

5-DIGIT PRECISION STRAIN GAGE INDICATORS WITH EXCITATION SUPPLY

DP80 Series



Visit omega.com for the complete selection of process sensors and transducers available from OMEGA

DP87, \$729, shown smaller than actual size, with LC101, load cell, \$305, page F-51, and PX610, pressure transducer, \$515, page B-44. Transducers sold separately.

Starts at
\$729



DP80 Series meters are available in single and dual width, and benchtop configurations.

- ✓ High Accuracy: 0.01% FS
- ✓ Precise Digital Scaling on Front-Panel Keypad
- ✓ 3-Character Alphanumeric Display of Engineering Units
- ✓ Plug-In Options Include Alarms, Math, Analog Outputs, RS232C/20 mA, and DC Power
- ✓ Up to 1 $\mu\text{V}/\text{Count}$ Sensitivity
- ✓ Lockout Switch Prevents Unauthorized Program Tampering
- ✓ Power Cord Included

The OMEGA® DP80 Series digital strain gage indicators demonstrate impressive compatibility with lower-output, bonded-foil-type transducers, as well as with higher-output semiconductor-type transducers (up to 1000 mV). The user can select 1 of 4 input ranges. The front-panel membrane keypad facilitates accurate digital scaling, eliminating any DIP switches, pot adjustments, or reference standards. This allows for drift-free scaling to precise engineering units and decimal location. The display features 3 alphanumeric LED digits for engineering units (e.g., psi, kg, lb), which can be assigned as dead zeros.

The DP80 also has primary and secondary engineering units displays, both of which can be selected on the front panel. If alarm points are set up in pounds (lb) on the primary display, the instrument will convert the alarm point to kilograms (kg) if the secondary display is active. The system can be calibrated by using 3-point "live" load (actual weight on scale) or by entering the appropriate transducer sensitivity (mV/V). Programmable functions include voltmeter conversion; auto-zero; and rounding of digits by 1, 2, 5, 10, or 100 counts. Optional features include alarms, math, analog outputs, RS232C/20 mA, and DC power.

ACCURATELY MEASURE PRESSURE, STRAIN, FORCE, LOAD, THRUST, AND TORQUE



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

SPECIFICATIONS

Excitation Supplies:

DP87: 5, 10 and 15V; switch selectable, isolated; drives 2 parallel 350 Ω strain gages @ 15V (90 mA)

DP88: 5, 10, 15 and 20V; switch selectable, isolated; drives 8 parallel 350 Ω strain gages @ 15V (350 mA)

Accuracy: 0.01% FS, ±1 digit

Repeatability: ±1 digit

Zero Offset: Entire input range

Zero Stability: 0.5 μV/°C; no measurable drift with time

Span Stability: 0.005% of reading/°C; 0.1% of reading per year

Normal-Mode Noise Rejection: >60 dB @ 50/60 Hz

Common-Mode Noise Rejection: >120 dB @ 50/60 Hz input impedance; >10 MΩ to 500 MΩ depending on range

Display: 8-digit, 14-segment, alphanumeric LEDs; 14 mm (0.54") high; one negative (-) LED digit at left

Display Count Rate: ±100,000 active

Reading Rate: 2 readings per second

Overload Protection: 270 Vdc/Vac RMS across inputs and input to ground; power lead to ground 1500 Vdc/Vac RMS

Ambient Operating Conditions: 0 to 50°C (32 to 122°F); 0 to 90% RH, non-condensing

Storage Temperature: -40 to 65°C (-40 to 149°F)

Input Connections: AC power, quick-connect; DC power and sensors, screw terminals; RS232C, DB25 connector

Case Construction: Metal, black anodized, extruded aluminum

Power: 90 to 132 Vac; 48 to 400 Hz

Weight: DP87, 1.8 kg (4 lb); DP88/DP89, 2.7 kg (6 lb) without options

Dimensions:

DP87: 67 H x 136 W x 250 mm D (2.64 x 5.35 x 9.84"), cutout 68 H x 138 mm W (2.67 x 5.43"), bezel 72 x 142.5 mm (2.83 x 5.61")

DP88/DP89: 67 H x 272 W x 250 mm D (2.6 x 10.71 x 9.84"), cutout 68 H x 274 mm W (2.67 x 10.79"), bezel 72 x 284 mm (2.83 x 11.18")

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

MODEL NO.	DESCRIPTION	PRICE	SELECTABLE INPUT RANGE	FULL SCALE DISPLAY	
				MIN GAIN	MAX GAIN
DP87*	Single width	\$729	-15 to 100 mV	0.01 cts/mV	1000 cts/mV
DP88*	Double width panel mount	899	-30 to 200 mV	0.05 cts/mV	500 cts/mV
DP89*	Double width benchtop	899	-75 to 500 mV	0.02 cts/mV	200 cts/mV
			-150 to 1000 mV	0.01 cts/mV	100 cts/mV

Comes complete with power cord and operator's manual.

* DP87 can accommodate 1 additional option. DP88 and DP89 can accommodate up to 4 additional options.

OPTIONS

To Order (Specify Model Number)

MODEL NO.	PRICE	DESCRIPTION
DP80-ALM	\$169	Alarms, dual limits (up to 2 per unit), selectable hysteresis and alarm delay
DP80-AOV	189	Analog output, 0 to 10 Vdc isolated, linearized and scalable (N/A DP80-AOC)
DP80-AOC	189	Analog output, 4 to 20 mA isolated, linearized and scalable (N/A DP80-AOV)
DP80-MTH	99	Math, min, max, average, rate of change
DP80-SER**	189	RS232C/20 mA serial output

** Selectable baud rate from 300 to 9600. Includes DB25 mating male connector.

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Ordering Example: DP89, double-width benchtop strain gage indicator, DP80-ALM, alarm capability, DP80-SER, RS232C communications output, \$899 + 169 + 189 = **\$1257**. OCW-1, OMEGACARESM extends standard 1-year warranty to a total of 2 years (**\$125**), \$1257 + 125 = **\$1382**.

Recommended Reference Book: Handbook of Systems Engineering, **EE-2530, \$255**
See Section Y For Additional Books





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• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters