



Microprocessor Based Portable Datalogger



OM-2000 Series

\$1999

- ✓ 1 to 6 Channel Recording Capability
- ✓ Each Channel is Individually Programmable for any of 9 Different Thermocouple Types or DC Voltage
- ✓ Rugged, Compact, Battery Powered
- ✓ Memory Card Operation for Additional Data Storage
- ✓ RS-232C Communications Interface
- ✓ 4½ Digit Backlit LCD Display
- ✓ Analog Output

The OM-2000 Series Microprocessor Based Portable Dataloggers accept up to 6 input channels of data. Each input channel is individually programmable from the front panel of the datalogger for any of 9 different thermocouple types or three DC voltage ranges. No plug-in input signal conditioning modules are required. OM-2000 Series dataloggers can be powered by the ac adapter or the internal Ni-Cd battery. Battery operation allows field measurements where no AC power is available. Electroluminescent backlighting gives you an easily read display even in poorly lit areas.

Features

Differential Measurement Function
Lets you select one channel as the reference and read the difference between the measured and reference channels on the datalogger's LCD display.



OM-2010 shown with charger, carrying case, and optional memory card. Thermocouple probes sold separately.

Logging Mode

The logging function lets you use the OM-2000 Series datalogger with up to six input channels. Up to 23 logging function groups can be set up, with free selection of measurement interval, logging period and individual channel ranges. Logging period can be as long as one month. Internal memory stores up to 13,951 readings. With a 64K bytes memory card, up to 30,302 readings can be stored.

Memory Read Mode

Reads stored data back from the memory to the display. Lets you pause temporarily during readback and step through data. Also lets you identify a measurement time by displaying time of day or elapsed time after logging start.

Memory Card Operation

Data saved on the memory card can be played back on an OMEGA® RD3720 or RD3750 Series recorder equipped with a memory card interface. The RD3720 can be used with any of the memory cards available. The RD3750 requires the 64K memory card.

Analog Output Function

A single channel's readings can be output to a recorder or other instrument as an analog output signal of 0.1 mV/digit. In manual measurement and memory read modes, outputs data for any selected channel. In logging mode, outputs data for Channel 1.

Data Transmission via RS-232C

The RS-232C port lets you transmit stored data from memory or real-time measurements (real time transmission only with OM-2020 isolated model) when in the logging mode.

Applications Software

The OMEGA® OM-2000 Series portable datalogger system includes software that enables you to acquire and review your data in ASCII columnar format and transfer it to other software products such as Lotus 123. The software is designed to operate on IBM PC/XT/AT or compatible computers running MS-DOS 2.1 or higher.

Specifications

GENERAL

Input Types and Ranges: See table

No. of Channels: 6

Input Type: Non-isolated direct coupling input (model OM-2010); isolated floating input (model OM-2020)

Functions: Manual measurement, logging and memory read modes

Reference Junction Compensation

Accuracy: $\pm 0.5^{\circ}\text{C}$ ($23 \pm 5^{\circ}\text{C}$, input terminals calibrated); $\pm 0.8^{\circ}\text{C}$ (5 to 40°C , input terminals calibrated)

Input Terminal Type: Screw terminals

Input Resistance:

10V range, approx. 1 MOhm; other ranges, approx. 4.7 MOhm

Analog Output:

Output voltage, 0.1 mV/digit; accuracy, $\pm 1\text{mV}$ (at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

Memory Capacity: With internal S-RAM, 13951 data points (using one label, one channel). With 64K memory card, 30,302 data points (using one label, two channels). Data is written to memory in logging mode only.

Data Transmission: RS-232C, 1200 baud. For Model OM-2010 (non-isolated model), data can be transmitted during memory read mode only. For Model OM-2020 (isolated model), data can be transmitted during both logging and memory read modes.

Display: $4\frac{1}{2}$ digit backlit LCD

Operating Temperature:

41 to 104°F (5 to 40°C); 20-80% relative humidity, non-condensing

Storage Temperature:

-29 to 140°F (-20 to 60°C)

Isolation: 1500 VAC for 1 minute between AC power line and input/output terminals using AC adapter; 500 VDC for 1 minute (model OM-2020 only) between input terminals and output terminals, and between input terminals and case

Power: AC adapter and internal Ni-Cd battery

Battery Operation: approx. 40 hrs (model OM-2010); approx. 13 hrs (model OM-2020)

Recharge Time: approx. 16 hrs

Dimensions: 10.13" W x 7.19" H x 1.56" D (257 x 182 x 40 mm)

Weight: 2.64 lbs (1.2 kg)

Manual Measurement Mode

Sample Rate: Approx. 1.6 sec ("HOLD" possible)

Channel and Range:

Manually selected

Difference Function:

Indicates difference between and two channels (on same range only)

Logging Mode

Memory Labels (Sessions):

1 to 23. Display shows memory remaining and number of data in memory for selected label

Channel and Range: Can be freely selected (channel skip is supported)

Measurement Interval:

10 seconds to 60 minutes
50 seconds (in 10-second steps); six channel sampling takes a maximum of 2.7 seconds plus 7.3 seconds for internal computation processing

Logging Period:

1 minute to 31 days 23 hours 59 minutes (in 1-minute steps)



Memory Read Mode: Memory

Data Selection: By specifying memory label and displaying data of selected channel (display by elapsed time also supported)

Memory Data Stepping:

Auto step (1-second interval), fast forward, step forward, step back

Input Types and Ranges

Range	Measuring Range	Resolution	Accuracy*
K	-200.0 to 1372.0°C -328.0 to 1999.9°F	0.1 $^{\circ}\text{C}$ 0.2 $^{\circ}\text{F}$	$\pm(0.1\%$ of rdg + 0.5°C) $\pm(0.1\%$ of rdg + 1.0°F)
E	-200.0 to 700.0°C -328.0 to 1292.0°F		
J	-200.0 to 1000.0°C -328.0 to 1832.0°F		
T	-200.0 to 400.0°C -328.0 to 752.0°F		
U (T-DIN)	-200.0 to 600.0°C -328.0 to 1112.0°F		
L (J-DIN)	-200.0 to 900.0°C -328.0 to 1652°F		
R	-40 to 1769°C -40 to 3216°F	1 $^{\circ}\text{C}$ 1 $^{\circ}\text{F}$	$\pm(0.1\%$ of rdg + 2°C) $\pm(0.1\%$ of rdg + 4°F)
S	-50 to 1769°C -58 to 3216°F		
B	400 to 1820°C 752 to 3308°F		
10 V	0 to $\pm 11.999\text{ V}$	1 mV	$\pm(0.07\%$ of rdg + 0.03% of range)
1 V	0 to $\pm 1199.9\text{ mV}$	100 μV	
100 mV	0 to $\pm 119.99\text{ mV}$	10 μV	

*Accuracy at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ within 180 days after calibration. Reference junction compensation accuracy is not included for thermocouple ranges. Internal reference junction compensation circuit can be turned ON and OFF for thermocouple ranges.

Accessories

Model Number	Price	Description
OM2000-120VAC	\$20	120 VAC adapter
OM2000-230VAC	30	230 VAC adapter
OM2000-CC	50	Carrying case
OM2000-AO	15	Analog output cable
OM2000-DC	5	Dummy card for memory card slot (dust cover)
OM2000-RS232-25F	50	RS-232C Cable, 6' length, DB25F termination
OM2000-RS232-9F	50	RS-232C Cable, 6' length, DB9F termination
OM2000-MC8K	45	8K Memory Card (2778 samples, 6 channels, 1 session)
OM2000-MC16K	70	16K Memory Card (6876 samples, 6 channels, 1 session)
OM2000-MC64K	150	64K Memory Card (30174 samples, 6 channels, 1 session)
OM2000-BP	35	Replacement Ni-Cad battery pack

To Order (Specify Model Number)

Model Number	Price	Description
OM-2010	\$1999	Datalogger, non-isolated direct coupling inputs
OM-2020	2099	Datalogger, isolated floating inputs

OM-2010 and OM-2020 dataloggers are supplied with 120 Vac adapter, analog output cable, carrying case, communications software and complete operator's manual. RS-232C cable sold separately