4 1/2 DIGIT PROCESS METER WITH TRANSMITTER EXCITATION

STANDARD FEATURES
- 10-24 V isolated transmitter excitation
- Span range from 0 to 19,999 counts
- Zero range from -19,999 to +19,999 counts
- 120 dB CMR, 70 dB NMR
- Screw-terminal barrier strip
- Bright, 0.56 in (14.2 mm) LED display
- Display hold and test
- 115/230 Vac power
- EMI/RFI filter for AC power
- Short (4.1 in, 104 mm deep) 1/8 DIN case

OPTIONS
- Isolated 9-32 Vdc or 26-56 Vdc power
- NEMA-4 splash-proof lens cover

NEWPORT PRODUCT INFO
- MANUAL
- QUICK START
- MECHANICAL 1/8 DIN (2A) Case
- MECHANICAL Connections Diagram
- PRICE

BUILT-IN TRANSMITTER EXCITATION SUPPLY
Model 2002A-E is a high-resolution digital process monitor which incorporates an electrically-floating supply for powering transmitters, active transducers and bridges. In many cases, this built-in supply can eliminate the need for a more expensive external supply. The output voltage is adjustable from 10 to 24 V dc. Maximum output current is 50 mA at any voltage setting.

HIGH-RESOLUTION PROCESS MONITOR
Except for the excitation supply, the 2002A-E is identical to the 2002A-P, a low-cost 4 1/2 digit (+19,999-count) process monitor for indication-only applications. It provides extensive zero and span adjustments to measure signals such as 4-20 mA, 1-5 V and 0-10 V in engineering units. Scaling and calibration are easily accomplished in the field by multiturn potentiometers accessible behind the lens. Accuracy is up to 99.98% of reading.

COMPACT CASE
The 2002A-E is housed in a 1/8 DIN case that requires less than 4.1 in (104 mm) behind the panel. A screw-terminal barrier strip for signal and power is standard.

SPECIFICATIONS

ANALOG INPUT

<table>
<thead>
<tr>
<th>Signal Range</th>
<th>4-20 mA</th>
<th>1-5 V</th>
<th>0-10 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>0.8 µA</td>
<td>0.2 mV</td>
<td>0.5 mV</td>
</tr>
<tr>
<td>Input resistance</td>
<td>130 ohm</td>
<td>1 Mohm</td>
<td>1 Mohm</td>
</tr>
</tbody>
</table>
## Bias current

<table>
<thead>
<tr>
<th></th>
<th>50 pA</th>
<th>10 pA</th>
<th>5 pA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum input</td>
<td>55 mA</td>
<td>250 V</td>
<td>250 V</td>
</tr>
</tbody>
</table>

Span range: 0 to 19,999 counts  
Zero range: -19,999 to +19,999 counts

### Reference

- **Internal (standard):** 1.0 V ±5%, 12 kohm source resistance
- **External (ratiometric):** 0.5 to 2.0 V, 680 kohm input resistance

### Accuracy at 25°C

<table>
<thead>
<tr>
<th>Reference</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum error</td>
<td>±0.01% of span</td>
<td>±0.01% of span</td>
</tr>
<tr>
<td>Zero tempco</td>
<td>±2 counts</td>
<td>±2 counts</td>
</tr>
<tr>
<td>Span tempco</td>
<td>±0.5 counts/°C</td>
<td>±1 count/°C</td>
</tr>
<tr>
<td></td>
<td>±0.01% of span/°C</td>
<td>±0.005% of span/°C</td>
</tr>
</tbody>
</table>

Full-scale step response: 1.0 s  
Warmup to rated accuracy: 10 min

### Noise Rejection

- **NMR, SIG HI to SIG LO:** 70 dB, 50/60 Hz  
- **CMR, SIG GND to PWR GND:** 120 dB, DC to 60 Hz  
- **CMV, SIG GND to PWR GND:** 1500 Vp per HV test, 354 Vp per IEC spacing

### Analog-to-Digital Conversion

- **Technique:** Dual-slope, average value  
- **Signal integration period:** 100 ms  
- **Read rate:** 2.5/s

### Transmitter Excitation Supply

- **Output voltage:** adjustable from 10 or 24V dc  
- **Output current:** 50 mA max  
- **Line regulation:** ±0.01% typ, ±0.04% max for 10% change of AC power voltage  
- **Load regulation:** ±0.15% typ, ±0.5% from zero to max load  
- **Tempco:** ±0.02%/°C  
- **Ripple at 50/60 Hz:** 0.01%

### Display

- **Type:** 7-segment, red LED  
- **Height:** 0.56 in (14.2 mm)  
- **Symbols:** -1.8.8.8.8  
- **Decimal points:** Four positions, programmable by jumpers behind lens or at connector, 10 mA sink to DIG GND  
- **Overrange indication:** Four least-significant digits flash

### Digital Inputs

- **Signals:** Display hold, blanking, display test, decimal point select  
- **Level:** TTL or 5 V CMOS compatible

### Power

- **AC voltages:** 115 or 230 V ac, ±15%  
- **AC frequency:** 49 to 440 Hz  
- **DC voltages:** 9-32 V dc, isolated to 300 Vp; 26-56 V dc, isolated to 300 Vp  
- **Power consumption:** 4.0 W  
- **Output voltages:** +4.7 V dc and -4.7 V dc ±5%, 10 mA max
ENVIRONMENTAL
Operating temperature: 0 to 60°C
Storage temperature: -40 to +85°C
Relative humidity: 95% at 40°C (non-condensing)

MECHANICAL
Dimensions: Newport DIN2A (short 1/8 DIN) case (see Mechanical section for drawings)
Weight: 15 oz (425 g)
Case material: 94V-0 UL-rated polycarbonate
Connectors - Power & signal: D4 screw-terminal barrier strip (std)
Display control: D1 36-pin PCB edge connector (opt)

Model 2002A-E w/electrically-floating excitation supply & process signal conditioner, configured for operation with a 2-wire 4-20 mA transmitter (powered by 4-20 mA loop). Excitation return is tied to signal low.
LOW-COST, 3 1/2 DIGIT PROCESS METER
MODEL 202A-P

STANDARD FEATURES
- Zero and span adjustments of 2,000 counts each ±1,999-count display span
- Standard signal ranges of 4-20 mA, 1-5 V, 0-10 V
- 120 dB CMR, 56 dB NMR
- Bright, 0.56 in (14.2 mm) LED display
- Automatic polarity
- Display hold and test
- 115/230 Vac power
- EMI/RFI filter for AC power
- Screw-terminal barrier strip
- Short 4.1 in (104 mm deep) 1/8 DIN case

OPTIONS
- Isolated 9-32 Vdc power
- Isolated 26-56 Vdc power
- NEMA-4 splash-proof lens cover

NEWPORT PRODUCT INFO
- MANUAL
- QUICK START
- MECHANICAL 1/8 DIN (2A) Case
- MECHANICAL Connections Diagram
- PRICE

REQUIRES ADOBE ACROBAT - HELP

Model 202A-P is a low-cost 3 1/2 digit (±1,999 count) process meter for applications where indication-only is required. It provides a span adjustment of 2,000 counts for all signals, a zero adjustment of ±1,000 counts for input signals of 4-20 mA and 1-5 V and a zero adjustment of -1,500 to +500 counts for input signals of 0-10 V. Scaling and calibration are easily accomplished in the field by multiturn potentiometers accessible behind the lens. Accuracy is 99.9% of reading.

The 202A-P can also be used in ratiometric pot-follower applications to determine liquid level or valve setting from the position of a potentiometric wiper. The required external reference voltage can be derived from the meter's own 4.7 V dc supply.

COMPACT CASE
The 202A-P is housed in a 1/8 DIN case that requires less than 4.1 in (104 mm) behind the panel. A screw-terminal barrier strip for signal and power is standard.

OPTIONS
Options are isolated 9-32 V dc or 26-56 V dc power, a PCB edge connector for display control and output of +4.7 V dc and -4.7 V dc power, and a splash-proof lens cover which meets NEMA-4 requirements.

SPECIFICATIONS

ANALOG INPUT
<table>
<thead>
<tr>
<th>Range</th>
<th>4-20 mA</th>
<th>1-5 V</th>
<th>0-10 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input resistance</td>
<td>13 kohm</td>
<td>1 Mohm</td>
<td>1 Mohm</td>
</tr>
<tr>
<td>Bias current</td>
<td>50 pA</td>
<td>10 pA</td>
<td>5 pA</td>
</tr>
<tr>
<td>Maximum input</td>
<td>55 mA</td>
<td>250 V</td>
<td>250 V</td>
</tr>
<tr>
<td>Ratiometric reference</td>
<td></td>
<td>0.1 or 1.0 V dc +100%/−50%</td>
<td></td>
</tr>
</tbody>
</table>

**NOISE REJECTION**

NMR, SIG HI to SIG LO: 56 dB, 50/60 Hz
CMR, SIG GND to SIG HI: 120 dB, DC to 60 Hz
CMR, SIG GND to PWR GND: 120 dB, DC to 60 Hz
CMV, SIG GND to PWR GND: 1500 Vp per HV test, 354 Vp per IEC spacing

**ACCURACY AT 25°C**

Maximum error: ±0.05% of reading ±1 count
Zero tempco: ±0.01% of offset/°C
Span tempco, ratiometric: ±0.01% of reading/°C
Span tempco, non-ratiometric: ±0.03% of reading/°C
Full-scale step response: 1 s
Warmup to rated accuracy: 1 min

**ANALOG-TO-DIGITAL CONVERSION**

Technique: Dual-slope, average value
Signal integration period: 100 ms
Read rate: 2.5/s

**DISPLAY**

Type: 7-segment, red LED
Height: 0.56 in (14.2 mm)
Symbols: -1.8.8.8
Decimal points: Three positions, programmable by jumpers or at connector, 10 mA sink
Overrange indication: Three least-significant digits blank

**DIGITAL INPUTS**

Level: TTL or 5 V CMOS compatible

**POWER**

AC voltages: 115 or 230 V ac, ±15%
AC frequency: 49 to 440 Hz
DC voltages: 9-32 V dc, isolated to 300 Vp; 26-56 V dc, isolated to 300 Vp
Power consumption: 3.7 W
Output voltages: +4.7 V dc and -4.7 V dc ±5%, 10 mA max

**ENVIRONMENTAL**

Operating temperature: 0 to 60°C
Storage temperature: −40 to +85°C
Relative humidity: 95% at 40°C (non-condensing)

**MECHANICAL**

Dimensions: Newport DIN2A (short 1/8 DIN) case (see Mechanical section for drawings)
Weight: 15 oz (425 g)
Case material: 94V-0 UL-rated polycarbonate
3 1/2 DIGIT COMPACT PROCESS METER WITH FULL SIZE LEDS 
AND ISOLATED EXCITATION

STANDARD FEATURES

- Zero and Span Adjustments of 2,000 Counts Each
- ±1,999 -Count Display Span
- 120 dB CMR, 56 dB NMR
- Bright, 14.2 mm (0.56") LED Display
- EMI/RFI Filter for ac Power
- Removable Screw-Clamp Connector
- Miniature DIN Case with 24 x 72 mm (0.94" x 2.83") Bezel

OPTIONS

- Isolated Transmitter Excitation Supply
- 4-20 mA, 1-5 V, 0-10 V Signal Ranges
- Red or Green LED Display
- 24, 100, 115 or 230 Vac Power
- 25 x 75 mm (0.98 x 2.96") Bezel Adapter
- NEMA-4 Splash-Proof Lens Cover

BUILT-IN ISOLATED EXCITATION

Model 205-E is a low-cost 3 1/2 digit (±1,999-count) process meter with a built-in, isolated excitation supply to power two- or four-wire transmitters, bridges or active transducers. Output levels of 24 Vdc at 20 mA or 10 Vdc at 30 mA are jumper-selectable.

LARGE DISPLAY, SMALL CASE

The 205 provides a full-size 14.2 mm (0.56"), red or green LED display, yet is housed in a miniature case with a 24 x 72 mm (0.94 x 2.83") bezel. The case fits into a standard 3/64 DIN cutout, 22.2 x 68 mm (0.87 x 2.68") and requires a depth of less than 120 mm (4.72") behind the panel, including plug-in screw-clamp connectors (standard).

EASY TO SCALE

The 205 may be shipped fully calibrated to meet a customer’s specific requirements (205-FSE). Five signal ranges can be selected via push-on jumpers and precision potentiometers are readily accessible behind the lens to provide zero and span adjustments of 2000 counts each. Accuracy is 99.9% of reading.

MULTIPLE AC POWER OPTIONS

The 205-E incorporates a power supply, which is available for 24, 100, 115 or 230 Vac power. All power options provide EMI filtering, so that power line noise does not affect the reading.

DESIGNED FOR SAFETY

Many design features are incorporated to ensure compliance with the latest worldwide safety specifications. To minimize the possibility of electrical shock, there are no openings which would allow electrical contact with a probe 4
mm (0.16") in diameter. Proper creepage distances are observed for power and signal as specified by IEC-348, Class 1. The power transformer uses separate bobbins for the primary and secondary windings. Type-Y AC line filter capacitors and removable screw-clamp connectors comply with VDE and UL specifications.

**SPECIFICATIONS**

**ACCURACY AT 25°C**
- **Maximum Error:** ±0.05% of reading ±1 count
- **Zero Tempco:** ±0.01% of offset/°C
- **Span Tempco:** ±0.02% of reading/°C
- **Full-Scale Step Response:** 1sec
- **Warmup to Rated Accuracy:** 30 min

**NOISE REJECTION**
- **NMR, SIG HI to SIG LO:** 60 dB, 50/60 Hz
- **CMR, SIG GND to SIG LO:** 86 dB, dc to 60 Hz
- **CMV, SIG GND to SIG LO:** −1 to +2.5 Vdc
- **Power Supply Rejection:** 86 dB at 50/60 Hz

**ANALOG-TO-DIGITAL CONVERSION**
- **Technique:** Dual-slope, average-value
- **Signal Integration Period:** 100 msec
- **Read Rate:** 2.5/sec

**TRANSMITTER EXCITATION SUPPLY**
- **Output Voltage:** Selectable 10 or 24 Vdc
- **Output Current, Max:** 30 mA at 10 V, 20 mA at 24 V
- **Line Regulation:** ±0.01%/V of AC power
- **Load Regulation:** ±0.5%
- **Tempco:** ±0.02%/°C
- **Ripple at 50/60 Hz:** ±0.01%

**DISPLAY**
- **Type:** 7-segment, LED
- **Color:** Red (standard), green (optional)
- **Digit Height:** 14.2 mm (0.56")
- **Decimal Points:** Three positions jumper-selectable
- **Overrange Indication:** Three least-significant digits blank

**POWER OPTIONS**
- **AC Voltage:** 24, 100, 115 or 230 Vac ±15% @ 2 watts
- **AC Frequency:** 49-63 Hz

**ENVIRONMENTAL**
- **Operating Temperature:** 0 to 60°C
- **Storage Temperature:** −40 to +85°C
- **Relative Humidity:** 95% at 40°C (non-condensing)

**MECHANICAL**
- **Dimensions:** 24 H x 72W x 47mm D (0.94" x 2.84" x 4.6")
- **Bezel (with TP2 Adapter):** 25 x 75mm (0.98" x 2.96")
- **Panel Cutout:** 22.2 x 68 mm (0.87" x 2.68")
- **Weight:** 200 g (7 oz)
- **Case Material:** 94V-1 UL-rated Noryl SE-1
205-E Specifications

Model 205-E with Electrically-Floating Excitation Supply and Process Signal Conditioner, configured for operation with a 2-wire 4-20 mA transmitter (powered by 4-20 mA LOOP). Excitation return is tied to signal low.

Model 205-E with Electrically-Floating Excitation Supply and Process Signal Conditioner, configured for operation with a 4-wire transmitter. The transmitter signal may be DC Voltage or current.

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model 205</th>
<th>Scalable, 24 Vdc excitation</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>(*) (** <em>) (</em>)</td>
<td>Scalable without excitation</td>
<td>Price</td>
</tr>
<tr>
<td>EA1 4-20 mA dc = 000 to 100.0</td>
<td>$195</td>
<td></td>
</tr>
<tr>
<td>EV2 0-199.9 mV = 000 to 100.0</td>
<td>$195</td>
<td></td>
</tr>
<tr>
<td>EV3 1-5 Vdc = 000 to 100.0</td>
<td>$195</td>
<td></td>
</tr>
<tr>
<td>EV4 0-10 Vdc = 000 to 100.0</td>
<td>$195</td>
<td></td>
</tr>
<tr>
<td>EV5 0-100 Vdc = 000 to 100.0</td>
<td>$195</td>
<td></td>
</tr>
<tr>
<td>FSE Customer specified</td>
<td>$215</td>
<td></td>
</tr>
<tr>
<td>PA1 4-20 mA dc = 000 to 100.0</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>PV2 0-199.9 mV = 000 to 100.0</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>PV3 1-5 Vdc = 000 to 100.0</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>PV4 0-10 Vdc = 000 to 100.0</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>PV5 0-100 Vdc = 000 to 100.0</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>FSP Customer specified</td>
<td>$165</td>
<td></td>
</tr>
<tr>
<td>(*) (** <em>) (</em>)</td>
<td>Fixed range voltmeter</td>
<td>Price</td>
</tr>
<tr>
<td>AV2 ±199.9 mV = ±199.9</td>
<td>$145</td>
<td></td>
</tr>
<tr>
<td>AV3 ±1.999V = ±1.999</td>
<td>$145</td>
<td></td>
</tr>
</tbody>
</table>
AV4
±19.99V = ±19.99 $145

AV5
±199.9V = ±199.9 $145

R Red display

G Green display

C0 115 Vac. 50-60 Hz

C1 230 Vac, 50-60 Hz

C2 7-32 Vdc for 205A, 205-P only *

C5 100 Vac, 50-60 Hz

C8 24 Vac, 50-60 Hz

*Note: C2 power supply option is not isolated from signal. To order with INFINITY™ style bezel and adapter, change model no. from 205 to 305, and add $30 to price.

Ordering Examples:
1.) 205-EA1, R, C0 dc process meter with 4-20 mA input range, 24 Vdc excitation, red LED display, and 115 Vac power, $195.
2.) 305-EA1, R, C1 dc process meter with INFINITY™ style bezel, 4-20 mA input range, 24 Vdc excitation, red LED display, 230 Vac input power, $195 + 30 = $225.
3.) 205-AV5, R, C0 dc voltmeter with 199.9 Vdc input range, 115 Vac power, and no excitation, $145.

Analog Input (205E) (205P) ohm=OMEGA

<table>
<thead>
<tr>
<th>Range</th>
<th>4-20 mA</th>
<th>0-0.2 V</th>
<th>1-5 V</th>
<th>0-10 V</th>
<th>0-100 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Resist</td>
<td>13 ohm</td>
<td>1 ohm</td>
<td>1 ohm</td>
<td>1 ohm</td>
<td>1 ohm</td>
</tr>
<tr>
<td>Bias Current</td>
<td>50 pA</td>
<td>50 pA</td>
<td>10 pA</td>
<td>5 pA</td>
<td>1 pA</td>
</tr>
<tr>
<td>Max Input</td>
<td>55 mA</td>
<td>250 Vp</td>
<td>250 Vp</td>
<td>250 Vp</td>
<td>250 Vp</td>
</tr>
</tbody>
</table>

Analog Output (205E) (205P) ohm=OMEGA

<table>
<thead>
<tr>
<th>Range</th>
<th>±199.9 mV</th>
<th>±1.999 V</th>
<th>±19.99 V</th>
<th>±199.9 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Resist</td>
<td>1 Gohm</td>
<td>1.1 Mohm</td>
<td>1.0 Mohm</td>
<td>1 Mohm</td>
</tr>
<tr>
<td>Bias Current</td>
<td>50 pA</td>
<td>5 pA</td>
<td>1 pA</td>
<td>1 pA</td>
</tr>
<tr>
<td>Max Input</td>
<td>130 Vp</td>
<td>250 Vp</td>
<td>250 Vp</td>
<td>250 Vp</td>
</tr>
</tbody>
</table>

OPTIONS

Order Suffix | Description                        | Add'l Price |
------------|------------------------------------|-------------|
-BL         | Blank lens with NEWPORT® logo      | $15         |

ACCESSORIES

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC364</td>
<td>NEMA 4 splash proof cover lens</td>
<td>$30</td>
</tr>
<tr>
<td>TP2</td>
<td>25 x 74 mm bezel adaptor</td>
<td>$30</td>
</tr>
<tr>
<td>TP3</td>
<td>Bezel adapter, 3/64 DIN to 1/8 DIN</td>
<td>$30</td>
</tr>
<tr>
<td>RP23</td>
<td>19&quot; rack panel for 2 3/64 DIN meters</td>
<td>$50</td>
</tr>
<tr>
<td>RP43</td>
<td>19&quot; rack panel for 4 3/64 DIN meters</td>
<td>$55</td>
</tr>
</tbody>
</table>
TWO-WIRE, PROCESS-LOOP INDICATOR IN NEMA-4X HOUSING

STANDARD FEATURES
- FM, CSA, BASEEFA Intrinsic Safety Certification
- Powered by 1-5, 4-20 or 10-50 mA Signal
- 2.5 V Max Voltage Drop
- 0.35 in (8.9 mm) Liquid Crystal Display
- 2,000-Count Zero Suppression or Elevation
- 100 to 2,000 Count Span Adjust
- Selectable Dummy Right-Hand Zero
- –40°C to +85°C Operation
- Compact, 2.9 in Diameter Die-Cast Housing
- Waterproof to 35 kPa (5 psi)
- Shock Resistant to 55 g

OPTIONS
- CENELEC Intrinsic Safety Certification, FM, CSA
- 1/2 EMT Conduit Fitting
- 1/2 NPT Pipe Fitting
- Relay-Track Mounting Adapters
- External Explosion-Proof Housing
- Companion Current Transmitters

DESCRIPTION
Model 508B is a two-wire current-loop indicator that is powered directly by a 1-5 mA, 4-20 mA or 10-50 mA process loop signal, with a maximum voltage drop of 2.5 V. No separate power supply connections are required. This reduces overall hardware and field wiring costs and provides immunity from most electrical noise encountered in process control environments. The electronics are isolated from the case.
READOUT OF PROCESS VARIABLES
The 508B provides extensive zero and span adjustment capability, so that it can read out directly in percent or in engineering units for process variables such as pressure, flow, temperature, or level. Its liquid crystal display provides 1½ active digits, a selectable dummy right-hand zero, and four programmable decimal points. By changing two internal jumpers, the normal positive slope response of the 508B can be reversed, so that increasing the input decreases the reading.

EASY TO CONFIGURE AND CALIBRATE
Both span and zero are fine-tuned with precision multiturn potentiometers. These are accessible through holes in the die-cast cover, which are normally sealed with fluorosilicone plugs. Coarse zero and span steps are selected by removing the cover with attached electronics and changing plug-in jumpers.

DESIGNED FOR HARSH ENVIRONMENTS
All versions of the 508B are rated for operation from –40 to +85°C (–40 to +185°F) with specified accuracy. The case is made of die-cast metal and is waterproof to 35 kPa (5 psi). The electronics are firmly connected to the case top, so that the meter can withstand high vibration and shock. Mounting options include a male 1/2 EMT conduit fitting and a male 1/2 NPT pipe fitting in lieu of the normal rail or surface mount. These fittings eliminate the external screw terminals and provide a NEMA-4X rating.

INTRINSIC SAFETY CERTIFICATION
FM and CSA intrinsic safety certification is standard. Additional CENELEC intrinsic safety certification is optional. Intrinsic safety certification allows the 508B to be used in worst-case hazardous environments with no need for an explosion-proof housing, provided that an intrinsic safety barrier is used to limit the voltage and current that may be introduced in the hazardous environment.

FM certification (USA) is for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G. The FM certification number is 2P1A7.AX (3610). CENELEC certification (Europe) is to level EEx ia IIC T4 in accordance with CENELEC standards EN 50 014 (1977) + A1 to 4 and EN 50 020 (1977) for use in Zone 0 (worst case) hazardous environments. The BASEEFA certification number is Ex 85B2167.

EXPLOSION-PROOF HOUSING OPTIONS
Three external NEMA-7 explosion-proof and NEMA-4 waterproof enclosures are available as options for use in hazardous locations in Class I, Groups B, C, D; and Class II, Groups E, F, G. All offer a glass viewing window, two female 1/2 NPT pipe fittings, all required internal mounting hardware, and mounting flanges for a wall or bulkhead. Option EPW3 is a single-height enclosure for one 508B loop-powered indicator. FM and CENELEC EEx d II C certification is standard. Option EPW2 is a double-height enclosure for a 508B loop-powered indicator on top and a 500 Series isolated two-wire 4-20 mA transmitter on the bottom for indicating transmitter applications. FM and CENELEC EEx d II C certification.

SPECIFICATIONS

INPUT
Signal: 1-5 mA, 4-20 mA or 10-50 mA (jumper-selectable)
Linear Range: 0.3 to 50 mA
Protection: Up to 200 mA forward, 1000 mA reverse
Forward voltage drop, max: 2.5 V up to 50 mA
Input Resistance: 50 ohm at 1-5 mA, 12.5 ohm at 4-20 mA, 5 ohm at 10-50 mA
Zero Adjust: –2,000 to +2,000 counts (4 jumper-selectable ranges plus fine adjustment)
Span Adjust: 0 to 2,000 counts with fine adjustment
NMR: 46 dB, 50/60 Hz
CMR: (meter to case) 120 dB, DC to 60 Hz
CMV: (meter to case) 700 Vp
RFI Susceptibility: Less than ±0.5% of span with conduit fitting or external explosion-proof housing in 10V/m field strength at 27 or 440 MHz

ACCURACY AT 25°C
Maximum Error: 0.1% of span ±1 count 00 Zero tempco ±0.1 count/°C typical, ±0.2 count/°C max
Span Tempco: ±0.005% of span/°C typical, ±0.015% of span/°C max

ANALOG-TO-DIGITAL CONVERSION

http://www.newportus.com/Products/process/508B.htm (2 of 3) [4/13/2000 8:47:52 AM]
Technique: Dual-slope, average-value
Polarity: Automatic
Integration Period: 100 msec
Read Rate: 2.5/sec

**DISPLAY**
Type: 7-segment, LED
Height: 0.35" (8.9 mm)
Symbols: –1.8.8.8.0.0 (3 1/2 active digits plus two jumper-selectable dummy right-hand zeros)
Decimal Points: Four positions, jumper-selectable
Overrange Indication: Three least-significant active digits blank

**ENVIRONMENTAL**
Operating Temperature: –40 to +85°C (–40 to +185°F)
Vibration: 0.06" (1.52 mm) double-amplitude cycled at 10-80 Hz
Shock: 55 g half-sine, 9-13 ms duration
Waterproof Pressure: 35 kPa max (5 psi)

**MECHANICAL**
Diameter: 2.9" (74 mm)
Height, Including Barrier: 1.9" (48 mm)
Weight: 14oz (400 g)

**ELECTRICAL CONNECTIONS**
508B-1: 3-terminal barrier strip with #6 screws
508B-2: 1/2" EMT male conduit fitting with two 0.3 meter #18 stranded wires
508B-3: 1/2" NPT male pipe fitting with two 0.3 meter #18 stranded wires
MOUNTING METHODS

508B-1:
• Surface mount with four #6 rear-entry screws from backside of bulkhead.
• Snap mount into 2.50" (63.5 mm) relay track.
• Surface mount with two #8 front-entry screws. Requires MAT1 adapter plate.
• Snap mount into 2.75" (69.9 mm) or 3.00 in (76.2 mm) relay track. Requires MAT1 adapter plate.
• Snap mount into DIN relay track per CENELEC standard EN 50 022. Requires MDT1 rail clamp.
• Push mount into explosionproof housing EPW3.

508B-2: 1/2" EMT male conduit fitting
508B-3: 1/2" NPT male pipe fitting

A Model 508B process-loop indicator may be added to an existing 4-20 mA or 10-50 mA installation. No additional wiring is required, since the meter is powered directly by the current loop.

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>508B-1</td>
<td>Flat surface or relay track mounting</td>
<td>$325</td>
</tr>
<tr>
<td>508B-2</td>
<td>EMT conduit mounting</td>
<td>$345</td>
</tr>
<tr>
<td>508B-3</td>
<td>NPT pipe mounting</td>
<td>$345</td>
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</tbody>
</table>

MOUNTING OPTIONS, 508B-1 ONLY

<table>
<thead>
<tr>
<th>Order Suffix</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-MAT1</td>
<td>Adaptor plate for surface mount or 69.9 mm relay track</td>
<td>$10</td>
</tr>
<tr>
<td>-MDT1</td>
<td>Rail clamp for DIN relay track</td>
<td>$10</td>
</tr>
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</table>

OPTIONS

<table>
<thead>
<tr>
<th>Order Suffix</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-FS</td>
<td>Custom configuration and calibration</td>
<td>$25</td>
</tr>
<tr>
<td>-IS1</td>
<td>CENELEC EEx ia certification label</td>
<td>$30</td>
</tr>
</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MXS1</td>
<td>Spring retainers for 508B-1 in explosion proof housing EPW3</td>
<td>$12</td>
</tr>
<tr>
<td>MXS2</td>
<td>Spring retainers for 508B-1 in explosion proof housing EPW2</td>
<td>$12</td>
</tr>
<tr>
<td>EPW3</td>
<td>NEMA 4 and NEMA 7 rated environmental enclosure with window, single height; includes MXS1 hardware</td>
<td>$115</td>
</tr>
</tbody>
</table>
Comes complete operator’s manual.

**Ordering Examples:**
1.) **508B-1** current loop indicator with flat surface or relay track mounting, $325.
2.) **508B-3** current loop indicator with NPT pipe mounting, $345.
TWO-WIRE, LOOP-POWERED PROCESS INDICATOR

STANDARD FEATURES
- Powered by 1-5 mA, 4-20 mA or 10-50 mA Signals
- 2.5 V Max Voltage Drop
- Display to ±1,999, ±19,990 or ±199,900
- 0.5 inch (12.7 mm) Liquid-Crystal Display
- 100 to 2,000 Count Span Adjust
- 2,000-Count Zero Suppression or Elevation
- Short 1/8 DIN Case
- Simple 2-Wire Hook Up
- Safe Plug-in Screw-Clamp Connector

OPTIONS
- Intrinsic Safety Certification
- -40 to +85°C Operating Temperature
- NEMA-4 Splash-Proof Lens Cover

NEWPORT PRODUCT INFO
- MANUAL (HTML) - PDF Version
- QUICK START
- MECHANICAL 2" or 4" Case
- PRICE

REQUIRES ADOBE ACROBAT - HELP

DESCRIPTION
Model 558B is a 1/8 DIN-sized two-wire current-loop indicator that is powered directly by 1-5 mA, 4-20 mA or 10-50 mA process signals, with no need for external power connections. This reduces field wiring costs and provides immunity from most electrical noise encountered in process-control environments. The two-wire electrical hookup is easy via a plug-in screw-clamp connector, which is standard.

READOUT OF PROCESS VARIABLES
The 558B provides extensive zero and span adjustment capability for direct readout in percent or in engineering units for process variables such as pressure, flow, temperature, or level. A 0.50 in (12.7 mm) high LCD display provides 3 1/2 active digits for readout to ±1,999, two jumper-selectable dummy right-hand zeros for display to ±19,990 or ±199,900, and five jumper-selectable decimal points. With the dummy zeros, the 558B can thus be used to display the weight of heavy trucks in pounds or the volume of large tanks in gallons.

EASY TO CONFIGURE AND CALIBRATE
Both span and zero are fine-tuned with precision 15-turn potentiometers accessible behind the lens. Coarse zero and span steps as well as the dummy right-hand zero are selected by opening the case and changing push-on jumpers.

INTRINSIC SAFETY CERTIFICATION
For use in hazardous environments, the 558B is available with BASEEFA intrinsic safety certification to level EEx ia IIC T4 in accordance with European CENELEC standards EN 50 014 (1977) + A1 to 4 and EN 50 020 (1977) + A1. The BASEEFA certification number is EX 86B2378. EEx ia intrinsic safety certification allows the 558B to be used in Zone...
(worst case) hazardous environments with no need for an explosion-proof housing, provided that an intrinsic safety barrier is used to limit the voltage and current that may be introduced in the hazardous environment.

BUILT FOR INDUSTRIAL ENVIRONMENTS
Model 558B is housed in NEWPORT’s DIN 4896-100 case, which is splash resistant and requires a depth of less than 3.9" (100 mm) behind the panel. A splash-proof lens cover which meets NEMA-4 requirements is optional. Electrical connections are via a three-pole male header connector on the circuit board and a mating plug-in socket connector with screw clamps, which accommodate wire sizes of 0.5-2.5 mm2 (26-16 AWG). These supplied connectors provide easy and reliable electrical connections and meet UL and IEC-348 safety requirements.

SPECIFICATIONS

### SIGNAL INPUT
- **Signal:** 1-5 mA, 4-20 mA or 10-50 mA (jumper-selectable)
- **Linear Range:** 0.3 to 50 mA
- **Protection:** Up to 200 mA forward, 1000 mA reverse
- **Forward voltage drop, max:** 2.5 V
- **Input Resistance:** 50 ohm at 1-5 mA, 12.5 ohm at 4-20 mA, 5 ohm at 10-50 mA
- **Zero Adjust:** –2,000 to +2,000 counts in 4 jumper-selectable ranges plus fine adjustment
- **Span Adjust:** 100 to 2,000 counts with fine adjustment
- **NMR:** 46 dB, 50/60 Hz
- **CMR:** (meter to case) 120 dB, DC to 60 Hz
- **CMV:** (meter to case) 300 Vac

### ACCURACY AT 25°C
- **Maximum Error:** ±0.1% of reading ±1 count
- **Zero Tempco:** ±0.1 count/°C typical, ±0.3 count/°C max
- **Span Tempco:** ±0.005% of span/°C typical, ±0.015% of span/°C max

### ANALOG-TO-DIGITAL CONVERSION
- **Technique:** Dual-slope, average-value
- **Polarity:** Automatic
- **Integration Period:** 100 msec
- **Read Rate:** 2.5/sec

### DISPLAY
- **Type:** 7-segment, LED
- **Height:** 0.50" (12.7 mm)
- **Symbols:** –1.8.8.8.0.0 (3 1/2 active digits plus two jumper-selectable dummy right-hand zeros)
- **Decimal Points:** Five positions, jumper-selectable
- **Overrange Indication:** Three least-significant active digits blank

### ENVIRONMENTAL
- **Operating Temperature, Standard:** 0 to 55°C (32 to 122°F)
- **Operating Temperature, Optional:** –40 to +85°C (–40 to +185°F)
- **Relative Humidity:** 95% at 40°C (non-condensing)

### MECHANICAL
- **Case:** NEWPORT DIN 4896-100
- **Panel Cutout:** 1.77 x 3.62 in (45 x 92 mm)
- **Bezel Dimensions:** 1.89" x 3.79" x 0.31" (48 x 96 x 8 mm)
- **Depth Behind Bezel:** 3.94" (100 mm)
- **Weight:** 4.5 oz (128 g)
- **Case Material:** 94V-0 UL-rated polycarbonate
- **Circuit Board Connector:** Three-pole male header
- **Cable Connector (Standard):** Mating plug-in socket with screw-clamps for wire sizes 0.5 - 2.5 mm2 (26-16 AWG)
- **Connector Safety Ratings:** UL and IEC-348
A 558B process-loop indicator may be added to an existing 1-5 mA, 4-20 mA or 10-50 mA installation to provide a local readout scaled in percent or engineering units. No power wiring is required, since the meter is powered directly by the current loop.

Please see 500 Series Isolated 2-wire 4-20 mA transmitters.

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>558B</td>
<td>Current Loop Indicator</td>
<td>$150</td>
</tr>
<tr>
<td>558B-ET</td>
<td>Current Loop Indicator with extended ambient range (–40 to 85°C)</td>
<td>$185</td>
</tr>
</tbody>
</table>

OPTIONS

<table>
<thead>
<tr>
<th>Order Suffix</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-BL</td>
<td>Blank lens without NEWPORT® logo</td>
<td>$15</td>
</tr>
<tr>
<td>-FS</td>
<td>Custom configuration and calibration</td>
<td>$25</td>
</tr>
<tr>
<td>-IS1</td>
<td>Intrinsic Safety certification, with CENELEC EEx ia certification label</td>
<td>$25</td>
</tr>
</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC18</td>
<td>NEMA 4 splash proof lens cover</td>
<td>$30</td>
</tr>
<tr>
<td>SPC4</td>
<td>NEMA 4 heavy duty splash proof lens cover with screw clamp</td>
<td>$30</td>
</tr>
</tbody>
</table>

Comes complete with operator’s manual.

Ordering Examples:

1.) 558B Current loop indicator, $150.
2.) 558B-IS1 Current loop indicator with Intrinsic Safety Certification, $150 + 25 = $175.
The model IDP is an economical, user-friendly panel meter which can be scaled without the use of an electronic calibrator. The IDP accepts voltage (0 to 5, 1 to 5 and 0 to 10 Vdc) or current (4 to 20 mA) transducers. After scaling, the front keypad can be locked out to avoid unauthorized changes, and an optional bezel without "buttonholes" can be snapped into place.

Very easy scaling via the front-panel pushbuttons provides an economical solution for monitoring a variety of process parameters. The model IDP accepts voltage or current inputs and provides a 4-digit scaled indication of the measured value. The display is available in red or green, and an optional blank lens and NEMA-4 lens cover offer versatility for different applications. A 19-inch anodized aluminum panel is also available for mounting the meter into an existing rack.

Standard features include a front panel activated, digital tare function, recall of the maximum or minimum measurement and a space saving short case.

**SPECIFICATIONS - IDP**

**Accuracy:** @ 25°C (77°F) ±0.05 Rdg + 1

**LSD**

Input (DP24-E): 0-5 Vdc, 1-5 Vdc, 0-10 Vdc/4-20 mA (bi-directional)

Operating Temp: 0 to 60°C (32 to 122°F)

Storage Temp: -40 to 85°C (-40 to 185°F)

Temp. Coefficient: 50 ppm/°C

Display: 4-digit, red or green LED, 0.56" (14 mm) high

Display Range: -1999 to 9999

Relative Humidity: 95% @ 40°C (104°F), non-condensing
DC Millivolt Transmitters

Model 504 $325

Adjustable span from 5 to 100 mV
High Impedance 100 Mohm
Available from OMEGADYNE, INC.

Connections:
- Screw terminals

External Features:
- Tare, reset tare, display hold

Power Requirements

Voltage: 115 Vac ±15% standard (230 Vac or 9-32 Vdc optional)
Frequency: 50 or 60 Hz
Power Consumption: 2.5 watts max.

Mechanical Specifications

Dimensions: 96 x 48 x 104 mm (3.78 W x 1.89 H x 4.10” D)
Panel Cutout: 92 x 45 mm (1/8 DIN, 3.62 W x 1.77” H)
Depth Behind Panel: 100 mm (3.94”)
Weight: 312 g (11 oz)

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Voltage</td>
<td>0 to 100 mV, 0 to 1 V, 0 to 10 Vdc</td>
<td>0.03% rdg</td>
</tr>
<tr>
<td>Process Current</td>
<td>0 to 20 mA</td>
<td>0.03% rdg</td>
</tr>
<tr>
<td>J Iron-Constantan</td>
<td>-210 to 760°C / -346 to 1400°F</td>
<td>0.4°C / 0.7°F</td>
</tr>
<tr>
<td>K CHROMEGA®-ALOMEGA®</td>
<td>-270 to -160°C / -160 to 1372°C</td>
<td>1.0°C / 0.4°C</td>
</tr>
<tr>
<td>T Copper-Constantan</td>
<td>-270 to -190°C / -190 to 400°C</td>
<td>1.0°C / 0.4°C</td>
</tr>
<tr>
<td>E CHROMEGA®-Constantan</td>
<td>-270 to -220°C / -220 to 1000°C</td>
<td>1.0°C / 0.4°C</td>
</tr>
<tr>
<td>R Pt/13%Rh-Pt</td>
<td>-50 to 40°C / 40 to 1768°C</td>
<td>1.0°C / 0.5°C</td>
</tr>
<tr>
<td>S Pt/10%Rh-Pt</td>
<td>-50 to 100°C / 100 to 1768°C</td>
<td>1.0°C / 0.5°C</td>
</tr>
<tr>
<td>B 30%Rh-Pt/6%Rh-Pt</td>
<td>100 to 640°C / 640 to 1820°C</td>
<td>1.0°C / 0.5°C</td>
</tr>
<tr>
<td>C 5%Re-W/26%Re-W</td>
<td>0 to 2320°C / 32 to 4208°F</td>
<td>0.4°C / 0.7°F</td>
</tr>
<tr>
<td>N Nicrosil-Nisil</td>
<td>-250 to -100°C / -100 to 1300°C</td>
<td>1.0°C / 0.4°C</td>
</tr>
<tr>
<td>L J DIN</td>
<td>-200 to 900°C / -328 to 1652°F</td>
<td>0.4°C / 0.7°F</td>
</tr>
<tr>
<td>RTD Pt, 0.00385, 100ohm, 500ohm, 1000ohm</td>
<td>-200 to 1000°C / -328 to 1820°F</td>
<td>0.4°C / 0.7°F</td>
</tr>
<tr>
<td>RTD Pt, 0.00392, 100ohm, 500ohm, 1000ohm</td>
<td>-200 to 850°C / -328 to 1562°F</td>
<td>0.4°C / 0.7°F</td>
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</tbody>
</table>

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model #</th>
<th>Power</th>
<th>Display</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDP-0</td>
<td>115 Vac</td>
<td>Red LED, 4-digit</td>
<td>$195</td>
</tr>
<tr>
<td>IDP-1</td>
<td>230 Vac</td>
<td>Red LED, 4-digit</td>
<td>$195</td>
</tr>
<tr>
<td>IDP-2</td>
<td>115 Vac</td>
<td>Green LED, 4-digit</td>
<td>$195</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model #</th>
<th>Power</th>
<th>Display</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDP-3</td>
<td>230 Vac</td>
<td>Green LED, 4-digit</td>
<td>$195</td>
</tr>
<tr>
<td>IDP-4</td>
<td>10-32 Vdc</td>
<td>Red LED, 4-digit</td>
<td>$290</td>
</tr>
<tr>
<td>IDP-5</td>
<td>10-32 Vdc</td>
<td>Green LED, 4-digit</td>
<td>$290</td>
</tr>
</tbody>
</table>

Includes operator’s manual.

Ordering Example: MODEL IDP-0-SPC4 meter with 115 Vac power and red LED display, with SPC4 optional NEMA-4 lens cover and CE rating, $195 + 30 = $225.

ACCESSORIES

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-G</td>
<td>Green LED display</td>
<td>N/C</td>
</tr>
<tr>
<td>-230</td>
<td>230 Vac power</td>
<td>N/C</td>
</tr>
<tr>
<td>-DC</td>
<td>9-32 Vdc isolated power</td>
<td>$95</td>
</tr>
<tr>
<td>SPC4</td>
<td>NEMA-4 splash-proof lens with screw clamp</td>
<td>$30</td>
</tr>
</tbody>
</table>

http://www.newportus.com/Products/process/IPD.htm (2 of 3) [4/13/2000 8:26:52 AM]
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-SPC18</td>
<td>NEMA-4 splash-proof lens with spring clip</td>
<td>$30</td>
</tr>
<tr>
<td>BBZL</td>
<td>Removable buttonless bezel</td>
<td>$15</td>
</tr>
</tbody>
</table>
The INFINITY® C process meter accepts a wide variety of DC voltage and current inputs to cover any typical process application. Standard features include a full 4-digit three color (Red, Green, & Amber) programmable LED display, easy front panel scaling to virtually any engineering units, selectable excitation of four voltages to work with most transducers and transmitters, front panel and remote tare function for weighing applications, and a hardware lockout to prevent unauthorized changes in setup. Four full digits and simplified scaling via the front-panel pushbuttons make it easy to set the display to read in any engineering units. All these standard features add up to an instrument with powerful capabilities at an extremely affordable price.

**SPECIFICATIONS**

**Input Ranges:** 0-100 mV, ±50 mV, 0-10 V, ±5 V, 0-20 mA, 4-20 mA  
**Isolation:** Dielectric strength to 2500V transient per 3mm spacing based on EN 61010 for 260Vrms or DC working voltage  
**NMR:** 60 dB  
**CMR:** 120 dB  
**Input Protection:** Voltage Input = 120 Vrms max Current Input = 100 mA max  
**Input Impedance:** 100 Meg ohms for 100 mV or ±50 mV input range; 1 Meg ohm for 10 V or ±5 V input range; 5 ohms for 20 mA current input range  
**Display:** 4-digit, LED 9-segment, 21 mm (0.83”), (Red, Green, Amber)  
**Analog-to-digital technique:** Dual slope  
**Internal resolution:** 15 bits  
**Read rate:** 3/sec  
**Polarity:** Automatic  
**Max error process:** ±0.03% of reading, ± 1 count  
**Span tempco:** 50 ppm/°C  
**Step response:** 1 sec  
**Warmup to rated accuracy:** 30 min
Analog output (optional): 0-10 V, 4-20 mA or 0-20 mA; may be assigned to a display range or to setpoint #1, when used as a proportional control output.

Operating temperature: 0 to 50°C (32 to 122°F)
Storage temperature: -40 to 85°C (-40 to 184°F)
Relative humidity: 90% at 40°C (104°F) (non-condensing)
Panel cutout: 1/8 DIN, 45 x 92 mm (1.78" x 3.62")
Weight: 575 g (1.27 lb)

AC Power Unit:
Power: 115 V or 230 V rms ±10%; 50-60 Hz, 11.5 watts max.
Load Regulation: 1.1%
Line Regulation: 0.02% per Vac
Excitation: 24 V @ 25 mA or 12 V @ 50 mA; 10 V @ 120 mA or 5 V @ 60 mA

DC Power Unit:
Power: 10-32 Vdc; 7.5 watts max.
Excitation: 24 V @ 25 mA or 12 V, 10 V, 5 V @ 35 mA (For Low/Medium Brightness)
For High Brightness - Do not use internal excitation, Use external excitation. See Manual - PDF.

Model PX4000C0-015GI $239
Model PX4000C6-015GI $225
Available from OMEGADYNE, INC.

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFCP-(*)00 B</td>
<td>Digital Process Meter with excitation, basic unit</td>
<td>$245</td>
</tr>
<tr>
<td>INFCP-(*)01 B</td>
<td>Digital Process Meter with non-isolated analog output</td>
<td>$325</td>
</tr>
<tr>
<td>INFCP-(*)10 B</td>
<td>Digital Process Meter with dual setpoint (6-Amp form &quot;C&quot; relays )</td>
<td>$315</td>
</tr>
<tr>
<td>INFCP-(*)11 B</td>
<td>Digital Process Meter with non-isolated analog output</td>
<td>$395</td>
</tr>
<tr>
<td>INFCP-(*)12 B</td>
<td>Digital Process Meter with setpoint and isolated Analog output</td>
<td>$405</td>
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</tbody>
</table>

Ordering Example: INFCP-010B, INFINITY® C process meter with dual relays, red LED display, 115 Vac power, $315.

Power and Display Selection

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Power</th>
<th>Display</th>
<th>Add'l Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>115 Vac</td>
<td>red</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>230 Vac</td>
<td>red</td>
<td>N/C</td>
</tr>
<tr>
<td>2</td>
<td>115 Vac</td>
<td>green</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>230 Vac</td>
<td>green</td>
<td>N/C</td>
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<tr>
<td>4</td>
<td>10-32 Vdc</td>
<td>red</td>
<td>$95</td>
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<tr>
<td>5</td>
<td>10-32 Vdc</td>
<td>green</td>
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<tr>
<td>6</td>
<td>26-56 Vdc</td>
<td>red</td>
<td>$120</td>
</tr>
<tr>
<td>7</td>
<td>26-56 Vdc</td>
<td>green</td>
<td>$120</td>
</tr>
</tbody>
</table>

Temperature/RH Transmitters

Model HX11
Model HX13
Model HX12

INFCP-B
- 4-digit three color (Red, Green, Amber) Programmable LED display
- Peak detection and memory
- Scaling in Wide Range of Engineering Units
- Built-In Excitation
- Analog Output Optional
- Dual Relays Optional
- Tare Button
- ±0.03% accuracy
- 8 DC input ranges: 0-100 mV, ±50 mV, 0-5 V, 1-5 V, 0-10 V, ±5 V, 0-20 mA, and 4-20 mA
- 5, 10, 12, or 24 Vdc sensor excitation
- Front panel and remote tare function
- Nonvolatile memory-no battery backup
- 115 or 230 Vac 50/60 Hz power supply

INFCP
- 4-digit 14-segment LED display
- Peak detection and memory
- Scaling in Wide Range of Engineering Units
- Built-In Excitation
- Analog Output Optional
- Dual Relays Optional
- Tare Button
- ±0.03% accuracy
- 8 DC input ranges: 0-100 mV, ±50 mV, 0-5 V, 1-5 V, 0-10 V, ±5 V, 0-20 mA, and 4-20 mA
- 5, 10, 12, or 24 Vdc sensor excitation
- Front panel and remote tare function
- Nonvolatile memory-no battery backup
- 115 or 230 Vac 50/60 Hz power supply

INFCP-B SPECIFICATIONS
Input Ranges: 0-100 mV, ±50 mV, 0-10 V, ±5 V, 0-20 mA, 4-20 mA
Isolation: Dielectric strength to 2500V transient per 3mm spacing based on EN 61010 for 260Vrms or DC working voltage
NMR: 60 dB
CMR: 120 dB
Input Protection: Voltage Input = 120 Vrms max Current Input = 100 mA max
Input Impedance: 100 Meg ohms for 100 mV or ±50 mV input range; 1 Meg ohm for 10 V or ±5 V input range; 5 ohms for 20 mA current input range
Display: 4-digit, LED 9-segment, 21 mm (0.83"), (Red, Green, Amber)
Analog-to-digital technique: Dual slope
Internal resolution: 15 bits
Read rate: 3/sec
Polarity: Automatic
Max error process: ±0.03% of reading, ± 1 count
**INFCP-B/INFCP Comparison Chart - INFINITY Process Meter/Controller**

**INFCP**

**SPECIFICATIONS**

**Input Ranges:** 0-100 mV, ±50 mV, 0-10 V, ±5 V, 0-20 mA, 4-20 mA

**Isolation:** Dielectric strength to 2500V transient per 3mm spacing based on EN 61010 for 260Vrms or DC working voltage

**NMR:** 60 dB

**CMR:** 120 dB

**Input Protection:** Voltage Input = 120 Vrms max Current Input = 100 mA max

**Input Impedance:** 100 Meg ohms for 100 mV or ±50 mV input range; 1 Meg ohm for 10 V or ±5 V input range; 5 ohms for 20 mA current input range

**Display:** LED 14-segment, 13.8 mm (0.54")

**Analog-to-Digital Technique:** Dual slope

**Internal Resolution:** 15 bits

**Read Rate:** 3/sec

**Polarity:** Automatic

**Max Error Process:** ±0.03% of reading, ±1 count

**Span Tempco:** 50 ppm/°C

**Step Response:** 1 sec

**Warmup to Rated Accuracy:** 30 min

**Analog Output (Optional):** 0-10 V, 4-20 mA or 0-20 mA; may be assigned to a display range or to setpoint #1, when used as a proportional control output

**Operating Temperature:** 0 to 50°C (32 to 122°F)

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Relative Humidity:** 90% at 40°C (104°F) (non-condensing)

**Panel Cutout:** 1/8 DIN, 45 x 92 mm (1.78" x 3.62")

**Weight:** 575 g (1.27 lb)

**AC Power Unit:**

- **Power:** 115 V or 230 V rms ±10%; 50-60 Hz, 11.5 watts max.

- **Load Regulation:** 1.1%

- **Line Regulation:** 0.02% per Vac

- **Excitation:** 24 V @ 25 mA or 12 V @ 50 mA; 10 V @ 120 mA or 5 V @ 60 mA

**DC Power Unit:**

- **Power:** 10-32 Vdc; 7.5 watts max.

- **Excitation:** 24 V @ 25 mA or 12 V, 10 V, 5 V @ 35 mA (For Low/Medium Brightness)

  For High Brightness - Do not use internal excitation, Use external excitation. See Manual - PDF.

---

Using This Quick Start Manual

Use this Quick Start Manual to set up your Process Meter and begin operation. Information is provided on how to:
- Connect ac power
- Connect the sensor
- Set basic options for operation
- Scale the meter.
For complete information on all setup options, please refer to the Operator’s Manual.

Before You Begin

In addition to the meter and retaining clips, you will need the following items to set up your unit:
- ac power, as listed on meter’s Product ID Label
- Sensor
- 1/8-inch flat-blade screwdriver.

Mount the Unit

1. Cut a panel opening using the dimensions shown to the right.
2. Position the unit in the opening, making sure the front bezel is flush with the panel.
3. Install retaining clips on both sides of the meter and tighten the screws against the panel.

**Warning:** Do not connect ac power to your meter until you have completed all input and output connections. Failure to do so may result in injury!

Connect the Sensor

1. Locate the TB2 connector on the rear of the unit.
2. Attach the sensor wires and tighten the lockdown screws.

**NOTE:**
- To avoid damaging the sensor wires, do not overtighten the lockdown screws.
- Do not connect external excitation to the sensor. The sensor is designed for internal excitation. Refer to the Operator’s Manual for setup requirements for other sensor types.
- Tug gently on the wires to verify the connections.
- Replace the panel at the back of the unit.

Using the Configuration Menu

To set the meter up for your specific application, use the Configuration Menu. Setup requirements for other sensor types vary so consult the Configuration Menu to determine the proper settings.

To Set the Input Type

1. Press MENU until the unit displays:
   - “INFR” (Input Frequency). This menu item displays if the meter is configured for input frequency.

   

   **To Set the Decimal Point**

   1. Press MENU until the unit displays:
      - “INFR” (Input Frequency).

   2. Without a known load — This involves calculating the load based on transducer specifications and manually entering information sent from another device such as a scale or a printer. For example, you would need to know the load you want to measure and the corresponding display reading you want on the meter.

   3. Press [+] to move the decimal point to the desired location. The choices are FFFF., FFF.F, FF.FF, and F.FF.

   4. Press MENU to select the decimal point position shown.

   The unit displays:

   

   

   **To Scale the Meter**

   You can scale the meter in one of two ways:
   1. With a known load — This method uses input (load) information sent from another device such as a scale or a printer. For example, you would need to know the load you want to measure and the corresponding display reading you want on the meter.

   2. Without a known load — This involves calculating the load based on transducer specifications and manually entering information sent from another device such as a scale or a printer. For example, you would need to know the load you want to measure and the corresponding display reading you want on the meter.

   For both methods, you must first identify the minimum input load (IN1) and the corresponding display reading you want on the meter. Then, you identify the maximum input load (IN2) and the corresponding display reading (RD2).

   **NOTE:**
   - The decimal point is for display purposes only — you set it where you want it to display for your application. When entering IN1 and RD2 values, ignore any decimal point on the display. However, you must enter RD1 and RD2 values with the decimal point in the desired position.
Scaling With Known Loads

To define the maximum known load (IN1 and RD1):
1. If it’s not already shown, press MENU until the unit displays:

   SETPTS /TARE MENU RESET/MAX

2. Apply the minimum known load (0%).
3. Press \(\text{\$} \) TARE. The unit displays:

   \(\text{\$} \) TARE

4. Press \(\text{\$} \) TARE again. The unit displays the last setting for IN1.

5. Press \(\text{\$} \) TARE again. The unit displays the actual reading being received from the sending device.

6. Press MENU to store IN1. The unit displays:

   \(\text{\$} \) TARE

7. Press \(\text{\$} \) TARE. The unit displays the last setting for RD1.

8. Press \(\text{\$} \) TARE again. The unit displays:

   \(\text{\$} \) TARE

9. Press MENU to store RD1. The unit displays:

   \(\text{\$} \) TARE

10. Press \(\text{\$} \) TARE. The unit displays the desired value for the flashing digit. Values range from 0 to 9.

11. For the first digit, you can also enter a minus sign (–) or –1.

12. Press \(\text{\$} \) TARE to scroll to the digit(s) you want to change.

13. To define the maximum load (IN2 and RD2):

   5. Press MENU to store IN1. The unit displays:

   \(\text{\$} \) TARE

7. Press \(\text{\$} \) TARE. The unit displays the last setting for RD1.

8. Press \(\text{\$} \) TARE again. The unit displays:

   \(\text{\$} \) TARE

9. Press MENU to store RD1. The unit displays:

   \(\text{\$} \) TARE

10. Press \(\text{\$} \) TARE. The unit displays the desired value for the flashing digit. Values range from 0 to 9.

11. For the first digit, you can also enter a minus sign (–) or –1.

12. Press \(\text{\$} \) TARE to scroll to the digit(s) you want to change.

Determining Reading Offset

This device is marked with the international caution symbol. It is important that you read the setup guide before installing or commissioning this device as a reminder of the importance of proper installation and operation.

To begin operation:

1. Apply the maximum known load (100%).
2. Repeat steps 4–9 for IN2 and RD2. Once you’ve completed all steps, the unit displays:

   \(\text{\$} \) TARE

3. Press \(\text{\$} \) TARE again. The unit displays:

   \(\text{\$} \) TARE

4. Repeat steps 3–9 above, entering the values for IN2 and RD2.

5. Once you’ve completed all steps, the unit displays:

   \(\text{\$} \) TARE

6. Press \(\text{\$} \) TARE. The unit displays the last setting for RD1.

7. Change RD1 as necessary:

   • Press MAX until the meter displays the desired value for the flashing digit. Values can range from 0 to 9.
   • For the first digit, you can also enter a minus sign (–) or –1.
   • Press \(\text{\$} \) TARE to scroll to the digit(s) you want to change.

8. Press MENU to store the value of RD1. The unit displays:

   \(\text{\$} \) TARE

9. Press \(\text{\$} \) TARE again. The unit displays:

   \(\text{\$} \) TARE

10. Press \(\text{\$} \) TARE. The unit displays the desired value for the flashing digit. Values can range from 0 to 9.

11. For the first digit, you can also enter a minus sign (–) or –1.

12. Press \(\text{\$} \) TARE to scroll to the digit(s) you want to change.
The INFINITY® C process meter accepts a wide variety of DC voltage and current inputs to cover any typical process application. Standard features include a full 14-segment 4-digit display, easy front panel scaling to virtually any engineering units, selectable excitation of four voltages to work with most transducers and transmitters, front panel and remote tare function for weighing applications, and a hardware lockout to prevent unauthorized changes in setup. Four full digits and simplified scaling via the front-panel pushbuttons make it easy to set the display to read in any engineering units. All these standard features add up to an instrument with powerful capabilities at an extremely affordable price.

**SPECIFICATIONS**

- **Input Ranges:** 0-100 mV, ±50 mV, 0-10 V, ±5 V, 0-20 mA, 4-20 mA
- **Isolation:** 354 V peak per IEC spacing
- **NMR:** 60 dB
- **CMR:** 120 dB
- **Protection:** 240 V rms max for voltage input ranges; 200 mA for current ranges
- **Input Impedance:** 100 Meg ohms for 100 mV or ±50 mV range; 1 Meg ohm for 10 V or ±5 V range; 5 ohms for 20 mA current input
- **Display:** 4-digit, 14 segment, 13.8 mm (0.54”) Height
- **Analog-to-digital technique:** Dual slope
- **Internal resolution:** 15 bits
- **Read rate:** 3/sec
- **Polarity:** Automatic
- **Max error strain/process:** ±0.03% rdg ± lsd
- **Span tempco:** ±50 ppm/°C
- **Step response:** 1-2 sec
- **Warmup to rated accuracy:** 30 min
- **Analog output (optional):** 0-10 V, 4-20 mA or 0-20 mA; may be assigned to a display range or to setpoint #1, when used as a proportional control output
- **Excitation voltage:** 24 V @ 25 mA or 12 V @ 50 mA; 10 V @ 120 mA or 5 V @ 60 mA
- **Power:** 115 V or 230 V rms ±15%, 50-60 Hz; 6 watts

http://www.newportus.com/Products/process/INFCP.htm (1 of 2) [4/13/2000 8:26:11 AM]
Operating temperature: 0 to 50°C (32 to 122°F)
Storage temperature: -40 to 85°C (-40 to 184°F)
Relative humidity: 90% at 40°C (104°F) (non-condensing)
Panel cutout: 1/8 DIN, 45 x 92 mm (1.78” x 3.62”)
Weight: 574 g (1.27 lb)

Model PX4000C0-015GI $239
Model PX4000C6-015GI $225

Available from
OMEGADYNE, INC.

To Order (Specify Model No.) Prices Shown in U.S. Dollars

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFCP-(*)00 A</td>
<td>Digital Process Meter with excitation, basic unit</td>
<td>$245</td>
</tr>
<tr>
<td>INFCP-(*)01 A</td>
<td>Digital Process Meter with non-isolated analog output</td>
<td>$325</td>
</tr>
<tr>
<td>INFCP-(*)10 A</td>
<td>Digital Process Meter with dual setpoint (6-Amp form &quot;C&quot; relays )</td>
<td>$315</td>
</tr>
<tr>
<td>INFCP-(*)11 A</td>
<td>Digital Process Meter with non-isolated analog output</td>
<td>$395</td>
</tr>
<tr>
<td>INFCP-(*)12 A</td>
<td>Digital Process Meter with setpoint and isolated Analog output</td>
<td>$405</td>
</tr>
</tbody>
</table>

Ordering Example: INFCP-010, INFINITY® C process meter with dual relays, red LED display, 115 Vac power, $315.

Power and Display Selection

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Power</th>
<th>Display</th>
<th>Add'l Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>115 Vac</td>
<td>red</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>230 Vac</td>
<td>red</td>
<td>N/C</td>
</tr>
<tr>
<td>2</td>
<td>115 Vac</td>
<td>green</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>230 Vac</td>
<td>green</td>
<td>N/C</td>
</tr>
<tr>
<td>4</td>
<td>10-32 Vdc</td>
<td>red</td>
<td>$95</td>
</tr>
<tr>
<td>5</td>
<td>10-32 Vdc</td>
<td>green</td>
<td>$95</td>
</tr>
<tr>
<td>6</td>
<td>26-56 Vdc</td>
<td>red</td>
<td>$120</td>
</tr>
<tr>
<td>7</td>
<td>26-56 Vdc</td>
<td>green</td>
<td>$120</td>
</tr>
</tbody>
</table>

Ordering Example: INFCP-011, process meter with 115 Vac power, red LED display, analog output, and dual 6A relays, $395.
INFP

Six full digits and broad scaling capabilities make the INFP meter ideal for demanding process control applications. Suited for even the most hostile environments with a gasketed front bezel, this meter offers on-board excitation to let you power virtually any sensor or transmitter.

SPECIFICATIONS

- 6 Digit Display
- Split Meter with Remote Display
- Four Isolated Open Collector Outputs
- Wide Selection of dc Voltage and Current Ranges
- High Accuracy of ±0.005% of Reading
- Large Digital Offset Capabilities Enabling Easy Scaling in Engineering Units
- Smart Filtering Detects the Difference Between a Spike or Process Change (Patent Applied For)
- Selectable Decimal Point and Read Rates of up to 13 Readings/Sec
- Peak and Valley Detection and Memory
- Configurable Via Front Pushbuttons or Via RS-232 or RS-485

NEWPORT PRODUCT INFO

- MANUAL (HTML)
- MANUAL
- QUICK START
- MECHANICAL
- PRICE

REQUIRES ADOBE ACROBAT - HELP

OPTIONS

- Isolated Dual 7 Amp Form C Relays
- Isolated Parallel BCD Output
- Isolated Analog Output of 0-10 Vdc, 0-5 Vdc, 1-5 Vdc, 0-20 mA dc and 4-20 mA dc
- Isolated Serial RS-232
- Isolated RS-485, Addressable up to 199 Units
Four standard setpoints give you the flexibility to control or alarm your system completely. The meter lets you scale and offset the input signal into any engineering units desired, plus select a two-point data method of scale and offset that eliminates the signal errors transmitted from a sensor.

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).

The meter is delivered configured for the input type you choose. The meter can be easily reconfigured using the front pushbuttons or via either of the optional serial communications boards. All options are field installable, so you easily upgrade as your needs change.

COMMON SPECIFICATIONS FOR INFINITY® METERS

Accuracy: ±0.005% rdg
Span Temperature Coefficient: ±20 ppm
Step Response: 1 sec to 99.9%
Warmup to Rated Accuracy: 50 min
Operating Ambient: 0 to 50°C (32 to 122°F), 95%RH, non-condensing
Storage Ambient: -40 to 85°C (-40 to 185°F)
Power: 115 or 230 Vac, 49-400 Hz; 10 to 32 Vdc
Power Consumption: 6 W nominal, 10 W max.
Normal Mode Rejection: 60 dB
Common Mode Rejection: 120 dB
Common Mode Voltage: 1500 V peak per Hv test
Resolution: 15-bit
Conversion: dual-slope technique
Reading Rate: 3/sec or 13/sec, 60 Hz; 3/sec or 12/sec, 50 Hz
Display: red or green 6-digit, 14-segment, 13.7 mm (0.54”); 4 alarm indicators
Dimensions: 48 H x 96 W x 165 D mm (1.89” x 3.78” x 6.5”)
Panel Cutout: 45 H x 92 W mm (1.772” x 3.622”); 1/8 DIN
Weight: 574 g (1.27 lb)
TTL Outputs: four, isolated open collector; rated 150 mA at 1 V sink, 30 V open
Dual Relays: form C, 7 A at 30 Vdc or 230 Vac
BCD Output: isolated, tri-state, TTL/CMOS compatible; external 5 V supply for isolated; internal 5 V supply for non-isolated
Four Relay Option: dual 7A relays and dual 1 A relays
Analog Output: 0-5 V/1-5 V/0-10 V/0-20 mA/4-20 mA, user selectable; 354 Vp isolation; 15-bit resolution; 0.1% accuracy, 50 msec step response
RS-232 Communications: 300/600/1200/2400/4800/9600/19.2k baud; RJ11 4-wire connection; complete program setup and message display capability; programmable to transmit current display, alarm status, min/max, actual measured input value and status
RS-485 Communications: 300/600/1200/2400/4800/9600/19.2k baud; RJ12 6-wire connection; addressable from 0 to 199
Voltage Input Ranges: 0-100 mV, 0-1 V, 0-5 V, 1-5 V, 0-10 V, 0-100 V, ±50 mV, ±500 mV, ±5 V, ±50 V
Current Input Ranges: 0-20 mA, 4-20 mA
Input Configuration: single-ended
Polarity: unipolar/bipolar, programmable
Span Adjustment: +0.00001 to 500,000, programmable
Offset Adjustment: 0 to 999,999 or 0 to -99,999, programmable
Sensor Excitation: 24 V at 25 mA for loop power
INFINITY® SERIES

6-DIGIT MICROPROCESSOR METER FOR DC VOLTS, CURRENT TEMPERATURE AND STRAIN WITH SENSOR EXCITATION

6-digit (999,999) meter. Standard features include NEMA-4 front bezel, 4 open-collector outputs, wide selection of input ranges, peak and valley reading, smart filtering, programmable decimal point, large digital offset capabilities, on-board sensor excitation, and field installable output, control and communication options.

INPUT TYPE

PROCESS-INFINITY meter which accepts a wide selection of DC current and DC voltage inputs as well as potentiometer and ratiometric inputs. Large digital offset capability allows for easy scaling to virtually any engineering unit. On-board excitation to power transducers or current loops. Factory default is 4-20 mA input and 24 Vdc sensor excitation to display 0 to 100000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFP</td>
<td>PROCESS-INFINITY meter</td>
<td>$545.00</td>
</tr>
<tr>
<td>INFZP</td>
<td>PROCESS-INFINITY &quot;Split meter with remote display&quot;</td>
<td>$595.00</td>
</tr>
</tbody>
</table>

STRAIN-INFINITY meter for strain gage, pressure transducer, load cell and virtually any bridge input. On-board transducer excitation. Easy scaling to engineering units. Factory default setup is 0-100 mV input with 10 V dc sensor excitation scaled to display 0 to 100000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFS</td>
<td>STRAIN-INFINITY meter</td>
<td>$545.00</td>
</tr>
<tr>
<td>INFZS</td>
<td>STRAIN-INFINITY &quot;Split meter with remote display&quot;</td>
<td>$595.00</td>
</tr>
</tbody>
</table>

SCALE-INFINITY meter offers a wide range of DC voltage and current inputs that can be configured to display and transmit your input signal in any engineering units. Factory default setup is 0-100 mV input with 10 Vdc sensor excitation scaled to display 0 to 100000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFW</td>
<td>SCALE-INFINITY meter</td>
<td>$595.00</td>
</tr>
<tr>
<td>INFZW</td>
<td>SCALE-INFINITY &quot;Split meter with remote display&quot;</td>
<td>$645.00</td>
</tr>
</tbody>
</table>

UNIVERSAL-INFINITY meter with all the capabilities of the Temperature, Process and Strain versions available in one instrument. Factory default setup is 0-100 mV DC input with 10 Vdc sensor excitation to display 0 to 100000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>INFU</td>
<td>UNIVERSAL-INFINITY meter</td>
<td>$645.00</td>
</tr>
<tr>
<td>INFZU</td>
<td>UNIVERSAL-INFINITY &quot;Split meter with remote display&quot;</td>
<td>$695.00</td>
</tr>
</tbody>
</table>

TEMPERATURE-INFINITY meter with all the capabilities of the Temperature, Process and Strain versions available in one instrument. Factory default setup is 0-100 mV DC input with 10 Vdc sensor excitation to display 0 to 100000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>INFT</td>
<td>TEMPERATURE-INFINITY meter</td>
<td>$595.00</td>
</tr>
<tr>
<td>INFZT</td>
<td>TEMPERATURE-INFINITY &quot;Split meter with remote display&quot;</td>
<td>$645.00</td>
</tr>
</tbody>
</table>

MOST POPULAR MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFS-0010-DC1</td>
<td>Strain gage indicator with analog output</td>
<td>$655.00</td>
</tr>
<tr>
<td>INFP-0210-C2</td>
<td>Process receiver with dual relay and analog output</td>
<td>$730.00</td>
</tr>
</tbody>
</table>
### POWER AND LED COLOR

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Designates 115 Vac power and red LED display</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>Designates 230 Vac power and red LED display</td>
<td>N/C</td>
</tr>
<tr>
<td>2</td>
<td>Designates 115 Vac power and green LED display</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>Designates 230 Vac power and green LED display</td>
<td>N/C</td>
</tr>
<tr>
<td>4</td>
<td>Designates 10-32 Vdc power and red LED display*</td>
<td>$110.00</td>
</tr>
<tr>
<td>5</td>
<td>Designates 10-32 Vdc power and green LED display*</td>
<td>$110.00</td>
</tr>
</tbody>
</table>

* Not available REL4 below.

### BCD AND CONTROL OUTPUT (S)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Four optically isolated open-collector outputs</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>Isolated parallel BCD output (BCD1)</td>
<td>$110.00</td>
</tr>
<tr>
<td>2</td>
<td>Isolated dual 7 A relays (REL1)</td>
<td>$75.00</td>
</tr>
<tr>
<td>3</td>
<td>Isolated dual 7 amp and dual 1 amp relays* (REL4)</td>
<td>$175.00</td>
</tr>
</tbody>
</table>

* Not available with dc power options 4 and 5 above.

### ANALOG OUTPUT

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No analog output</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>Isolated analog output (0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 0-10 V) (AN02)</td>
<td>$110.00</td>
</tr>
</tbody>
</table>

### SERIAL OUTPUTS

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No serial output</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>Isolated RS-232 serial output* (RS20)</td>
<td>$110.00</td>
</tr>
<tr>
<td>2</td>
<td>Isolated RS-485 serial addressable output* (RS40)</td>
<td>$110.00</td>
</tr>
</tbody>
</table>

* Includes 6' of interconnecting cable with telephone plug connectors. See serial connector accessories below for conversion to "D" type connectors.

### RANGE PROCESS OR STRAIN

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Range</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC1</td>
<td>0-100 mV</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC2</td>
<td>0-1 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC3</td>
<td>0-5 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC4</td>
<td>1-5 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC5</td>
<td>0-10 V</td>
<td>N/C</td>
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</tr>
<tr>
<td>DC6</td>
<td>0-100 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC7</td>
<td>±50 mV</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC8</td>
<td>±500 mV</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC9</td>
<td>±5 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>DC10</td>
<td>±50 V</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>0-20 mA</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>4-20 mA</td>
<td>N/C</td>
<td></td>
</tr>
</tbody>
</table>

### TEMPERATURE

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC</td>
<td>J, K, E, T, B, S, N or DIN J in degrees C, F or K</td>
<td>N/C</td>
</tr>
<tr>
<td>RTD1</td>
<td>10 ohm copper**</td>
<td>N/C</td>
</tr>
<tr>
<td>RTD2</td>
<td>100 ohm platinum with 0.00385 alpha**</td>
<td>N/C</td>
</tr>
<tr>
<td>RTD3</td>
<td>100 ohm platinum with 0.00392 alpha**</td>
<td>N/C</td>
</tr>
</tbody>
</table>

**Enter C for Celsius, F for Fahrenheit, or K for Kelvin.

**NOTE:** All of the above ranges are available on the Universal INFINITY®.

### ADD-ON OPTIONS
<table>
<thead>
<tr>
<th>Code</th>
<th>Item Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS</td>
<td>Special calibration configuration</td>
<td>$25.00</td>
</tr>
<tr>
<td>BL</td>
<td>Blank Lens</td>
<td>$15.00</td>
</tr>
</tbody>
</table>

### ACCESSORIES

<table>
<thead>
<tr>
<th>Code</th>
<th>Item Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>9SC2</td>
<td>9-pin serial connector with RJ-11 jack for RS-232</td>
<td>$30.00</td>
</tr>
<tr>
<td>9SC4</td>
<td>9-pin serial connector with RJ-12 jack for RS-485</td>
<td>$30.00</td>
</tr>
<tr>
<td>25SC2</td>
<td>25-pin serial connector with RJ-11 jack for RS-232</td>
<td>$30.00</td>
</tr>
<tr>
<td>25SC4</td>
<td>25-pin serial connector with RJ-12 jack for RS-485</td>
<td>$30.00</td>
</tr>
<tr>
<td>SP1</td>
<td>Split connector for RS-485 network</td>
<td>$15.00</td>
</tr>
<tr>
<td>SB03</td>
<td>Setup &amp; configuration, and communications diskettes. Included with serial communication options</td>
<td>$10.00</td>
</tr>
</tbody>
</table>
4 DIGIT PROCESS METER, TRANSMITTER & CONTROLLER

Q9000P Process Receiver
Q9000E Process Receiver with Excitation Output

QUANTA STANDARD FEATURES

- 10 or 15 V dc excitation output (Q9000E)
- ±9,999-count display span
- Standard signal ranges of 4-20 mA, 10-50 mA, 1-5 V or 0-10 V
- Selectable current ranges from ±1 to ±50 mA
- Selectable voltage ranges from ±0.5 to ±20 V
- Built-in shunts and attenuators
- Zero adjustment to ±100% of readout
- Front-panel accessible fine-zero and fine-span adjustments
- 1 mV/count analog output
- Bright, 0.56 in. (14.2mm) LED display
- Automatic polarity
- Display hold and test
- 120/240 V ac, 5 V dc, 9-32 V dc or 26-56 V dc power
- Screw-terminal barrier strip

NEWPORT PRODUCT INFO

- MANUAL
- QUICK START
- MECHANICAL 1/8 DIN (1A) Case
- MECHANICAL Connections Diagram
- PRICE

REQUIRES ADOBE ACROBAT - HELP

OPTIONS

- Analog output for user-selected span
- Single-setpoint 10 A relay control
- Dual-setpoint 10 A relay control
- Proportional 4-20 mA control
- Time-proportional 2 A solid-state relay control
- Parallel BCD output, isolated
- NEMA-4 splash-proof lens cover

The Q9000P is a 4-digit process receiver with extensive zero and span adjustment capability for readout in engineering units. The more popular process signals are 4-20 mA, 10-50 mA, 1-5 V and 0-10 V. The Q9000P can also be scaled for other signal levels. Full-scale input ranges are selectable from ±1 to ±50 mA (current signal) or ±0.5 to ±20 V (voltage signal). Zero is adjustable up to ±100% of full-scale readout for every input range.

The Q9000E is an enhanced version of the Q9000P with an excitation output for powering transmitters and active transducers. In many cases, this output can eliminate the need for more expensive external supply. The output levels are jumper-selectable: 10 V dc at up to 50 mA and 15 V dc at up to 25 mA.
CONFIGURATION AND CALIBRATION
The price of the Q9000P and Q9000E includes configuration and calibration, normally provided by an authorized Newport distributor. Both models can also be configured and scaled in the field. Full-scale signal, coarse-span and coarse-zero ranges are selected by plug-in jumpers. A complete set of internal shunts and attenuators are already on board. Fine-zero and fine-span potentiometers are accessible behind the panel to allow final calibration or field recalibration without removal of the panel meter.

POWER AND DISPLAY OPTIONS
Six types of meter power are available: 120 V ac, 240 V ac, 24 V ac, 5 V dc, isolated 9-32 V dc and isolated 26-56 V dc.

ANALOG OUTPUT OPTIONS
A 0.2 mV/count (±2 V full-scale) analog output is standard and is ideal for driving a strip-chart recorder. An additional analog output can be provided by an optional vertical plug-in board. Available output signals are 0-5 V dc, 0-10 V dc, 0-1 mA (source or sink), and 4-20 mA (source or sink). The top and bottom of each output range can be scaled to fit a user-selected display span.

CONTROL OUTPUT OPTIONS
Additional outputs can be provided by a horizontal upper board. Available options include single-setpoint control with one 10 A relay, dual-setpoint control with two 10 A relays, 4-20 mA proportional control (source or sink), time-proportional 2 A solid-state relay control, and isolated, parallel BCD output. For additional information, please refer to the QUANTA and Mechanical sections.

SPECIFICATIONS

ANALOG INPUT

<table>
<thead>
<tr>
<th>VOLTAGE RECEIVER</th>
<th>Most-sensitive scaling</th>
<th>Least-sensitive scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal range</td>
<td>±0.5 V</td>
<td>±20 V</td>
</tr>
<tr>
<td>Display range</td>
<td>±9,999 counts</td>
<td>±9,999 counts</td>
</tr>
<tr>
<td>Resolution</td>
<td>50 µV/count</td>
<td>2 mV/count</td>
</tr>
<tr>
<td>Input resistance</td>
<td>100 kohm</td>
<td>1.0 Mohm</td>
</tr>
<tr>
<td>Bias current</td>
<td>100 pA</td>
<td>13 pA</td>
</tr>
<tr>
<td>Maximum voltage</td>
<td>250 Vp</td>
<td>250 Vp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CURRENT RECEIVER</th>
<th>Most-sensitive scaling</th>
<th>Least-sensitive scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal range</td>
<td>±1.0 mA</td>
<td>±50.0 mA</td>
</tr>
<tr>
<td>Display range</td>
<td>±9,999 counts</td>
<td>±9,999 counts</td>
</tr>
<tr>
<td>Resolution</td>
<td>100 nA/count</td>
<td>5µA/count</td>
</tr>
<tr>
<td>Input resistance</td>
<td>500 ohm</td>
<td>10 ohm</td>
</tr>
<tr>
<td>Voltage drop, max</td>
<td>±0.5 V</td>
<td>±0.5 V</td>
</tr>
</tbody>
</table>

VOLTAGE & CURRENT RECEIVER
Full-scale signal input: Six jumper-selectable ranges
Coarse-span adjustment: Four jumper-selectable ranges
Fine-span adjustment: Front-panel potentiometer
Coarse-zero adjustment: Four jumper-selectable ranges
Fine-zero adjustment: Front-panel potentiometer
Input configuration: Single-ended

NOISE REJECTION
NMR, SIG HI to SIG LO: 130 dB, 50/60 Hz
CMR, SIG GND to PWR GND: 120 dB
CMV, SIG GND to PWR GND: 1500 Vp per HV test, 354 Vp per IEC spacing

ACCURACY AT 25°C
Error, max: ±0.05% of reading ±2 counts
Span tempco: ±0.01% of reading/°C
Zero drift, max: ±0.01% of reading/°C
Offset drift, max: ±(0.01% offset V ±0.01% FS V)/°C
Step response: 1 s to 99.9% of span
Warmup to rated accuracy: 30 min

ANALOG-TO-DIGITAL CONVERSION
Technique: Dual-slope, average-value
Signal integration period: 100 ms
Read rate: 2.5/s

TRANSMITTER EXCITATION SUPPLY (Q2000E)
Output voltage: 10 or 15 V dc, jumper-selectable
Output current, max: 50 mA at 10 V dc, 25 mA at 15 V dc, 50 mA for sum for all output currents, including control output and analog output
Line regulation, max: ±0.2% for 10% change of AC line power voltage
Load regulation, max: ±0.5% from zero to max load
Ripple at 50/60 Hz: ±0.01%

DISPLAY
TYPE: 7-segment, red LED
HEIGHT: 0.56 in (14.22 mm)
Symbols: –8.8.8.8
Decimal point positions: Three positions selectable by jumpers behind lens or at connector
0 to ±9,999 counts: Normal operation
±10,000 to ±19,999 counts: Four least-significant digits flash reading
Beyond ±19,999 counts: All four digits flash zeros

POWER
AC voltages: 120, 240 or 24 V ac ±10%/-15%
AC frequency: 49-440 Hz
DC voltages: 9-32 V dc, isolated to 300 Vp; 26-56 V dc, isolated to 300 Vp; 5 V dc ±5%, non-isolated
Power consumption: 5 W max

ENVIRONMENTAL
Operating temperature: 0 to 60°C
Storage temperature: -40 to +85°C
Relative humidity: 95% at 40°C (non-condensing)

MECHANICAL
Dimensions: Newport DIN1A (1/8 DIN) case (see Mechanical section for drawings)
Weight: 17 oz (480 g)
Case material: 94V-0 UL-rated polycarbonate
3 1/2 DIGIT PROCESS RECEIVER, TRANSMITTER & CONTROLLER

Q2000P Process Receiver
Q2000E Process Receiver with Excitation Output

QUANTA STANDARD FEATURES
- 10 or 15 V dc excitation output (Q2000E)
- ±1,999-count display span
- Selectable current ranges from ±1 to ±50 mA
- Selectable voltage ranges from ±0.5 to ±20 V
- Built-in shunts and attenuators
- Zero adjustment to ±100% of readout
- Standard signal ranges of 4-20 mA, 10-50 mA, 1-5 V or 0-10 V
- Front-panel accessible fine-zero and fine-span adjustments
- 1 mV/count analog output
- LED or LCD display
- Automatic polarity
- Display hold and test
- 120/240 V ac, 5 V dc, 9-32 V dc or 26-56 V dc power
- Screw-terminal barrier strip
- 1/8 DIN case

NEWPORT PRODUCT INFO

- MANUAL
- QUICK START
- MECHANICAL 1/8 DIN (1A) Case
- MECHANICAL Connections Diagram
- PRICE

REQUIRES ADOBE ACROBAT - HELP

OPTIONS
- Analog output for user-selected span
- Single-setpoint 10 A relay control
- Dual-setpoint 10 A relay control
- Proportional 4-20 mA control
- Time-proportional 2 A solid-state relay control
- Parallel BCD output, isolated
- NEMA-4 splash-proof lens cover

The Q2000P is a 3 1/2 digit process receiver with extensive zero and span adjustment capability for readout in engineering units. The more popular process signals are 4-20 mA, 10-50 mA, 1-5 V and 0-10 V. The Q2000P can also be scaled for other signal levels. Full-scale input ranges are selectable from ±1 to ±50 mA (current signal) or ±0.5 to ±20 V (voltage signal). Zero is adjustable up to ±100% of full-scale readout for every input range.

The Q2000E is an enhanced version of the Q2000P with an excitation output for powering transmitters and active transducers. In many cases, this output can eliminate the need for a more expensive external supply. The output shares the ground of the signal input. Two output levels are jumper-selectable: 10 V dc at up to 50 mA and 15 V dc at up to 25mA.
CONFIGURATION AND CALIBRATION
The price of the Q2000P and Q2000E includes configuration and calibration, normally provided by an authorized Newport distributor. Both models can also be configured and scaled in the field. Full-scale signal, coarse-span and coarse-zero ranges are selected by plug-in jumpers. A complete set of internal shunts and attenuators are already on board. Fine-zero and fine-span potentiometers are accessible behind the lens to allow final calibration or field recalibration without removal of the panel meter.

POWER AND DISPLAY OPTIONS
Six types of meter power are available: 120 V ac, 240 V ac, 24 V ac, 5 V dc, isolated 9-32 V dc and isolated 26-56 V dc. An LED display is standard. An LCD display is available and is useful for viewing in bright ambient light.

ANALOG OUTPUT OPTIONS
A 1 mV/count (±2 V full-scale) analog output is standard and is ideal for driving a strip-chart recorder. An additional analog output can be provided by an optional vertical plug-in board. Available output signals are 0-5 V dc, 0-10 V dc, 0-1 mA (source or sink), and 4-20 mA (source or sink). The top and bottom of each output range can be scaled to fit a user-selected display span.

CONTROL OUTPUT OPTIONS
Additional outputs can be provided by a horizontal upper board. Available options include single-setpoint control with one 10 A relay, dual-setpoint control with two 10 A relays, 4-20 mA proportional control (source or sink), time-proportional 2 A solid-state relay control, and isolated, parallel BCD output. For additional information, please refer to the QUANTA and Mechanical sections.

SPECIFICATIONS

ANALOG INPUT

<table>
<thead>
<tr>
<th>VOLTAGE RECEIVER</th>
<th>Most-sensitive scaling</th>
<th>Least-sensitive scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal range</td>
<td>±0.5 V</td>
<td>±20 V</td>
</tr>
<tr>
<td>Display range</td>
<td>±1,999 counts</td>
<td>±1,999 counts</td>
</tr>
<tr>
<td>Resolution</td>
<td>250 μV/count</td>
<td>10 mV/count</td>
</tr>
<tr>
<td>Input resistance</td>
<td>100 kohm</td>
<td>1.0 Mohm</td>
</tr>
<tr>
<td>Bias current</td>
<td>100 pA</td>
<td>13 pA</td>
</tr>
<tr>
<td>Maximum voltage</td>
<td>250 Vp</td>
<td>250 Vp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CURRENT RECEIVER</th>
<th>Most-sensitive scaling</th>
<th>Least-sensitive scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal range</td>
<td>±1.0 mA</td>
<td>±50.0 mA</td>
</tr>
<tr>
<td>Display range</td>
<td>±1,999 counts</td>
<td>±1,999 counts</td>
</tr>
<tr>
<td>Resolution</td>
<td>500 nA/count</td>
<td>25 μA/count</td>
</tr>
<tr>
<td>Input resistance</td>
<td>500 ohm</td>
<td>10 ohm</td>
</tr>
<tr>
<td>Voltage drop, max</td>
<td>±0.5 V</td>
<td>±0.5 V</td>
</tr>
</tbody>
</table>

| VOLTAGE & CURRENT RECEIVER       |                         |                        |
| Full-scale signal input          | Six jumper-selectable ranges |
| Coarse-span adjustment           | Four jumper-selectable ranges |
| Fine-span adjustment             | Front-panel potentiometer |
| Coarse-zero adjustment           | Four jumper-selectable ranges |
| Fine-zero adjustment             | Front-panel potentiometer |
| Input configuration              | Single-ended            |

NOISE REJECTION
NMR, SIG HI to SIG LO: 75 dB, 50/60 Hz
CMR, SIG GND to PWR GND: 120 dB
CMV, SIG GND to PWR GND: 1500 Vp per HV test, 354 Vp per IEC spacing

ACCURACY AT 25°C
Error, max: ±0.05% of reading ±1 count
Span tempco: ±0.01% of reading/°C
Zero drift, max: ±0.01% of reading/°C
Offset drift, max: ±(0.01% offset V ±0.01% FS V)/°C
Step response: 1 s to 99.9% of span
Warmup to rated accuracy: 10 min

ANALOG-TO-DIGITAL CONVERSION
Technique: Dual-slope, average-value
Signal integration period: 100 ms
Read rate: 2.5/s

TRANSMITTER EXCITATION SUPPLY (Q2000E)
Output voltage: 10 or 15 V dc, jumper-selectable
Output current, max: 50 mA at 10 V dc, 25 mA at 15 V dc, 50 mA for sum for all output currents, including control output and analog output
Line regulation, max: ±0.2% for 10% change of AC line power voltage
Load regulation, max: ±0.5% from zero to max load
Ripple at 50/60 Hz: ±0.01%

DISPLAY
LED: 0.56 in (14.2 mm) 7-segment, red
LCD: 0.50 in (12.7 mm) 7-segment liquid crystal
Symbols: -1.8.8.8
Decimal point positions: Three positions selectable by jumpers behind lens or at connector
Overrange indication: Three-least significant digits blanked

POWER
AC voltages: 120, 240 or 24 V ac +10%/-15%
AC frequency: 49-440 Hz
DC voltages: 9-32 V dc, isolated to 300 Vp; 26-56 V dc, isolated to 300 Vp; 5 V dc ±5%, non-isolated
Power consumption: 5 W max

ENVIRONMENTAL
Operating temperature: 0 to 60°C
Storage temperature: -40 to +85°C
Relative humidity: 95% at 40°C (non-condensing)

MECHANICAL
Dimensions: Newport DIN1A (1/8 DIN) case (see Mechanical section for drawings)
Weight: 17 oz (480 g)
Case material: 94V-0 UL-rated polycarbonate
INFU

INFINITY® SERIES
UNIVERSAL PANEL METER

Specifications
✔ 6 Digits
✔ NEMA-4 (IP65) Front Bezel
✔ Four Isolated Open Collector Outputs
✔ Smart Filtering Detects the Difference Between a Spike or Process Change (Patent Applied For)
✔ Peak and Valley Detection and Memory
✔ Digital Tare
✔ 1.5 to 11 or 24 Vdc Sensor Excitation

Options
✔ Isolated Dual 7 Amp Form C Relays
✔ Isolated Parallel BCD Output
✔ Isolated Analog Output of 0-10 Vdc, 0-5 Vdc, 1-5 Vdc, 0-20 mA dc and 4-20 mA dc
✔ Isolated Serial RS-232
✔ Isolated RS-485, Addressable up to 199 Units

The INFINITY® The INFU universal meter is ideal for those who want a single meter to cover a variety of input needs. This meter can measure a broad spectrum of dc voltage and current ranges, nine thermocouple types, a variety of RTDs, a multitude of inputs from pressure transducers, load cells, strain gages as well as potentiometric inputs. Six full digits make this meter ideal for demanding process control applications. On-board excitation is included so you can power virtually any sensor or transmitter, and four standard setpoints give the flexibility to control or alarm your system completely. The various setpoints can be configured as active above or below, latching or non-latching, as either high deviation, low deviation or band deviation, as well as numerous other possibilities.

The meter is delivered configured for the input type you choose. The meter can be easily reconfigured using the front pushbuttons or via either of the optional serial communications boards. All options are field installable, so you can easily upgrade as your needs change.

SPECIFICATIONS
Accuracy: ±0.005% rdg
Span Temperature Coefficient: ±20 ppm
Step Response: 1 sec to 99.9%
Warmup to Rated Accuracy: 50 min
Operating Ambient: 0 to 50°C (32 to 122°F), 95%RH, non-condensing
Storage Ambient: -40 to 85°C (-40 to 185°F)
Power: 115 or 230 Vac, 49-400 Hz; 10 to 32 Vdc
Power Consumption: 6 W nominal, 10 W max.
Normal Mode Rejection: 60 dB
Common Mode Rejection: 120 dB
Common Mode Voltage: 1500 V peak per Hv test
Resolution: 17-bit
**Conversion:** dual-slope technique  
**Reading Rate:** 3/sec or 13/sec, 60 Hz; 3/sec or 12/sec, 50 Hz  
**Display:** red or green 6-digit, 14-segment, 13.7 mm (0.54"); 4 alarm indicators  
**Dimensions:** 48 H x 96 W x 165 D mm (1.89" x 3.78" x 6.5")  
**Panel Cutout:** 45 H x 92 W mm (1.772" x 3.622"); 1/8 DIN  
**Weight:** 574 g (1.27 lb)  
**TTL Outputs:** four, isolated open collector; rated 150 mA at 1 V sink, 30 V open  
**BCD Output:** isolated, tri-state, TTL/CMOS compatible; external 5 V supply for isolated; internal 5 V supply for non-isolated  
**Dual Relays:** form C, 7 A at 30 Vdc or 230 Vac  
**Four Relay Option:** dual 7A relays and dual 1 A relays  
**Analog Output:** 0-5 V/1-5 V/0-10 V/0-20 mA/4-20 mA, user selectable; 354 Vp isolation; 15-bit resolution; 0.1% accuracy, 50 msec step response  
**RS-232 Communications:** 300/600/1200/2400/4800/9600/19.2k baud; RJ11 4-wire connection; programmable to transmit current display, alarm status, min/max, actual measured input value and status  
**RS-485 Communications:** 300/600/1200/2400/4800/9600/19.2k baud; RJ12 6-wire connection; addressable from 0 to 199  
**Voltage Input Ranges:** 0-100 mV, 0-1 V, 0-5 V, 1-5 V, 0-10 V, ±50 mV, ±500 mV, ±5 V, ±50 V  
**Current Input Ranges:** 0-20 mA, 4-20 mA  
**Input Configuration:** single-ended  
**Polarity:** unipolar/bipolar, programmable  
**Span Adjustment:** +0.00001 to 500,000, programmable  
**Offset Adjustment:** 0 to 999,999 or 0 to -99,999, programmable  
**Thermocouple Input Types:** J, K, T, E, R, S, B, N, J DIN  
**RTD Input:** any 6 to 6k (ohm) NIST or DIN platinum and any linear RTD  
**RTD Connection:** 2, 3 or 4-wire  
**Sensor Break Protection:** upscale or downscale, programmable  
**Sensor Excitation:** 10 V at 30 mA for bridge; 24 V at 25 mA for loop power

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Range, °F</th>
<th>Range, °C</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>-346 to 1400°F</td>
<td>-210 to +760°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>K</td>
<td>-454 to 2500°F</td>
<td>-270 to +1372°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>T</td>
<td>-454 to 752°F</td>
<td>-270 to +400°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>E</td>
<td>454 to 1832°F</td>
<td>-270 to +1000°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>R</td>
<td>-58 to 3214°F</td>
<td>-50 to +1768°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>S</td>
<td>+212 to +3300°F</td>
<td>+100 to +1820°C</td>
<td>0.3°C / 0.5°F</td>
</tr>
<tr>
<td>B</td>
<td>-454 to 2372°F</td>
<td>-270 to +1300°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
<tr>
<td>N</td>
<td>-328 to 1652°F</td>
<td>-200 to +900°C</td>
<td>0.6°C / 1.0°F</td>
</tr>
<tr>
<td>J DIN</td>
<td>-328 to 1562°F</td>
<td>-200 to +850°C</td>
<td>0.2°C / 0.3°F</td>
</tr>
</tbody>
</table>

**Input Type:** J, K, T, E, R, S, B, N, J DIN  
**RTD Connection:** 2, 3 or 4-wire  
**Sensor Break Protection:** upscale or downscale, programmable  
**Sensor Excitation:** 10 V at 30 mA for bridge; 24 V at 25 mA for loop power
**INFZU**

**INFINITY® Split Meters with Remote Displays**

<table>
<thead>
<tr>
<th>Basic Model</th>
<th>Power/Display</th>
<th>Control Output</th>
<th>Analog Output</th>
<th>Serial Output</th>
<th>Input Signal</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFU</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>INFINITY® Universal Panel Meter</td>
<td>$645</td>
</tr>
<tr>
<td>INFZU</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>( * )</td>
<td>Split meter with remote display</td>
<td>$695</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>115 Vac power, red LED display</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>230 Vac power, red LED display</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>115 Vac power, green LED display</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>230 Vac power, green LED display</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10-32 Vdc Power, Red LED display</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10-32 Vdc Power, Green LED display</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Four NPN open collector transistors</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Isolated parallel BCD</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Two 7 A relays</td>
<td>$75</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Two 7 A relays and two 1 A relays</td>
<td>$175</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No analog output</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Isolated analog output</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No serial output</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Isolated RS-232</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Isolated RS-485</td>
<td>$110</td>
<td></td>
</tr>
<tr>
<td>( * )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Specify range signal from chart below.*</td>
<td>N/C</td>
<td></td>
</tr>
</tbody>
</table>

**To Order** (* insert number code to complete model number) *Prices Shown in U.S. Dollars*

**INPUT SIGNAL VOLTAGE/CURRENT**

<table>
<thead>
<tr>
<th>Range Code</th>
<th>Range</th>
<th>Range Code</th>
<th>Range</th>
<th>Range Code</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC1</td>
<td>0-100 mV</td>
<td>DC5</td>
<td>0-10 Vdc</td>
<td>DC9</td>
<td>±5 Vdc</td>
</tr>
<tr>
<td>DC2</td>
<td>0-1 Vdc</td>
<td>DC6</td>
<td>0-100 Vdc</td>
<td>DC10</td>
<td>±50 Vdc</td>
</tr>
<tr>
<td>DC3</td>
<td>0-5 Vdc</td>
<td>DC7</td>
<td>±50 mVdc</td>
<td>C1</td>
<td>0-20 mA</td>
</tr>
<tr>
<td>DC4</td>
<td>1-5 Vdc</td>
<td>DC8</td>
<td>±500 mVdc</td>
<td>C2</td>
<td>4-20 mA</td>
</tr>
</tbody>
</table>

**INPUT SIGNAL THERMOCOUPLE OR RTD**
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Price</th>
<th>Option</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS</td>
<td>Special Calibration</td>
<td>$25</td>
<td>25SC2</td>
<td>25-pin RS-232 connector</td>
<td>$30</td>
</tr>
<tr>
<td>9SC4</td>
<td>9-pin RS-485 connector</td>
<td>$30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Examples:**
1.) **INFU-0200-DC7**, Standard Panel Meter with two relays, ±50 mV input, 115 Vac power and red LED display, $645 + 75 = $720.
2.) **INFZU-2210-DC1** Split Meter with remote display, two relays, analog output and 0-100 mVdc input, 115 Vac power and green LED display, $695 + 75 + 110 = $880.
INFINITY

P1, P3, P6, P7, P9, RS-232(P4), RS-485(P4)
205, 215, 267B, 268
P1, P2, P3, D1, D4
215
D1
+5 V DC PO.

HOLD
POWER GND
GND
SPARE
REF IN
SPARE
TEST
SIG HI IN
SIG LO IN
SPARE
19.99 DP
1.999 DP
199.9 DP
DECIMAL-POINT RETURN

267B-RTD, 267B-TC 268-RTD, 268-TC
D1

267B, 268

BCD 1
BCD 2
BCD 4
BCD 8
BCD 100
BCD 200
BCD 400
BCD 800
+ POLARITY
DATA READY
HOLD
EXT OL IN
DIG GND
CONV
REF

267B-RTD, 268-RTD
D4

AC POWER VERSIONS

DC POWER VERSIONS

1  AC HI
2  AC LO
3  AC GND
4  +EXC (ANA GND)
5  SIG LO
6  SIG HI & +EXC

1  N/C
2  +DC PWR
3  DC PWR RTN
4  SIG (ANA GND)
5  SIG LO
6  SIG HI & +EXC

268-TC
D4

AC POWER VERSIONS

DC POWER VERSIONS

1  AC HI
2  AC LO
3  AC GND
4  GUARD SHIELD
5  TC -
6  TC +

1  N/C
2  +DC PWR
3  DC PWR RTN
4  GUARD SHIELD
5  TC -
6  TC +

267B-TC
D4

AC POWER VERSIONS

DC POWER VERSIONS

1  AC HI
2  AC LO
3  AC GND
4  ANA GND
5  TC -
6  TC +
P6000
TB1, TB2, TB3, TB4

**AC POWER VERSIONS**

**POWER INPUT**
- TB1
  - 1: AC HI
  - 2: AC LO
  - 3: AC GND

**SIGNAL INPUT**
- TB2
  - 1: "A" INPUT
  - 2: "B" INPUT
  - 3: DIG GND

**DC POWER VERSIONS**

**POWER INPUT**
- TB1
  - 1: N/C
  - 2: + DC POWER
  - 3: DC POWER RET

**SIGNAL INPUT**
- TB2
  - 1: "A" INPUT
  - 2: "B" INPUT
  - 3: DIG GND

**SIGNAL CONDITIONER OPTION**

**NON-ISOLATED SINGLE INPUT W/EXCITATION**

- TB3
  - 1: -EXC
  - 2: +EXC
  - 3: SIG IN
  - 4: RESET OUT
  - 5: N/C
  - 6: TEST
  - 7: N/C

**ANALOG INPUT**

- TB3
  - 1: DO NOT USE
  - 2: DO NOT USE
  - 3: DO NOT USE
  - 4: DO NOT USE
  - 5: RESET OUTPUT
  - 6: SIG RETURN
  - 7: SIG INPUT

**ISOLATED INPUT DUAL W/EXCITATION**

- TB3
  - 1: -EXC
  - 2: +EXC
  - 3: ISO GND
  - 4: ISO "A" INPUT (DC/AC)
  - 5: ISO GND
  - 6: ISO "B" INPUT (DC)
  - 7: ISO "B" INPUT (AC)

**ISOLATED INPUT SINGLE W/EXCITATION**

- TB3
  - 1: -EXC
  - 2: +EXC
  - 3: ISO GND
  - 4: ISO "A" INPUT (AC/DC)
  - 5: ISO GND
  - 6: ISO "B" INPUT (AC)
  - 7: ISO "B" INPUT (DC)

**ANALOG OUTPUT OPTION**

- TB4
  - 1: ANA GND
  - 2: ANA OUTPUT
  - 3: OFFSET INPUT

**DUAL RELAY OUTPUT OPTION**

- TB4
  - 1: (HI)
  - 2: (HI)
  - 3: (HI)
  - 4: (LO)
  - 5: (LO)
  - 6: (LO)
  - RELAY (COMMON)
  - RELAY (N.O.)
  - RELAY (N.C.)
  - RELAY (COMMON)
  - RELAY (N.O.)
  - RELAY (N.C.)
MECHANICAL REFERENCE - IDT / IDP / IDPH

"D" IDP / IDT / IDPH

PANEL CUTOUT

NOTE: DIMENSIONS ARE IN INCHES WITH MILLIMETERS IN ( ).

TOP VIEW

SIDE VIEW

REAR VIEW

3.22 [81.7]

3.74 [95.0] MAX

1.890 [48.00]

3.780 [96.00]

0.73 [18.6]
IDP

Options in Italics

<table>
<thead>
<tr>
<th>P1</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ac Hi</td>
<td>ac LO</td>
</tr>
<tr>
<td>N/C</td>
<td>dc +</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P2</th>
<th>P3</th>
<th>EXC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tare</td>
<td>GND</td>
<td>Tare Rst</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hold</td>
<td>+E</td>
<td>-E</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P4</th>
<th>INPUT</th>
</tr>
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<tbody>
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<td>GND</td>
<td>l</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

IDpH

Options in Italics

<table>
<thead>
<tr>
<th>P1</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ac Hi</td>
<td>ac LO</td>
</tr>
<tr>
<td>N/C</td>
<td>dc +</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P2</th>
<th>Temp/Comp</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTD</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>P4</th>
<th>Analog Out</th>
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</thead>
<tbody>
<tr>
<td>N/C</td>
<td>-l</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
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### IDT Options in Italics

<table>
<thead>
<tr>
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<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ac Hi</td>
<td>ac LO</td>
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<tr>
<td>N/C</td>
<td>dc +</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P2</th>
<th>Hold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold</td>
<td>GND</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>P4</th>
<th>T/C Input</th>
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</thead>
<tbody>
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<td>T1 +</td>
<td>T1 -</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
1/8 DIN (4896-100, 4896-150) CASE
Used with 558A, P6000

1/16 DIN
Used with 81 and 82
Note: Dimensions are in inches ±.01 with millimeters in ( ) ±.025 m.

1/16 DIN. Used with 81 and 82.