, selectable from the front-panel pushbutton menu or by serial or Ethernet communications.

Nine Thermocouple Types

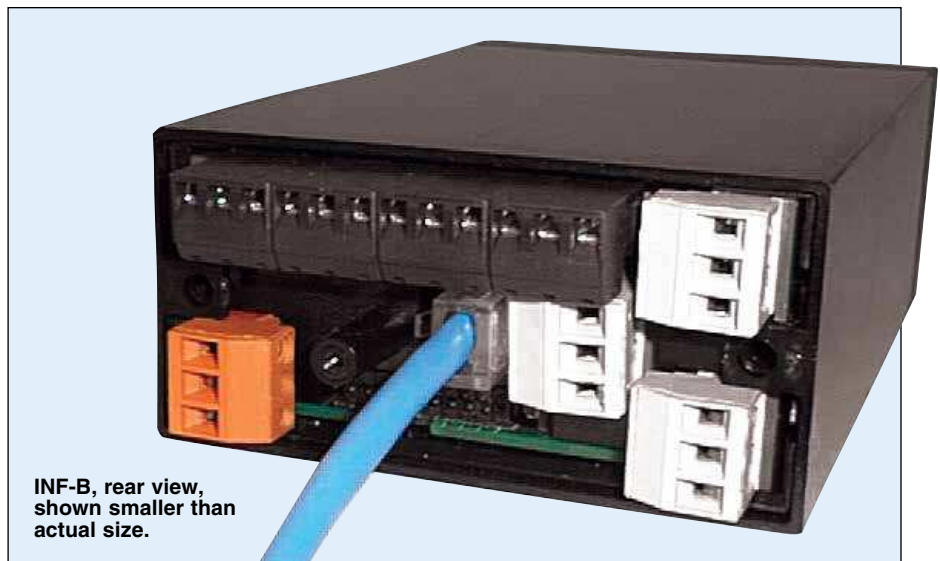
The INF-B handles 9 thermocouple Types: K, J, T, E, R, S, B, N, and J DIN. The patented thermocouple linearization algorithms produce very high accuracy.

Most Accurate RTD Measurements

The INF-B works with a wide selection of RTDs. It handles Pt 0.00385 and 0.00392 curves, any 6 to 6000 Ω NIST or DIN Pt, and any linear RTD (10 Ω Cu, etc.). A choice of 2-, 3-, or 4-wire RTD connections ensures high accuracy.

Process and Voltage Current

The INF-B measures process voltage: 0 to 100 mV, 0 to 1 V, 0 to 10 V, 0 to 100 V (unipolar), ± 50 mV, ± 500 mV, ± 5 V, ± 50 V (bipolar) ranges, and process current: 0 to 20 mA or 4 to 20 mA.



INF-B, rear view, shown smaller than actual size.

Strain Gauge

The INF-B measure inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor. Input can be linearized over 10 pts on ranges. 0 to 100 mV, 0 to 1 V, 0 to 10 V, 0 to 100 V (unipolar), ± 50 mV, ± 500 mV, ± 5 V, ± 50 V (bipolar), in addition to 0-20 mA. Excitation for transducers of 10 Volt and 24 Volt is standard.

Analog Output

The optional analog output can be programmed within a range of 0 to 10 Vdc or 0 to 20 mA. It is selectable as a calibrated retransmission of the process value.

Built-in Excitation Standard

The INF-B comes standard with built-in excitation. You can capture and display both peak and valley levels of your input signals, an important feature for such applications as destructive and pressure testing. Five different kinds of excitation are available for sensors such as transmitters (24 Vdc @ 25 mA), strain gages (1.5 to 10 Vdc @ up to 60 mA max.), slide-wire potentiometers (1.25 Vdc @ 30 mA).

Free Software

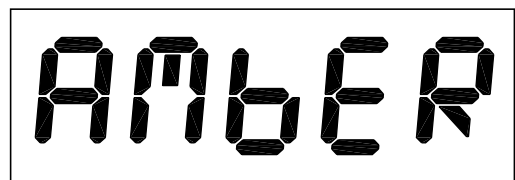
Free software is provided for easy set-up, configuration and data acquisition with the INF-B.

Free ActiveX Controls

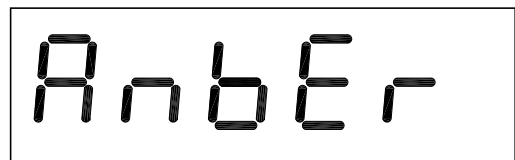
Free ActiveX Controls make it easy to integrate the INF-B with information systems that use "ActiveX Containers", such as Microsoft Visual Basic and Microsoft Excel, as well as with popular OLE- and OPC-compliant data acquisition, process-control, and industrial automation software from OMEGA®, GE Fanuc, Intellution, Rockwell Automation, Object Automation, iconics, and Wonderware among others.

The INF-B displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations.

The 7-segment LED characters found on most instruments are adequate for presenting numbers, but not letters. Words are easier to read with the unique 9-segment LED characters on the INF-B, which makes operating and programming simpler and easier.



INF-B 9 Segment (Bigger)



Typical 7 Segment(Smaller)

Factory Setup and Configuration

INF-B meters/controllers can be preconfigured by the factory. The user specifies the input types, scaling if applicable, setpoints, alarm points, etc., and we will program the instruments in our calibration lab before shipment. For a checklist of factory setup parameters, please consult the Newport engineers.

Specifications

Accuracy: $\pm 0.005\%$ rdg

Span Temperature Coefficient: ± 20 ppm

Power: 90 to 240 Vac or 10 to 32 Vdc

Normal-Mode Rejection: 60 dB

Common-Mode Rejection: 120 dB

Common-Mode Voltage:

1500 Vp per Hv test

Resolution: 24-bit

Reading Rate:

7 to 142 samples per second

Display: Red/amber/green, 6-digit, 9-segment; 17.3 H x 10.2 mm W (0.68 x 0.40"); 4 alarm indicators; °C, °F, and K

Panel Cutout: 45 H x 92 mm W (1.8 x 3.6"); 1/8 DIN

Setpoint Outputs: 4, isolated open collector; rated 150 mA at 1 V sink, 30V open

4-Relay Option: Two 5 A and two 3 A relays; form "C", SPDT

Analog Output: 0 to 5V/1 to 5V/0 to 10V/0 to 20 mA/4 to 20 mA, user selectable; 354 Vp isolation; 14-bit resolution; 0.1% accuracy; 6 ms step response

Ethernet: Standards compliance IEEE 802.3 10 Base-T

Protocols: TCP/IP, ARP, HTTPGET RS232/RS422/RS485/telnet simulation/tunneling

MODBUS: Selectable from menu

Voltage Input Ranges: 0 to 100 mV, 0 to 1V, 0 to 10V, 0 to 100V, ± 50 mV, ± 500 mV, ± 5 V, ± 50 V

Current Input Ranges: 0 to 20 mA, 4 to 20 mA

Polarity: Unipolar/bipolar, programmable

Thermocouple Input Types:

J, K, T, E, R, S, B, N, J DIN

RTD Input: Any 6 Ω to 6 k Ω NIST or DIN platinum and any linear RTD

RTD Connection: 2-, 3- or 4-wire

Sensor Excitation: 10V at 30 mA; 24V at 25 mA

ActiveX controls make it easy to integrate the INF-B with information systems.



Input Types

Sensor Type	Range	Accuracy
J Iron-Constantan	-210 to 760°C -346 to 1400°F 63.2 to 1673.2 K	0.2°C 0.3°F 0.2 K
K Chromel-Alumel	-250 to 1250°C -418 to 2282°F 23 to 977.2 K	0.2°C 0.3°F 0.2 K
T Copper-Constantan	-270 to 400°C -454 to 752°F 3.2 to 673.2 K	0.2°C 0.3°F 0.2 K
E Chromel-Constantan	-270 to 1000°C -454 to 1832°F 3.2 to 1273.2 K	0.2°C 0.3°F 0.2 K
R Pt/13%Rh-platinum	-50 to 1768°C -58 to 3214°F 223.2 to 2041.2 K	0.2°C 0.3°F 0.2 K
S Pt/10%Rh-platinum	-50 to 1768°C -58 to 3214°F 223.2 to 2041.2 K	0.2°C 0.3°F 0.2 K
B Pt/30%Rh-Rh-Pt/6%Rh	+100 to 1820°C +212 to 3300°F 373.2 to 2093.2 K	0.3°C 0.5°F 0.3 K
N OMEGALLOY*1 nicosil-nisil	-270 to 1300°C -454 to 2372°F 3.2 to 1573.2 K	0.2°C 0.3°F 0.2 K
J DIN Iron-Constantan	-200 to 900°C -328 to 1652°F 73.2 to 1173.2 K	0.6°C 1.0°F 0.6 K

Sensor Type	Range	Accuracy
RTD 1 10 Ω Copper	-200 to 200°C -328 to 392°F 73.2 to 473.2 K	1.6°C 2.0°F 1.0 K
RTD 1 100 Ω Pt 0.00385	-200 to 900°C -328 to 1652°F 73.2 to 1173.2 K	0.2°C 0.3°F 0.2 K
RTD 1 100 Ω Pt 0.00392	-200 to 850°C -328 to 1562°F 73.2 to 1123.2 K	0.2°C 0.3°F 0.2 K

* Includes (all \pm) maximum linearization error.

