

User's Guide

Instruction Sheet

Shop online at

omega.com[®]

Ω OMEGA[®]

omega.com

e-mail: info@omega.com

For latest product manuals:

omegamanual.info



ISO 9001
CERTIFIED
CORPORATE QUALITY

STAMFORD, CT

ISO 9002
CERTIFIED
CORPORATE QUALITY

MANCHESTER, UK

OM-EL-USB-2-PLUS

**HIGH ACCURACY HUMIDITY, TEMPERATURE AND
DEW POINT DATA LOGGER**



OMEGAnet® Online Service omega.com	Internet e-mail info@omega.com
---	---

Servicing North America:

U.S.A.:
ISO 9001 Certified

One Omega Drive, P.O. Box 4047
Stamford, CT 06907-0047
TEL: (203) 359-1660 FAX: (203) 359-7700
e-mail: info@omega.com

Canada:

976 Bergar
Laval (Quebec) H7L 5A1, Canada
TEL: (514) 856-6928 FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

U.S.A. and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
Customer Service: 1-800-622-2378 / 1-800-622-BEST®
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico:

En Español: (001) 203-359-7803 e-mail: espanol@omega.com
FAX: (001) 203-359-7807 info@omega.com.mx

Servicing Europe:

Benelux:

Postbus 8034, 1180 LA Amstelveen, The Netherlands
TEL: +31 (0)20 3472121 FAX: +31 (0)20 6434643
Toll Free in Benelux: 0800 0993344
e-mail: sales@omegaeng.nl

Czech Republic:

Frystatska 184, 733 01 Karviná, Czech Republic
TEL: +420 (0)59 6311899 FAX: +420 (0)59 6311114
Toll Free: 0800-1-66342 e-mail: info@omegashop.cz

France:

11, rue Jacques Cartier, 78280 Guyancourt, France
TEL: +33 (0)1 61 37 2900 FAX: +33 (0)1 30 57 5427
Toll Free in France: 0800 466 342
e-mail: sales@omega.fr

Germany/Austria:

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
TEL: +49 (0)7056 9398-0 FAX: +49 (0)7056 9398-29
Toll Free in Germany: 0800 639 7678
e-mail: info@omega.de

United Kingdom:
ISO 9002 Certified

One Omega Drive, River Bend Technology Centre
Northbank, Irlam, Manchester
M44 5BD United Kingdom
TEL: +44 (0)161 777 6611 FAX: +44 (0)161 777 6622
Toll Free in United Kingdom: 0800-488-488
e-mail: sales@omega.co.uk

It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

OM-EL-USB-2-PLUS

High Accuracy Humidity, Temperature and Dew Point USB Data Logger

ORDERING INFORMATION

Standard Data Logger OM-EL-USB-2-PLUS
(Data Logger, Software on
CD, Battery)

Replacement Battery OM-EL-BATT

FEATURES

- Higher accuracy sensor when compared with the OM-EL-USB-2
- 0 to 100%RH measurement range
- -35 to +80 °C (-31 to +176 °F) measurement range
- Dew point indication via Windows control software
- USB interface for set-up and data download
- User-programmable alarm thresholds for %RH & T
- Status indication via red and green LEDs
- Supplied with replaceable internal lithium battery and Windows control software
- Environmental protection to IP67

This standalone data logger measures and stores up to 16,382 relative humidity and 16,382 temperature readings over 0 to 100%RH and -35 to +80 °C (-31 to +176 °F) measurement ranges.

The user can easily set up the logger and view downloaded data by plugging the data logger into a PC's USB port and running the purpose designed software under Windows 2000, XP, Vista and 7. Relative humidity, temperature and dew point (the temperature at which water vapor present in the air begins to condense) data can then be graphed, printed and exported to other applications. The data logger is supplied complete with a long-life lithium battery, which can typically allow logging for 1 year.



Specifications		Minimum	Typical	Maximum	Unit
Relative Humidity	Measurement range	0		100	%RH
	Repeatability (short term)		±0.1		%RH
	Accuracy (overall error)		±2.0*	±4.0	%RH
	Internal resolution		0.5		%RH
	Long term stability		0.5		%RH/Yr
Temperature	Measurement range	-35 (-31)		+80 (+176)	°C (°F)
	Repeatability		±0.1 (±0.2)		°C (°F)
	Accuracy (overall error)		±0.3 (±0.6)	±1.5 (±3)	°C (°F)
	Internal resolution		0.5 (1)		°C (°F)
Dew Point	Accuracy (overall error)		±1.1 (±2)**		°C (°F)
Logging rate		every 10 s		every 12 hr	-
Operating temperature range		-35 (-31)		+80 (+176)	°C (°F)
1/2AA 3.6V Lithium Battery Life			1***		Year

* This specifies the overall error in the logged readings for relative humidity measurements between 10 and 90%RH.

** This specifies the overall error in the calculated dew point for relative humidity measurements between 40 and 100%RH at 25 °C.

*** Depending on sample rate and ambient temperature

www.omega.com

OM-EL-USB-2-PLUS

High Accuracy Humidity, Temperature and Dew Point USB Data Logger

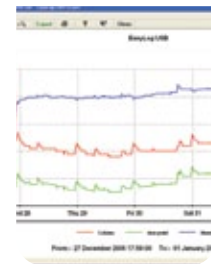
WINDOWS CONTROL SOFTWARE

Omega's EasyLog USB control software is supplied free of charge with each data logger. Easy to install and use, the control software runs under Windows 2000, XP (Home and Professional Editions), Vista and 7. The software is used to set-up the data logger as well as download, graph and export data to Excel.

The software allows the following parameters to be configured:

- Logger name
- °C, °F
- Logging rate (10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and low alarms
- Immediate and delayed logging
- Data rollover (allows unlimited logging periods by overwriting the oldest data when the memory is full)

The latest version of the control software may be downloaded free of charge from www.omega.com



LED FLASHING MODES

OM-EL-USB-2-PLUS features two bi-color LEDs; one LED represents temperature measurement (marked by °C / °F) and the other represents relative humidity (marked by %RH). To save power, the status indication alternates between the two channels every 10 seconds, i.e. the temperature channel flashes, and 10 seconds later the relative humidity channel flashes, repeating for the duration of logging activity.

RH% °C (°F)



10 seconds later

RH% °C (°F)



Green double flash

The data logger is not currently logging, but is primed to start at a later date and time (delayed start).



Green single flash

The data logger is currently logging. No alarm on the channel.



Red single flash

The data logger is currently logging. Low alarm on the channel.



Red double flash

The data logger is currently logging. High alarm on the channel.



Green triple flash

The data logger is full and has stopped logging. No alarm on the channel.



Red triple flash

The data logger is full and has stopped logging. Alarm (high, low or both).



No LEDs flash

The data logger is stopped, the battery is empty or there is no battery fitted.

www.omega.com

OM-EL-USB-2-PLUS

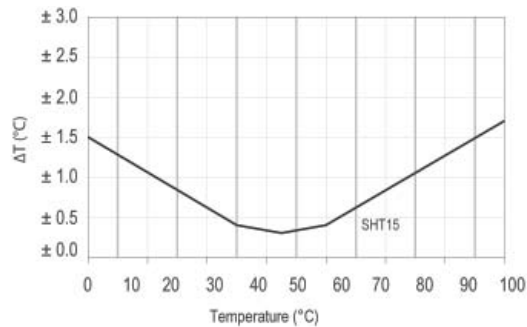
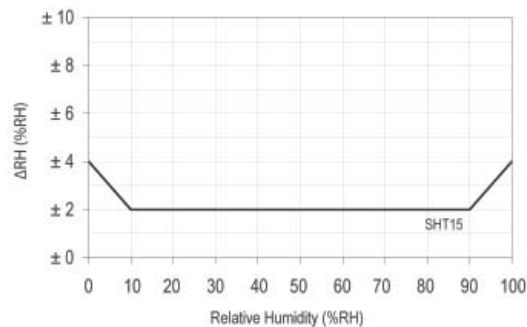
High Accuracy Humidity, Temperature and Dew Point USB Data Logger

DIMENSIONS

All dimensions in mm (inches)



MEASUREMENT ACCURACY



BATTERY REPLACEMENT

We recommend that you replace the battery every 12 months, or prior to logging critical data.

The OM-EL-USB-2-PLUS does not lose its stored readings when the battery is discharged or when the battery is replaced; however, the data logging process will be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to a PC.

Only use OM-EL-BATT lithium batteries. The battery is 'press fit' and is not fitted with solder tags. Before replacing the battery, remove the OM-EL-USB-2-PLUS from the PC.

Note:

Leaving the OM-EL-USB-2-PLUS plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.

OM-EL-USB-2-PLUS

High Accuracy Humidity, Temperature and Dew Point USB Data Logger

WARNING

Handle lithium batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.

CAUTION

Exposure of the internal sensor to chemical vapors such as those produced by some plastics and foamed materials may interfere with the internal sensor and cause inaccurate readings to be logged. In a clean environment, this will slowly rectify itself, therefore ensure that the logger is used in a ventilated area i.e. air exchange is allowed.

Exposure to extreme conditions or chemical vapors will require the following reconditioning procedure to bring the internal sensor back to calibration state. 80°C (176°F) at <5%RH for 36h (baking) followed by 20-30°C (70-90°F) at > 74% RH for 48h (re-hydration).

High levels of pollutants may cause permanent damage to the internal sensor.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2004 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? **OMEGA...Of Course!** *Shop online at omega.com*

TEMPERATURE

- ☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- ☑ Wire: Thermocouple, RTD & Thermistor
- ☑ Calibrators & Ice Point References
- ☑ Recorders, Controllers & Process Monitors
- ☑ Infrared Pyrometers

PRESSURE, STRAIN AND FORCE

- ☑ Transducers & Strain Gages
- ☑ Load Cells & Pressure Gages
- ☑ Displacement Transducers
- ☑ Instrumentation & Accessories

FLOW/LEVEL

- ☑ Rotameters, Gas Mass Flowmeters & Flow Computers
- ☑ Air Velocity Indicators
- ☑ Turbine/Paddlewheel Systems
- ☑ Totalizers & Batch Controllers

pH/CONDUCTIVITY

- ☑ pH Electrodes, Testers & Accessories
- ☑ Benchtop/Laboratory Meters
- ☑ Controllers, Calibrators, Simulators & Pumps
- ☑ Industrial pH & Conductivity Equipment

DATA ACQUISITION

- ☑ Data Acquisition & Engineering Software
- ☑ Communications-Based Acquisition Systems
- ☑ Plug-in Cards for Apple, IBM & Compatibles
- ☑ Datalogging Systems
- ☑ Recorders, Printers & Plotters

HEATERS

- ☑ Heating Cable
- ☑ Cartridge & Strip Heaters
- ☑ Immersion & Band Heaters
- ☑ Flexible Heaters
- ☑ Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL

- ☑ Metering & Control Instrumentation
- ☑ Refractometers
- ☑ Pumps & Tubing
- ☑ Air, Soil & Water Monitors
- ☑ Industrial Water & Wastewater Treatment
- ☑ pH, Conductivity & Dissolved Oxygen Instruments