

OM-EL-2-IR

8 BIT PORTABLE DATALOGGER WITH INFRARED COMMUNICATIONS

INSTRUCTION
SHEET

M-3143

This datasheet should be read in conjunction with the OM-EL-2 datasheet

The OM-EL-2-IR data logger enables both InfraRed and/or RS232 communication between the logger and the PC or OM-EL-HL. OM-EL-2-IR is an easy method of measuring, displaying and recording temperature, humidity, pH, voltage, current, etc., with a memory for 8064 readings and a battery life of up to 3 years**. OM-EL-2-IR can operate as a 'stand alone' logger or be permanently connected to a system. The OM-EL-2-IR serial link is addressable and up to 8 loggers can be connected to one serial port. The PC software operates under Windows 3.1 and does not require specialist skill to operate. Data output is in text format and can be easily integrated into any popular spreadsheet. Graphical output is possible under OM-EL-WIN. Consult the EasyLog software manual for further details.

- RS232 and InfraRed Communications
- Uses IrDA Communication Standard
- Multi-function
- Ideal For Use In Hazardous Environments
- No Extra Software Needed
- Line-of-sight Communication
- Battery Powered
- CE



InfraRed Communications		Model No OM-EL-2-IR		
Specification	Min	Typ	Max	Unit
Baud Rate		9600		bps
Communication Distance①	0		1/3.3	m/ft
Communication cone		±15		°
Current consumption of IR circuitry (on)	2	2.3	2.5	mA
Current consumption of IR circuitry (off)		0.1		µA

Note 1: Under normal lighting conditions

* Sensor dependent.

** Battery life dependent on input mode and sampling rate.

Hand Held Data Logger		Model No OM-EL-2-IR	
Specification	Range	Resolution	Accuracy
Temperature ('K' type thermocouple)	-25 to +200°C	1°C	±1°C
	-13 to +392°F	1°F	±2°F
Temperature (internal)	-10 to +50°C	1°C	±1°C
	+14 to +122°F	1°F	±2°F
Humidity	5 to 95% RH	1%RH	*
pH	0 to 14pH	0.1pH*	±0.1pH*
Voltage	0 to 2V D.C.	0.01V	±1%
	0 to 20V D.C.	0.1V	
Current	0 to 2A	0.01A	±1%
Rate count	0 to 255	1 unit	N/A
Frequency	40 to 400Hz	N/A	±2Hz
Battery	3.6V 1/2AA lithium (up to 3 years life)**		
Serial link	8 Pin Mini DIN		
Sensor connection	Phono		
Number of readings	8000		
Logging rate	1 sample per 5 seconds to 1 per 12 hours		

Communications area

Communications can take place at distances from 0m (i.e. "nose-to-nose") to 1m. The OM-EL-2-IR and the IR port on the PC should be pointing at each other. The IR beam spans about 30°, so the two devices do not have to be directly aligned, however there should be a clear line-of-sight between the two.

Cable communications

The RS232 cable will work as normal, regardless of whether the IR circuitry is on or not. However, attempting to use both the cable and the InfraRed simultaneously will result in communication errors.

At the PC

The OM-EL-2-IR is designed to communicate with devices which have IrDA-compatible InfraRed ports. If your computer doesn't have one of these, OMEGA's OM-EL-LINK-IR can be used to convert a normal serial port. Simply plug the OM-EL-LINK-IR into the 9-way serial port and point it in the right direction. If you use a serial extension cable, ensure that it is a straight-through. Null modem and EasyLog cables will not work.

Operating Instructions

Step 1: Simply hold down the button for 2-3 seconds. The Activwave symbol will flash once.

Step 2: Place the logger in line of sight of the IR port on your PC.

Step 3: That's it!

IR timeout

To maximise battery life, after no communications activity has occurred for about five minutes, the IR circuitry will automatically shut down. If the button is held down until the Activwave flashes, the timeout period will be reset.

For experienced EasyLog users

Pressing the button to turn on the IR circuitry will not affect the logger itself, e.g. if it's in push to start, or push to log mode. Conversely, a short press, say for a push to log, will not affect the IR circuitry. The duration that the button is held down for determines what the press is intended for.

USING EXTERNAL SIGNALS

PINFUNCTION

A1, A2, REF.	Output for test diagnostics. Do not use.
HA.	High Alarm output = V+ when alarmed.
SW.	'Push to record event' input. Active low - operated by front switch, subject to Push-to-Start.
RS.	Reset input. Active low - operated by RESET switch. NOTE - logging will stop and restart at 0 time.
LA.	Low Alarm output = V+ when alarmed.
A+.	Output = V+ when a reading is in progress.
V+.	Battery positive.
V-.	Battery negative.



**DO NOT APPLY AN EXTERNAL SUPPLY VOLTAGE
ACROSS THESE PINS WITH BATTERY IN PLACE.**



Only connect outputs to high impedance inputs, otherwise performance will be affected and battery life drastically reduced.

BATTERY REPLACEMENT

Only use 1/2AA 3.6V lithium. The list below is not exhaustive. Check with supplier that the battery you are ordering is 'press fit' and is not fitted with solder tags or leads. Take care to connect correctly.

MANUFACTURER	PART NUMBER	MANUFACTURER'S ORDER CODE
MAXELL	ER 35TC	n/a
SAFT	LS3	n/a
SONNENSCHN	SL-750/S	1107 501 100
TADIRAN	1/2AA/S	1551-02-210-000



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



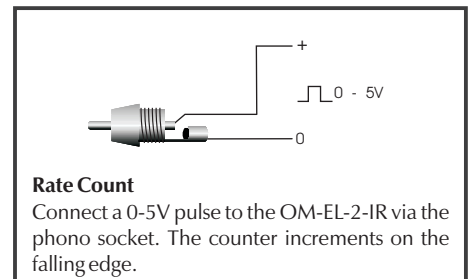
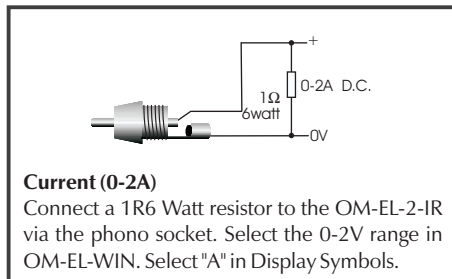
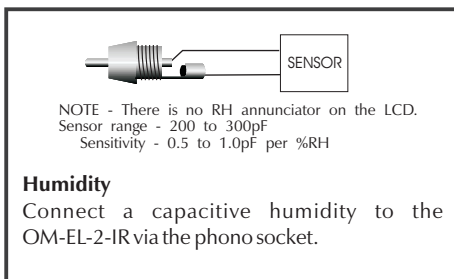
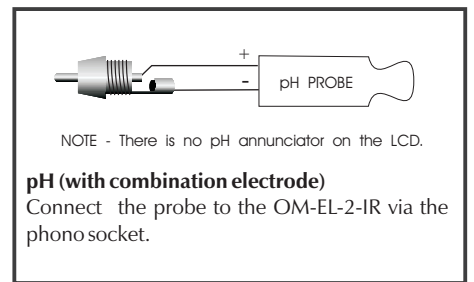
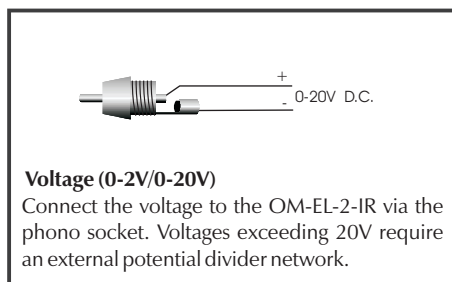
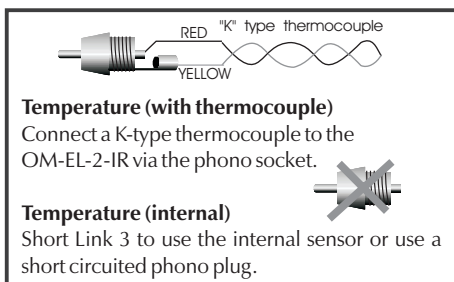
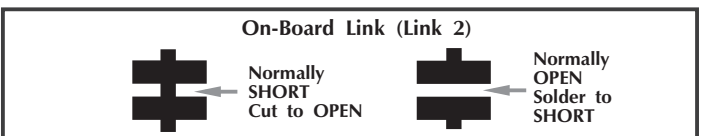
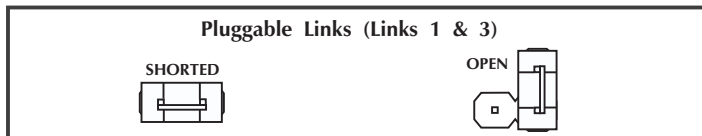
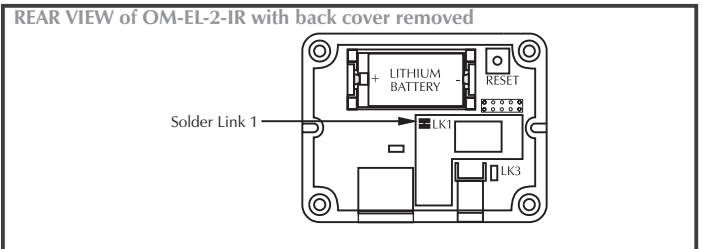
Battery Life

The IR circuitry draws virtually zero current when it is turned off. Because of this, if it is permanently off, the battery life of the OM-EL-2-IR will be practically the same as a normal OM-EL-2. When the IR circuitry is turned on, current consumption dramatically increases. If it is permanently on, the battery life will be drastically reduced. However, if this is not a problem (e.g. if using an external power supply) making solder Link 1, as shown in the diagram, will cause the IR circuitry to stay on all the time.

OPERATING MODES

Select the correct measurement range in OM-EL-WIN before connecting a sensor or applying a voltage to the module.

Re-calibrate the OM-EL-2 via OM-EL-WIN prior to use.



OMEGAnet™ On-Line Service http://www.omega.com	Internet e-mail info@omega.com
---	-----------------------------------

Servicing North America:

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

Canada: 976 Bergar
Laval (Quebec) H7L 5A1
Tel: (514) 856-6928
e-mail: canada@omega.com
FAX: (514) 856-6886

For immediate technical or application assistance:

USA and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGASM
Customer Service: 1-800-622-2378 / 1-800-622-BESTSM
Engineering Service: 1-800-872-9436 / 1-800-USA-WHENSM
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico and Latin America: Tel: (95) 800-TC-OMEGASM FAX: (95) 203-359-7807
En Español: (203) 359-1660 ext:2203 e-mail: espanol@omega.com

Servicing Europe:

Benelux: Postbus 8034, 1180 LA Amstelveen, The Netherlands
Tel: (31) 20 6418405 FAX: (31) 20 6434643
Toll Free in Benelux: 06 0993344
e-mail: nl@omega.com

Czech Republic: Ostravska 767, 733 01 Karvina
Tel: 42 (69) 6311899 FAX: 42 (69) 6311114
e-mail: czech@omega.com

France: 9, rue Denis Papin, 78190 Trappes
Tel: (33) 130-621-400 FAX: (33) 130-699-120
Toll Free in France: 0800-4-06342
e-mail: france@omega.com

Germany/Austria: Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
Tel: 49 (07056) 3017 FAX: 49 (07056) 8540
Toll Free in Germany: 0130 11 21 66
e-mail: germany@omega.com

United Kingdom: 25 Swannington Road, PO Box 7, Omega Drive,
Broughton Astley, Leicestershire, Irlam, Manchester,
LE9 6TU, England. M44 5EX, England
Tel: 44 (1455) 285520 Tel: 44 (161) 777-6611
FAX: 44 (1455) 283912 FAX: 44 (161) 777-6622
Toll Free in England: 0800-488-488
e-mail: uk@omega.com

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 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 should malfunction, 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 being 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 which wear are not warranted, including but 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 it will be 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. P.O. 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.

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 1996 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 prior written consent of OMEGA ENGINEERING, INC.

It is the policy of OMEGA 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 Engineering, Inc. 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, patient connected applications.