

4½ DIGIT OHMMETER, 1/8 DIN OMEGA®



DP3002-0



DP3002-OR1 shown
actual size.

- ✓ 19,999 Count Display Span
- ✓ 19.999 Ω to 19.999 k Ω Ranges
- ✓ 2-, 3- or 4-Wire Connection
- ✓ 120 dB CMR, 70 dB NMR
- ✓ 0.1 mV/ Count Linearized Analog 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
- ✓ RoHS 2 Compliant

Options

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

The DP3002-O is a low-cost, high-resolution 4½ digit (19,999-count) resistance meter with readout directly in ohms. Four ranges are jumper-selectable: 19.999 Ω , 199.99 Ω , 1.9999 k Ω , 19.999 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 0.1 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

Power options include isolated 9 to 32 Vdc and 26 to 56 Vdc. Other options are 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, SIG HI to SIG LOW: 70 dB, 50/60 Hz

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

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

Environmental

Operating Temperature: 0 to 60°C

Storage Temperature: -40 to 85°C

Relative Humidity: 95% at 40°C (non-condensing)

Display

Type: 7-segment, red LED

Height: 14 mm (0.56")

Symbols: 1.8.8.8.8

Decimal Points: Four positions programmable by jumpers behind the lens or connector

Overrange or Break Indication: Four least-significant digits flash

Input

Connection: 2-, 3- or 4-wire

Excitation Current: 4 mA or 40 µA

Resistance Break Indication: Meter displays overrange

Overvoltage Protection: 25 Vp

Accuracy at 25°C

Zero Tempco: ±1 MΩ/°C (19.999 Ω & 199.99 Ω ranges), ±0.1 Ω/°C (1.9999 kΩ & 19.999 kΩ ranges)

Span Tempco: ±0.005% of reading/°C

Full-Scale Step Response: 1 s

Warmup to Rated Accuracy: 20 min

Analog-to-Digital Conversion

Technique: Dual-slope, average value

Signal Integration Period: 100 ms

Read Rate: 2.5/s

Digital Inputs

Level: TTL or 5V CMOS compatible

Power

AC Voltages: 115 or 230 Vac, ±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 nominal

Output Voltages: 4.7 Vdc and -4.7 Vdc ±5%, 10 mA max

Analog Output (Linearized)

Voltage: 0.1 mV/count

Calibration Error: Same as given under accuracy

Current: 1 mA maximum

Source Resistance: 68 Ω

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
19.999 Ω	1 MΩ	4 mA	±2.5 Ω
199.99 Ω	10 MΩ	4 mA	±2.5 Ω
1.9999 kΩ	0.1 Ω	40 µA	±250 Ω
19.999 kΩ	1 Ω	40 µA	±250 Ω

To Order				
MODEL NO.				DESCRIPTION
DP3002				4½ digit ohmmeter
	-OR1			0 to 19.999 Ω
	-OR2			0 to 199.99 Ω
	-OR3			0 to 1.999 kΩ
	-OR4			0 to 19.999 kΩ
		*		(Nothing, leave field blank) 115 Vac, 50/60 Hz
		-C1		230 Vac, 50/60 Hz
		-C3C		Isolated 9 to 32 Vdc
		-C3E		Isolated 26 to 56 Vdc
			*	(Nothing, leave field blank) red LED display
		-G		Green LED display
				(Nothing, leave field blank) no option

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

Ordering Examples: DP3002-OR2, 4½ digit ohmmeter, 115 Vac power, resistance 0 to 199.99 Ω.