



OM-EL-1-12BIT

12 BIT PANEL MOUNT DATALOGGER

INSTRUCTION SHEET

M-3141

OM-EL-1-12BIT is an easy to use display module capable of measuring, recording, displaying and controlling temperature (Pt 100), voltage and current. With 12 bit A/D resolution, a memory for 8000 readings and a battery life of up to 3 years, OM-EL-1-12BIT can operate as a 'stand alone' logger or be permanently connected to a system. The OM-EL-1-12BIT serial link is addressable and up to 8 loggers can be connected to one serial port. The PC software operates under Windows and does not require specialist skill to operate. Data output is in text format and can be easily integrated into most popular spreadsheets. Graphical output is possible under OM-EL-WIN. Consult the EasyLog software manual for further details.

- 🔋 Battery Powered
- 🔧 Multi-function
- 💾 Non-volatile Data Storage
- 📏 Panel Mounting
- 👉 Easy to Use
- 📊 High Resolution Read-out

CONTROL SOFTWARE

Model No - OM-EL-WIN

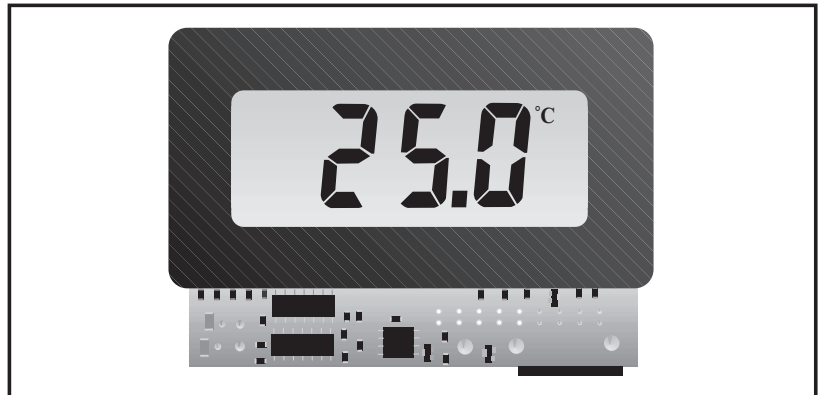
Easy to install and use, the control software will run under Windows 95 or 3.1 and enable the user to control one or more EasyLogs, operating them as a complete system. Supplied on a 3½" disk with a manual and serial link.

ACCESSORIES - CABLES

Model No - OM-EL-EASYLINK

Extension cable to 'daisy chain' more than one EasyLog. One extension will be needed for each extra OM-EL-1-12BIT module that is attached to the chain.

| | | |
|------------------------|---------------|-------|
| Input Impedance | 200mV Range | >1GΩ |
| | 2V, 20V Range | 0.5MΩ |
| | 4-20mA Range | 10Ω |

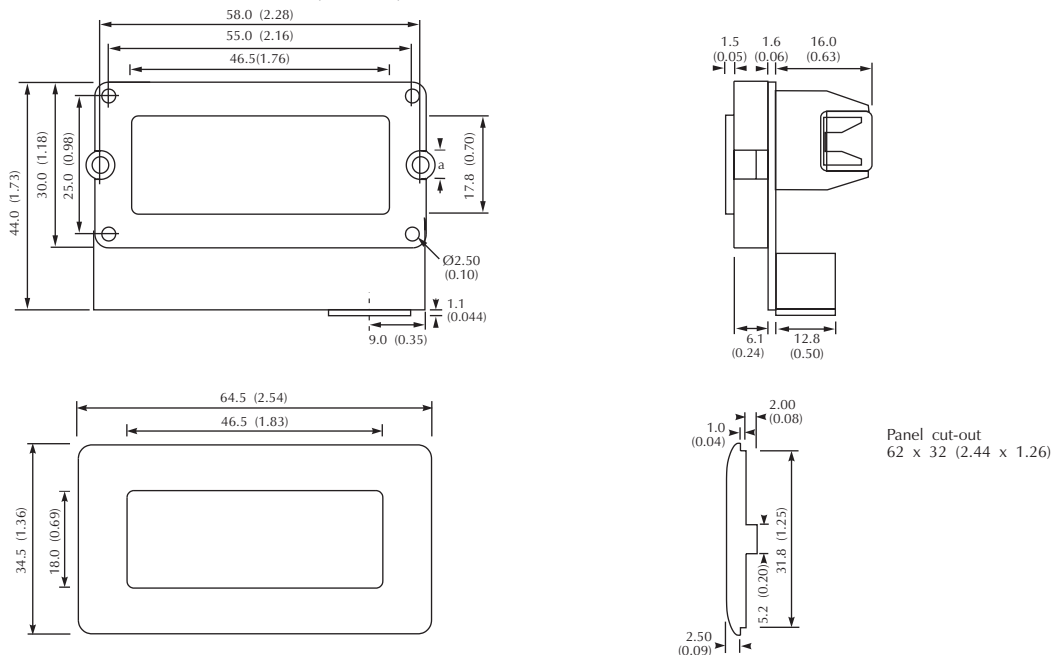


| Data Logger | | | Model No OM-EL-1-12BIT |
|----------------------------|---|------------|---------------------------|
| Specification | Range | Resolution | Accuracy |
| Temperature - Low Range * | -200 to +200°C | 0.1°C | ±0.5°C |
| | -200 to +200 °F | 0.1°F | ±1°F |
| Temperature - High Range * | -200 to +850°C | 1°C | ±1°C |
| | -328°F to +1562°F | 1°F | ±2°F |
| Voltage - D.C. | 0 to ±200mV | 100µV | ±0.05% ±1 Count |
| | 0 to ±2V | 1mV | |
| | 0 to ±20V | 10mV | |
| Current - D.C. | 4 to 20mA | 16µA | ±0.1% ±1 Count |
| Battery | 3.6V ½AA lithium (up to 3 years life) ** | | |
| Serial link | 8 Pin Mini DIN | | |
| Sensor connection | Screw terminal | | |
| Memory | Up to 8000 samples** | | |
| Sample rate | 1 sample per 5 seconds to 1 per 12 hours. | | |

* Sensor dependent

** Depending on sample rate

DIMENSIONS All dimensions in mm (inches)



LINK FUNCTIONS

- Lk1: When daisy-chaining EasyLog Modules, remove the Lk1 jumpers from all modules except one.
- Lk2 & Lk3: Fit these jumpers as shown in the table (right).

| Measurement Range Jumper | Link Setting |
|--------------------------|----------------------|
| 200mV | Lk2 open, Lk3 Open |
| 2V | Lk2 closed, Lk3 open |
| 20V | Lk2 closed, Lk3 open |
| 4-20mA | Lk2 open, Lk3 closed |
| Temperature (Low Range) | Lk2 open, Lk3 open |
| Temperature (High Range) | Lk2 open, Lk3 open |

PIN FUNCTIONS

| | |
|-------------|--|
| TxD, RxD: | No pins fitted. Input and output connections for Infra-Red communications, e.g.: connect to a PANEL-IR module. |
| SW: | Switch input, normally pulled high. Connect momentarily to V- to take a reading in One-Shot mode or to start logging when configured for Push-to-Start in OM-EL-WIN. |
| AV+: | Test pin. Do Not Use. |
| V-, V+: | External power supply connections. Read Important Note below prior to use. External supply voltage range 3 to 3.6Vdc. External power supply must be floating with respect to the signal to be measured. |
| HA, LA | Normally at V-, these pins go high when their respective alarm levels have been reached or exceeded. |
| VIN-, VIN+: | Measurement Inputs, extension of screw terminal block connections. |
| Iin, Iout: | Current Loop connection, extension of screw terminal block connections. |

Rear Pin Header

| | | | |
|------|---|------|---|
| TxD | ○ | RxD | ○ |
| SW | ● | AV+ | ● |
| V- | ● | V+ | ● |
| HA | ● | LA | ● |
| VIN- | ● | VIN+ | ● |
| Iin | ● | Iout | ○ |

IMPORTANT NOTE- Always remove the Lithium battery from the module **BEFORE** connecting an external power supply to the module. Failure to do so may cause the battery to explode.

BATTERY REPLACEMENT

Only use ½AA 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. Take care to connect correctly. **DO NOT PRESS ON LCD WHEN INSERTING BATTERY.**

| MANUFACTURER | PART NUMBER | MANUFACTURER'S ORDER CODE |
|---------------|-------------|---------------------------|
| MAXELL | ER 35TC | n/a |
| SAFT | LS3 | n/a |
| SONNENSCHNEIN | SL-750/S | 1107 501 100 |
| TADIRAN | ½AA/S | 1551-02-210-000 |



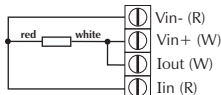
WARNING: Handle lithium batteries carefully - observe warnings on battery casing. Dispose of in accordance with local regulations.



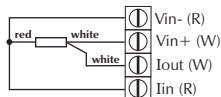
APPLICATIONS NOTE -It is possible to measure parameters other than those outlined below. Use an appropriate sensor and conditioning circuit to convert the parameter to be measured into a linear voltage or current and apply this signal to a suitably scaled OM-EL-1-12BIT module.

Measurement signals must always be isolated from the communications signals.

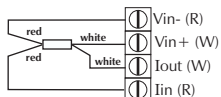
TEMPERATURE



2-wire Pt100 connection
(Lk2 and Lk3 open)

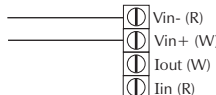


3-wire Pt100 connection
(Lk2 and Lk3 open)

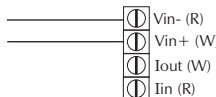


4-wire Pt100 connection
(Lk2 and Lk3 open)

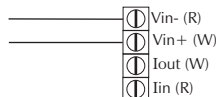
VOLTAGE



200mV DC connection
(Lk2 and Lk3 open)

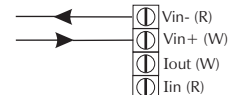


2V DC connection
(Lk2 closed, Lk3 open)

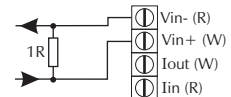


20V DC connection
(Lk2 closed, Lk3 open)

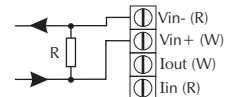
CURRENT



4-20mA Indication
Use 4-20mA indication range
(default calibration 0-1000)
(Lk2 open, Lk3 closed)



200mA DC connection
Use 200mV range with
annunciators set to mA.
Module will require calibration.
(Lk2 and Lk3 open)



For higher ranges, use 200mV
range and $R = \frac{0.2}{I}$
where I = 2A or 20A fsd.
Module will require calibration.
(Lk2 and Lk3 open)



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.