User’s Guide

PM1000
Plug On Display
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.
PM1000 Series Plug-On Display

Operating Instructions

1. Application
The PM1000 plug-on display is a universal local display suitable for use with any 4-20mA, 2 wire, transmitters. The transmitter must be fitted with a DIN43650 type connector. Then the plug-on display is simply plugged in between the transmitter connector plug and socket; it is then ready for operation. Removing the front cover of the display will reveal 2 programming buttons. These are used to input the desired settings for the following parameters: zero, scale, decimal point position, damping and switching set point (PM1001 option only).

2. Mechanical Installation
The PM1000 is simply plugged in between the transmitter connector plug and socket; it is then ready for operation. The display can be rotated through 90° steps as desired, and then fixed into position with the replacement longer screw, supplied with the unit.

3. Electrical Installation
Connect the plug-on display to the transmitter as shown in the wiring diagram below.

<table>
<thead>
<tr>
<th>Supply</th>
<th>PIN 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal</td>
<td>PIN 2</td>
</tr>
<tr>
<td>Switching Output</td>
<td>PIN 3</td>
</tr>
</tbody>
</table>

4. Setting
To make any display setting changes first the front cover of the display unit must be removed. To do this remove the 4 Phillips screws retaining the front cover and reveal the 2 programming buttons A & B, which are used to make all the display setting changes. See drawing below.

To make settings:
Loosen the four Phillips screws on the display and remove the cover.
The PM1000 uses a display menu, controlled by the 2 programming buttons, to assist when editing display settings and options.

Throughout, the general functions of the programming buttons are as follows:

Press A:  
Causes a DOWN change in the selected setting.
And also displays each menu item in turn.

Press B:  
Causes an UP change in the selected setting.
And also displays each menu item in turn.

Press A & B together:  
Enters and stores the adjusted setting.
And also selects the displayed menu item for editing.

4.1 Display Decimal Point selection
Press button B to select menu option:  
```
 d P
```
(is displayed)
Press button A & B together to edit:  
```
 - - - -
```
(is displayed)
Press A to shift decimal point UP:  
```
 - - - -
```
(is displayed)
Press B to shift decimal point DOWN:  
```
 - - - -
```
(is displayed)
Press A & B together to enter and store, and return to menu.

4.2 Display Zero setting
Press button B to select menu option:  
```
 Z P 4
```
(is displayed)
Press button A & B together to edit:  
```
 0.0
```
(is displayed)
(zero for example is 0.0psi)
Press A to increase setting(UP):  
```
 0.1
```
(is displayed)
Press B to decrease setting(DOWN):  
```
 - 0.1
```
(is displayed)
Press A & B together to enter and store, and return to menu.

4.3 Display Span setting
Press button B to select menu option:  
```
 E P 20
```
(is displayed)
Press button A & B together to edit:  
```
 60.0
```
(is displayed)
(span for example is 60.0psi)
Press A to increase setting(UP):  
```
 60.1
```
(is displayed)
Press B to decrease setting(DOWN):  
```
 59.1
```
(is displayed)
Press A & B together to enter and store, and return to menu.

4.4 Display damping
Press button B to select menu option:  
```
 F I L t
```
(is displayed)
Press button A & B together to edit:  
```
 0.5
```
(is displayed)
(damping for example is 0.3 seconds. Note 0.3 seconds is minimum)
Press A to increase setting(UP):  
```
 0.4
```
(is displayed)
Press B to decrease setting(DOWN):  
```
 0.6
```
(is displayed)
Press A & B together to enter and store, and return to menu.

4.5 Over-range display selection
Press button B to select menu option:  
```
 H I L O
```
(is displayed)
Press button A & B together to edit:  
```
 o f f
```
(is displayed)
(for example over-range option is off)
Press A or B to toggle on/off setting:  
```
 o n
```
(is displayed)
Press A & B together to enter and store, and return to menu.
When over-range option is selected to be on then the following messages are displayed in over/under-range condition:
HI is displayed when transmitter signal is greater than 20mA(Overflow)
LO is displayed when transmitter signal is less than 4mA(Underflow)

Note: When over-range option is off the error code ErGo is displayed if the display range (-1999 to +1999) is exceeded.
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, impact, 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 as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS 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 allows our customers the latest in technology and engineering.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC. © Copyright 1999 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!

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 Flow Meters & 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, Record 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