

# Ohmmeter Indicator/ Controller

1/8 DIN

## Q2000-O Series



Q2000-OOR1  
Meter shown smaller  
than actual size.

- ✓ 1999 or 9999 Count Display Span
- ✓ 19.99  $\Omega$  or 19.99 k $\Omega$  Ranges for Q2000
- ✓ 999.9  $\Omega$  or 9.999 k $\Omega$  Ranges for Q9000
- ✓ Front-Panel Accessible Zero and Span Adjust
- ✓ 1 mV or 0.1 mV/Count Analog Output
- ✓ LED or LCD Display
- ✓ Display Hold and Test
- ✓ Screw-Terminal Barrier Strip

The Q2000/9000-O is a panel mount resistance meter with direct readout in ohms. Resistance ranges are jumper selectable. It is complete with current excitation and open resistance detection. With the addition of analog and control outputs, it can be incorporated as a system component in ATE and closed-loop control applications.

### Power and Display Options

Six types of power supplies are available: 120 Vac, 240 Vac, 24 Vac, 5 Vdc, isolated 9 to 32 Vdc and isolated 26 to 56 Vdc. An LED display is standard, an LCD display is optional and is recommended for viewing in bright ambient light. A NEMA (IP65) 4 splash-proof lens cover is available.

Signal input and power connections are made via a rear barrier terminal strip. The motherboard rear edge connector provides access to hold and test, polarity, clock, and the standard analog output and optional analog outputs. Decimal point positions can be selected by jumpers.

### Analog Output Options

A 1 mV/count ( $\pm 2$  V full-scale) or 0.1 mV/count ( $\pm 1$  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 plugin board. Available output signals are 0 to 5 Vdc, 0 to 10 Vdc, 0 to 1 mA (source or sink) and 4 to 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 to 20 mA proportional control (source or sink), time-proportional 2 A solid-state relay control, and isolated, parallel BCD output.

### Specifications

#### Input Configuration

**Connection:** 2- or 4-wire

**Zero Adjustment:**  $\pm 50$  counts

**Overvoltage Protection (Differential):** 15 Vp

**Open-Circuit Voltage (maximum):** 12V

#### Conversion

**Input Configuration:** Differential, bipolar

**Technique:** Dual slope, average value

**Polarity:** Automatic

**Signal Integration Period:** 100 ms, nominal

**Reading Rate:** 2.5/s, nominal

#### Accuracy at 25°C

**Overall Accuracy:**  $\pm 0.05\%$  of reading  $\pm 1$  count

**Span Tempco:**  $\pm 0.006\%$  of reading/ $^{\circ}\text{C}$

**Zero Tempco:**  $\pm 2.5$  m/ $^{\circ}\text{C}$   $\pm 0.001\%$  of full scale/ $^{\circ}\text{C}$

**Warmup to Rated Accuracy:** 1 min

## Display

**LED:** Red, 14.2 mm (0.56"), 7-segment

**LCD:** 12.7 mm (0.50"), 7-segment

## Power

**AC Models:** 120, 240, or 24 Vac 10%/-15%, 49 to 440 Hz

**DC Models:** 9 to 32 Vdc, isolated to 300 Vp; 26 to 56 Vdc, isolated to 300 Vp; 5 Vdc  $\pm 5\%$ , non-isolated

## Common Mode

**Voltage:** 1500 Vp test (354 Vp per IEC spacing)

**Rejection (DC to 60 Hz):** 120 dB

## Environmental

**Operating Temperature:** 0 to 60°C (32 to 140°F)

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

**Humidity:** 95% RH, non-condensing @ 40°C (104°F)

## Mechanical

**Bezel:** 96 W x 48 H x 8 mm D (3.78 x 1.89 x 0.31")

**Depth Behind Bezel:** 139.8 mm (5.50")

**Panel Cutout:** 92 W x 45 mm H (3.62 x 1.77")

**Weight:** 17 oz (480 g)

**Case Material:** 94 V-0 UL-rated polycarbonate

## DC Currents Inputs

## O Series

Code *	Q2000 Range	Q9000 Range	Q2000 Res	Q9000 Res	EXC CURR	ACC
OOR1	19.99 $\Omega$	9.999 $\Omega$	10 m $\Omega$	-	4.2 mA	$\pm 0.05\%$ of reading count
OOR2	199.9 $\Omega$	99.99 $\Omega$	100 m $\Omega$	-	4.2 mA	
OOR3	1.999 k $\Omega$	999.9 $\Omega$	1 $\Omega$	100 m $\Omega$	420 $\mu$ A	
OOR4	19.99 k $\Omega$	9.999 k $\Omega$	10 $\Omega$	1 $\Omega$	42 $\mu$ A	

**Ordering Example:** Q2000-OOR3, LED 120 Vac, 1mV/count, DC current input 0 to 1.999 k $\Omega$ .

## To Order Visit [newportUS.com/q2000o](http://newportUS.com/q2000o) for Pricing and Details

Model No.	Description
Q2	3½-Digit for 1999 Count
Q9	4-Digit for 9999 Count
0	<b>A. Power and Display</b>
0	LED; 120 Vac (50/60 Hz)
1	LCD; 120 Vac (50/60 Hz) (Q2000 only)
2	LED; 240 Vac (50/60 Hz)
3	LCD; 240 Vac (50/60 Hz) (Q2000 only)
4	LED; 9 to 32 Vdc, isolated
5	LCD; 9 to 32 Vdc, isolated (Q2000 only)
6	LED; 5 Vdc
7	LCD; 5 Vdc (Q2000 only)
8	LED; 24 Vac
9	LCD; 24 Vac (Q2000 only)
A	LED; 26 to 56 Vdc, isolated
B	LCD; 26 to 56 Vdc, isolated (Q2000 only)
	<b>B. Analog Outputs</b>
0	1 mV/count (Q2000) or 0.1 mV (Q9000) (supplied on all units)
1	0 to 5 Vdc
2	0 to 10 Vdc
3	0 to 1 mA (internally driven)
4	4 to 20 mA (internally driven)
5	4 to 20 mA (externally driven)
6	4 to 20 mA (isolated)
	<b>C. Control Outputs</b>
0	None
1	Dual setpoint, 10 A relay (SPDT)
2	Proportional 4 to 20 mA
3	Proportional/time proportioning, 2 A relay
4	Parallel BCD, isolated
5	Single setpoint, 10 A relay (SPDT)
	<b>D. Signal Conditioner Inputs</b>
-O(*)	Ohmmeter
	<b>Additional Options</b>
,G	Green LED display
,BL	Lens without Newport logo in lieu of standard lens

\* Refer to chart above for code options.

**Ordering Example:** Q2000-OOR1, 3½ digit ohmmeter, red LED display, 120 Vac power, 1mV/count, DC current input 0 to 19.99  $\Omega$ .