

## Portable Low-Cost Data Loggers Part of the NOMAD® Family

### OM-PL Series



- ✓ Measure and Record Temperature, Relative Humidity, Pressure, 4 to 20 mA, AC Voltage, and AC Current
- ✓ Selectable Sample Rate: 1 Second to 18 Hours (1-Second Increments)
- ✓ Real-Time Data Monitoring
- ✓ High/Low Alarm Threshold Settings
- ✓ Visual Alarm Indication
- ✓ User-Selectable Recording Start (Specified Date and Time, Immediately After Setup, or on Door Close)
- ✓ 20-Month Battery Life (at 1-Minute Sample Rate)

The OM-PL Series data loggers are versatile devices that can be used for a wide range of logging applications. Each data logger is capable of sampling data as fast as once per second or as slow as once every 18 hours. The data logger can stop recording when memory becomes full or rollover for continuous recording. The start of recording is software selectable to be immediate, delayed, or initiated when the data logger door is closed.

The data logger can also be used to monitor high and low alarm events, which indicate if the recorded data passed above and/or below the user-selected threshold. The alarm events are stored separately from the data samples and are not affected by data rollover. When the recorded data passes the high or the low alarm threshold, the data logger records the time of the alarm.



OM-PLT2 shown smaller than actual size.

When the recorded data returns to within the acceptable range, the data logger records the duration of the alarm. Up to 50 such alarm events can be recorded. The data logger has a visual indication of an alarm condition without the need to connect to the computer.

All OM-PL Series data loggers have an internal real-time clock/calendar. This real-time clock is used to record the time stamps for data samples and alarm events. It is independent of the computer clock and can be set separately, or set to match the computer clock.

These data loggers provide a high level of data security. They have physical security, when the data access door is locked, as well as software security. It is virtually impossible to falsify sample data or alarm information of OM-PL Series data loggers. Their power requirement is very low: under normal operating conditions, a 9-volt alkaline battery will last 18 months to 2 years.

OM-PL Series data loggers have the capacity to store over 10,000 readings. Simply connect the data logger to your PC's serial port and use the available Windows software to set up parameters for your recording session. Once the data logger is set up, you can disconnect it and put it in the field to record data. The data logger door can be locked on to prevent accidental or intentional disruptions of the recording session. When recording is completed, reconnect the data logger to your PC and download the recorded data using the Windows software. The Windows software allows you to view recorded data in text or graphical format. OM-PL models are available to record internal temperature and an external temperature channel (OM-PLT2); two external temperature channels (OM-PLTT); temperature, humidity and dew point (OM-PLTH); temperature and pressure (OM-PLPT); AC current and voltage (OM-PLCV); 4 to 20 mA (OM-PL420); and internal temperature and an external thermocouple input (OM-PLTC).

## Specifications

### GENERAL

**Operating Temperature Range (Data Logger):** 0 to 60°C (32 to 140°F) using alkaline battery; -40 to 65°C (-40 to 150°F) using lithium battery

### Humidity:

0 to 95% RH, non-condensing

### Storage Temperature:

-40 to 77°C (-40 to 170°F)

**Time Accuracy:** ±100 ppm @ 75°F

**Power:** 9 V alkaline or lithium battery

### Battery Life (Average Use):

20 months using alkaline battery,

40 months using lithium battery

**Dimensions:** 7.6 W x 6.4 H x 2.8 cm D (3 x 2.5 x 1.1")

**Weight:** 71 g (2.5 oz)

**Software:** Windows XP/Vista/7 and 8 (32-bit and 64-bit)

**Measurement Interval:** 1 sec to 18 hr (selectable in 1-second increments)

**Computer Interface:** RS-232 standard; for computers with only a USB port, use model no.

OM-PL-USBS (RS-232/USB adaptor)



OM-PLTT shown smaller than actual size.

### OM-PLTT DUAL TEMPERATURE DATA LOGGER

**Channels:** Two external temperature channels

**Sample Point Capacity:** 21,500 temperature points for single channel (1 probe); 10,750 temperature points per channel for dual channel (2 probes)

**Alarms:** High and low alarms for each probe

### External Probe Temperature

**Range:** -46 to 150°C (-50 to 300°F)

**Accuracy:** ±1°C (±2°F)

**Resolution:** 0.05 °C (0.1°F)

**Probe:** 76 mm (3") stainless steel tip, 1.8 m (6') cable

**Calibration:** Single point offset calibration available through software



OM-PLT2 shown smaller than actual size.

### OM-PLT2 TEMPERATURE DATA LOGGER

**Channels:** One internal temperature channel and one external temperature channel

**Sample Point Capacity:** 21,500 points for single channel; 10,750 points per channel for dual channel

**Alarms:** High and low alarms for internal and external channel

**Temperature Range:** Internal sensor: 0 to 60°C (32 to 140°F) with alkaline battery, -40 to 65°C (-40 to 150°F) with lithium battery; external sensor: -40 to 65°C (-40 to 150°F)

**Accuracy:** ±0.5°C (±1.0°F)

**Resolution:** 0.05°C (0.1°F)

### External Probe Temperature

**Range:** -40 to 65°C (-40 to 150°F)

**Calibration:** Single point offset calibration available through software



OM-PLTH shown smaller than actual size.

### OM-PLTH TEMPERATURE/HUMIDITY DATA LOGGER

**Channels:** Two internal channels (temperature and humidity); two calculated channels (dew point and wet bulb)

**Sample Point Capacity:** 21,500 for temperature only; 10,750 points for temperature, humidity and dew point

**Alarms:** High and low alarms for temperature and humidity

**Temperature Range:** 0 to 60°C (32 to 140°F) with alkaline battery, -40 to 65°C (-40 to 150°F) with lithium battery

**Temperature Accuracy:** ±1°C (±2°F)

**Resolution:** 0.05°C (0.1°F)

### Relative Humidity Range:

0 to 99.9% RH, non-condensing

### Relative Humidity Accuracy:

±2% full scale, from 0 to 95% RH for temperatures between 0 and 60°C (32 to 140°F)

### Relative Humidity Resolution:

0.1% RH

**Calibration:** Single point offset calibration available through software; humidity is factory calibrated



OM-PLPT shown smaller than actual size.

### OM-PLPT PRESSURE AND TEMPERATURE DATA LOGGER

**Channels:** Two external channels (temperature and pressure)

**Sample Point Capacity:** 21,500 points for temperature or pressure; 10,750 points for both pressure and temperature

**Alarms:** High and low alarms for temperature and pressure

**Temperature Range:** -40 to 65°C (-40 to 150°F)

**Temperature Accuracy:** ±0.5°C (±1°F)

**Resolution:** 0.05°C (0.1°F)

**Temperature Probe:** -40 to 65°C (-40 to 150°F)

**Pressure Range:** 0 to 500 psi

**Pressure Accuracy:** ±3 psi

**Pressure Resolution:** 0.15 psi

**Pressure Sensor:** Stainless steel sensor, 1.8 m (6') cable, ¼ NPT male pressure port

**Operating Temperature Range (Pressure Sensor):** 0 to 54°C (32 to 130°F)

**Calibration:** Single point offset calibration available through software; pressure is factory calibrated



OM-PLTC shown smaller than actual size.

## OM-PLTC THERMOCOUPLE DATA LOGGER

**Channels:** Two channels, one for internal ambient temperature and one for external thermocouple input

**Measurement Capacity:**

10,750 points for both internal temperature and external thermocouple input

**Thermocouple Types**

**(External Channel):**

J, K, T, E, R, S (software selectable)

**Thermocouple Temperature**

**Ranges:**

**Type J:** -79 to 732°C (-110 to -1350°F)

**Type K:** -140 to 1038°C (-220 to 1900°F)

**Type T:** -148 to 349°C (-235 to 660°F)

**Type E:** -59 to 560°C (-75 to 1040°F)

**Type R:** 0 to 1449°C (32 to 2640°F)

**Type S:** 0 to 1449°C (32 to 2640°F)

**Thermocouple Connection:**

Subminiature female thermocouple jack

**Accuracy (Thermocouple Channel):**

**Type J, K, T:**  $\pm 0.8^{\circ}\text{C}$  ( $\pm 1.5^{\circ}\text{F}$ )

**Type E:**  $\pm 0.6^{\circ}\text{C}$  ( $\pm 1.0^{\circ}\text{F}$ )

**Type R, S:**  $\pm 2.8^{\circ}\text{C}$  ( $\pm 5^{\circ}\text{F}$ )

**Resolution (Thermocouple Channel):**

0.05°C (0.1°F)

**Accuracy (Internal Channel):**

$\pm 1^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{F}$ )

**Resolution (Internal Channel):**

0.05°C (0.1°F)

**Alarms:** High and low alarms for thermocouple and ambient temperature

**Calibration:** Single point offset calibration available through software for both internal ambient channel and external thermocouple channel



OM-PLCV shown smaller than actual size



OM-PL420 shown smaller than actual size.

## OM-PL420

### 4 to 20 MA DATA LOGGER

**Channels:** One 4 to 20 mA input

**Measurement Capacity:**

21,500 points

**Alarms:** High and low alarms

**Input Current Range:** 0 to 40 mA

**Current Accuracy:**  $\pm 0.05$  mA

**Current Resolution:** 0.01 mA

**Calibration:** Single point offset calibration available through software

## OM-PLCV CURRENT AND VOLTAGE LOGGER

**Channels:** Two channels, one for AC current (measured using supplied current probe) and one for AC voltage

**Sample Point Capacity:** 21,500 points for current or voltage; 10,750 points for both current and voltage

**Alarms:** High and low alarms for current and voltage

**Current Range:** 0 to 300 Aac

**Current Accuracy:**  $\pm 5\%$

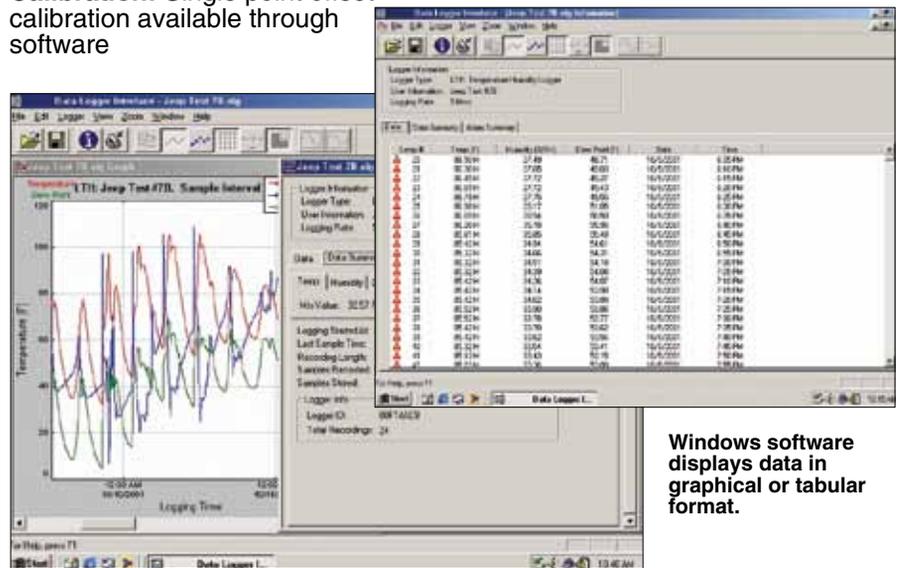
**Current Resolution:** 0.1 Aac

**Voltage Range:** 0 to 500 Vac

**Voltage Accuracy:**  $\pm 1$  Vac

**Voltage Resolution:** 0.1 Vac

**Calibration:** Single point offset calibration available through software; current and voltage are factory calibrated



Windows software displays data in graphical or tabular format.

## OM-PL SERIES LOGGER INTERFACE SOFTWARE SPECIFICATIONS

### Sampling Interval:

User-selectable from 1 second to 18 hours, in 1-second increments

**Interface:** COM (RS232) serial port. Software supports COM1 through COM8. Optional USB interface (model no. OM-PL-USBS).

**Alarms:** Visual alarms with user-selectable low and high thresholds for every channel

**Alarm Memory:** Up to 50 alarm events. Alarm start time and alarm duration are stored

**Data Security:** Locking sliding door prevents physical access to the logger data. Unique factory set logger ID. Data collection session counter.

**Compatibility:** Windows XP/Vista/7 and 8 (32-bit and 64-bit)

**Minimum System Requirements:** 8MB of RAM, 2 MB of disk space, 800 x 600 resolution, 1 free COM port or a free USB port (optional USB interface is required: Model OM-PL-USBS)

**Recording Start:** On door close, immediately after setup, or at a user-specified date and time

**Recording Mode:** Stop on memory full or continuous recording with memory rollover

**Real-Time Status:** Visual indication through the status LED. User-selectable status display frequency and LED brightness, software real-time status

**User Calibration:** Password-protected calibration for each channel

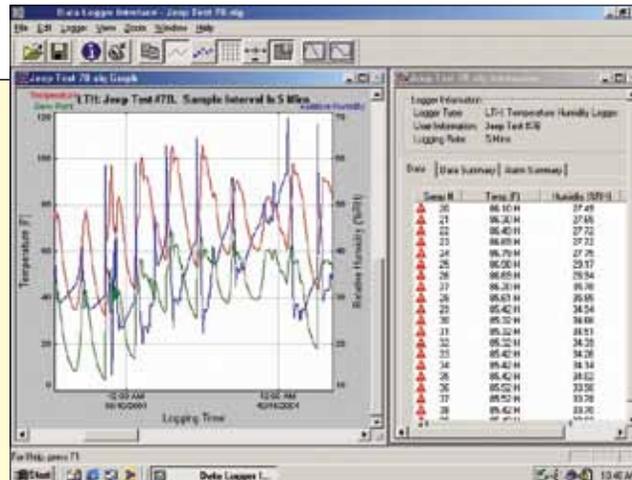
**User Message:** Up to 30 characters

**Logger Channels:** User selectable. Disabling channels increases the storage capacity of the other channels.

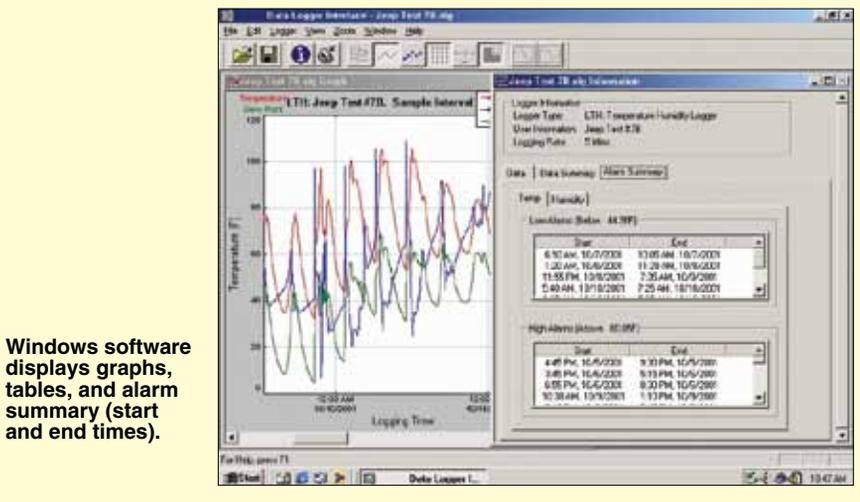
**Units:** US and Metric (user-selectable units)

**Data Format:** Custom format exportable to text or Excel spreadsheet

**Real-Time Monitoring:** Logger can be permanently connected to the computer and used as a real-time, multichannel sensor with logging capability. Battery does not drain when logger is connected to the computer



Windows software displays data in graphical or tabular format.



Windows software displays graphs, tables, and alarm summary (start and end times).

## To Order

Model No.	Description
OM-PLT2	Temperature data logger
OM-PLTT	Dual-temperature data logger
OM-PLTH	Temperature and humidity data logger
OM-PLPT	Pressure and temperature data logger
OM-PLCV	AC current and voltage data logger
OM-PL420	4 to mA data logger
OM-PLTC	Thermocouple data logger
OM-PLLS	Windows software, 1.8 m (6') RS232 cable and adaptor
OM-PL-USBS	USB to RS232 converter

All data loggers are supplied with complete operator's manual. **OM-PLT2** includes one external temperature sensor (4.6 m [15'] cable, epoxy-coated tip). **OM-PLTT** includes two external temperature probes (1.8 m [6'] cable, 76 mm [3"] long stainless steel probe with penetration tip). **OM-PLPT** includes one external temperature sensor (4.6 m [15'] cable, epoxy coated tip) and one pressure transducer (1.8 m [6'] cable, stainless steel pressure transducer with 1/2 NPT male pressure port). **OM-PLCV** includes AC current clamp and set of voltage test leads. **OM-PLTC** includes 1 m (3') long beaded wire Type K thermocouple with subminiature male connector.

**Ordering Example:** **OM-PLTT**, dual-temperature data logger, **OCW-1** OMEGACARE<sup>SM</sup>, 1-year extended warranty for **OM-PLTT** (adds 1 year to standard 1-year warranty), and **OM-PLLS** Windows software with RS232 cable.



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