

3½ Digit Ohmmeter

1/8 DIN



202-OR3 shown larger
than actual size.

202A-O



- ✓ 1999 Count Display Span
- ✓ 19.99 Ω to 19.99 k Ω Ranges
- ✓ 2-, 3- or 4-Wire Connection
- ✓ 120 dB CMR, 70 dB NMR
- ✓ 1 mV/deg Count Output
- ✓ Bright, 14 mm (0.56") LED Display
- ✓ Display Hold and Test
- ✓ 115/230 Vac Power
- ✓ EMI/RFI Filter for AC Power
- ✓ Screw-Terminal Barrier Strip
- ✓ Short 104 mm (4.1") Deep 1/8 DIN Case

Options

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

The 202A-O is a low-cost 3½ digit (1999-count) resistance meter with readout directly in ohms. Four ranges are jumper-selectable: 19.99 Ω , 199.9 Ω , 1.999 k Ω , 19.99 k Ω . It is complete with low-level current excitation and open-resistance indication. The current source is tied to the reference of the A/D converter for true ratiometric operation and immunity to changes in line voltage.

Standard Features

Electrical features include linearized analog output of 1 mV per count, which is ideal for driving a strip-chart recorder. Mechanical features include a bright 14 mm (0.56") LED display, a screw-terminal barrier strip for signal and power, and a compact 1/8 DIN case that requires a depth of less than 104 mm (4.1") behind the bezel.

Options

Options are isolated 9 to 32 Vdc or 26 to 56 Vdc power, a PCB edge connector for display control and output of +4.7 Vdc and -4.7 Vdc, and a splash-proof lens cover which meets NEMA 4 (IP65) requirements.

Specifications

Noise Rejection

NMR: 70 dB, 50/60 Hz

CMR, ANA GND to PWR GND: 120 dB to 60 Hz

CMV, ANA GND to PWR GND: 1500 Vp per HV test, 354 Vp per IEC spacing

Power

AC Voltages: 115 or 230 Vac, $\pm 15\%$

AC Frequency: 49 to 440 Hz

DC Voltages: 9 to 32 Vdc, isolated to 300 Vp; 26 to 56 Vdc, isolated to 300 Vp

Power Consumption: 3.7 W

Output Voltages: 4.7 Vdc and -4.7 Vdc $\pm 5\%$, 10 mA max

Input

Connection: 2-, 3- or 4-wire

Excitation Current: 4 mA or 40 μ A

Resistance Break Indication: Meter displays overrange

Overvoltage Protection: 25 V

Display

Type: 7-segment, red LED

Height: 14 mm (0.56")

Symbols: 1.8.8.8

Decimal Points: Three positions programmable by jumpers or at connector

Overrange or Break Indication: Three least-significant digits blank

Accuracy At 25°C

Span Tempco: $\pm 0.01\%$ of reading/ $^{\circ}$ C

Zero Tempco: ± 1 m/ $^{\circ}$ C (19.99 Ω and 199.9 Ω ranges), ± 0.1 Ω / $^{\circ}$ C (1.999 k Ω and 19.99 k Ω ranges)

Full-Scale Step Response: 1 s

Warmup to Rated Accuracy: 10 min

Environmental

Operating Temperature: 0 to 60 $^{\circ}$ C

Storage Temperature: -40 to 85 $^{\circ}$ C

Relative Humidity: 95% at 40 $^{\circ}$ C (non-condensing)

Analog-to-Digital Conversion

Technique: Dual-slope, average value

Signal Integration Period: 100 ms

Read Rate: 2.5/s

Analog Output (Linearized)

Voltage: 1 mV/count

Calibration Error: Same as given under accuracy

Current: 1 mA maximum

Source Resistance: 68 Ω

Digital Inputs

Level: TTL or 5V CMOS compatible

Mechanical

Bezel: 96 W x 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: 94 V-0 UL-rated polycarbonate

Range	Resolution	Excitation Current	Zero Adjust
19.99 Ω	10 M Ω	4 mA	± 2.5 Ω
199.9 Ω	100 M Ω	4 mA	± 2.5 Ω
1.999 k Ω	1 Ω	40 μ A	± 250 Ω
19.99 k Ω	10 Ω	40 μ A	± 250 Ω

To Order Visit newportUS.com/202a-o for Pricing and Details

Model No.					Description
202A					3½ digit ohmmeter
	-OR1				0 to 19.99 Ω
	-OR2				0 to 199.9 Ω
	-OR3				0 to 1.999 k Ω
	-OR4				0 to 19.99 k Ω
		*			(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
			*		(Nothing, leave field blank) Red LED display
			,G		Green LED display
				*	(Nothing, leave field blank) No Option
				,BL	Lens without Newport logo

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

Ordering Example: 202-OR1, 3½ digit ohmmeter, 115 Vac power, resistance of 0 to 19.99 Ω .