

4½ Digit Process Meter with Transmitter Excitation

1/8 DIN



Meter shown smaller than actual size.

2002B-E



- ✓ 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
- ✓ Bright, 14.2 mm (0.56") LED Display
- ✓ Screw-Terminal Barrier Strip
- ✓ 115/230 Vac Power
- ✓ EMI/RFI filter for AC Power
- ✓ Display Hold and Test
- ✓ Short 104 mm (4.1") deep 1/8 DIN case

Options

- ✓ Isolated 9 to 32 Vdc Power
- ✓ Isolated 26-56 Vdc Power
- ✓ NEMA 4 (IP65) Splash-Proof Lens Cover

Built-in Transmitter Excitation Supply

Model 2002B-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 2002B-E is identical to the 2002B-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 2002B-E is housed in a 1/8 Din case that require less than 4.1 in (104 mm) behind the panel. A screw-terminal barrier strip for signal and power is standard.

Other Options

A splash-proof lens cover which meets NEMA 4 (IP65) requirements allows the 2002B to be used in harsh industrial environments.

Specifications

Input

Signal Range: 4-20 mA 1-5 V 0-10 V
Resolution: 0.8µA 0.2 mV 0.5 mV
Input Resistance: 130 Ω 1 MΩ 1 MΩ
Bias Current: 50 pA 10 pA 5 pA
Maximum Voltage: 55 mA 250 V
Span-Adjustment Range:
 0 to 19,999 counts
Zero-adjustment Range:
 -19,999 to +19,999 counts

Reference

Internal Absolute:
 1.0 V ±5%, 12 kΩ source resistance
External Ratiometric, Optional:
 0.5 to 2.0 V, 680 kΩ input resistance

Accuracy at 25°C (Internal; External)

Max Error:
 ±0.01% of span ±2 counts;
 ±0.01% of span ±2 counts

Zero Tempco:
 ±0.5 counts/°C;
 ±1 count/°C

Span Tempco:
 ±0.01% of span/°C;
 ±0.005% counts/°C

Full-Scale Step Response: 1.0 s
Warm Up 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 to 24 Vdc
Output Current: 50 mA max
Line Regulation: ±0.01% type,
 ±0.04% max for 10% change of
 AC power voltage
Load Regulation: ±0.15% type,
 ±0.5% max 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, sink
 10 mA to DIG GND

Overrange Indication:
 Four least-significant digits flash

Digital Inputs

Signals: Display hold, blanking,
 display test, decimal point select

Level, Input Signals:
 TTL or 5 V CMOS compatible

Power

AC Voltages: 115 or 230 Vac ±15%
AC Frequency: 49 to 440 Hz
DC Voltages:
 9-32 Vdc, isolated to 300 Vp;
 26-56 Vdc, isolated to 300 Vp
Power Consumption: 4.0 W
Output Voltages:
 +4.7 Vdc and -4.7 Vdc ±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

Bezel: 96 W 48 H x 5.1 mm D
 (3.78 x 1.89 x 0.20")
Depth Behind Bezel: 104 mm (4.09")
Panel Cutout: 92 W x 45 mm H
 (3.62 x 1.77")
Weight: 15 oz (425 g)
Case Material: 94V-0 UL-rated
 polycarbonate

To Order Visit newportUS.com/2002b-e for Pricing and Details

Model No.				Description
2002B-E				3½ digit process receiver with excitation, includes D4 screw-terminal barrier strip. Default calibration 4-20 mA = 000.0 - 100.00 and 10-24 V excitation set to 24 Vdc
	*			(Nothing, leave field blank) 115 Vac, 50/60 Hz power
	,C1			230 Vac, 50/60 Hz
	,C3C			Isolated 9-32 Vdc
	,C3E			Isolated 26-56 Vdc
		,FS		Custom calibration. Specify in volts or mA: min/max input, min/max display and excitation set to 24 Vdc
			,BL	Lens without Newport logo
Accessories				Description
	RP18			19" rack panel for one ½ DIN instrument (92 x 45 mm panel cutout)
	RP28			19" rack panel for two ½ DIN instrument (92 x 45 mm panel cutout)
	RP38			19" rack panel for three ½ DIN instrument (92 x 45 mm panel cutout)
	TP1			Trimplate panel adapter. 109 x 64 mm (4.3" x 2.5"). Adapts DIN1A/DIN2A cases to larger panel cutouts.
	SPC4			NEMA 4 splash-proof lens cover (includes gasketed bezel and clear cover)

NOTE: All combinations may not be valid, check spec sheet for valid part numbers.