OM-DAQXL
Multi-Channel Universal Input
Touch Screen Data Logger
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1 Introduction

Thank you for purchasing our OM-DAQXL Multi-channel touch screen data logger.

This Quick Start guide briefly describes the key operations and provides setup examples of the OM-DAQXL so that you can quickly operate the device for the first time.

In addition to this quick start manual, the complete User manual can be downloaded from Omega’s website (http://www.omega.com/manuals/). The User manual provides detailed information regarding all of the functions and operations of the OM-DAQXL. Use it together with this Quick Start Manual.

After reading this manual, keep it in an easily accessible place for later reference.
2.1 Included Items

The following items are supplied in the box:

Data Logging Instrument
Verify the model number shown on the rear label of your data logger matches what was ordered.

<table>
<thead>
<tr>
<th>No.</th>
<th>Model No.</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OM-DAQXL-RB</td>
<td>Rubber boot for impact resistance</td>
</tr>
<tr>
<td>2</td>
<td>SD32GB</td>
<td>32GB SD card</td>
</tr>
<tr>
<td>3</td>
<td>OM-DAQXL-USB</td>
<td>6' USB cable</td>
</tr>
<tr>
<td>4</td>
<td>OM-DAQXL-CABLE6</td>
<td>Digital I/O cable, 6 ft.</td>
</tr>
<tr>
<td>5</td>
<td>OM-DAQXL-TB8</td>
<td>Alarm/excitation terminal block</td>
</tr>
<tr>
<td>6</td>
<td>OM-DAQXL-ADAPTOR-*</td>
<td>12Vdc, 5A power adaptor</td>
</tr>
<tr>
<td>7</td>
<td>SCREWDRIVER-2.5mm</td>
<td>Omega screwdriver</td>
</tr>
<tr>
<td>8</td>
<td>MQS-5570</td>
<td>OM-DAQXL Series quick start guide</td>
</tr>
<tr>
<td>9</td>
<td>5TC-TT-K-20-36</td>
<td>Type K thermocouples 5 pack with stripped leads</td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>Crimp on ground lug</td>
</tr>
<tr>
<td>11</td>
<td>PT-USB-1</td>
<td>1GB Flash drive</td>
</tr>
<tr>
<td>12</td>
<td>OM-DAQXL-RF</td>
<td>Snap-on round cable ferrite</td>
</tr>
</tbody>
</table>

Table 2-1 OM-DAQXL Included Items

* Specifies the country code.
2.2 Views and descriptions

![Figure 2-2 OM-DAQXL Front View](image)

![Figure 2-3 Status LED Locations](image)

<table>
<thead>
<tr>
<th>LED</th>
<th>STATUS</th>
<th>COLOR and STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Adapter</td>
<td>Battery</td>
<td>GREEN</td>
</tr>
<tr>
<td>1 – Power/Charging</td>
<td>Connected</td>
<td>Charged</td>
</tr>
<tr>
<td>Connected</td>
<td>Charging</td>
<td>Green Flashing</td>
</tr>
<tr>
<td>Connected</td>
<td>Discharging</td>
<td>Green, amber battery &lt;40% remaining, red battery &lt;15% remaining.</td>
</tr>
<tr>
<td>Connected</td>
<td>No battery</td>
<td>Flashing amber</td>
</tr>
</tbody>
</table>

| 2 – Logging | | |
| Logging | Flashing Green |
| Not logging - Error | Red |
| Armed mode | Amber |
| Free running | Green |

| 3 - Alarm | | |
| Alarm condition | Red |
| No alarm | Green |
| Alarms disabled | Off |

Table 2-2 Status LED States
3 Sensor Wiring

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Any Channel</th>
<th>+</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Thermocouple</td>
<td>TC+</td>
<td>TC–</td>
</tr>
<tr>
<td>Voltage</td>
<td>V+</td>
<td>V–</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>I+</td>
<td>I–</td>
<td></td>
</tr>
</tbody>
</table>

Table 3-1 Two Wire Sensor Connections.

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Odd Channel</th>
<th>Even Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Wire RTD</td>
<td>RTD+</td>
<td>RTD–</td>
</tr>
<tr>
<td>3 Wire RTD</td>
<td>RTD+</td>
<td>RTD–</td>
</tr>
<tr>
<td>4 Wire RTD</td>
<td>RTD+</td>
<td>RTD–</td>
</tr>
<tr>
<td>Thermistor</td>
<td>Th+</td>
<td>Th–</td>
</tr>
<tr>
<td>Strain Gage</td>
<td>EXC+</td>
<td>EXC–</td>
</tr>
<tr>
<td>Load Cell</td>
<td>EXC+</td>
<td>EXC–</td>
</tr>
<tr>
<td>Pressure Transducer</td>
<td>EXC+</td>
<td>EXC–</td>
</tr>
</tbody>
</table>

Table 3-2 Three and Four Wire Sensor Connections

Note: For bridge type sensors, only channels 1, 2, 3, 4, and 9, 10, 11, 12 are available.

<table>
<thead>
<tr>
<th>Signal Name</th>
<th>Pin #</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Input 1</td>
<td>1</td>
<td>Purple</td>
</tr>
<tr>
<td>Digital Input 2</td>
<td>2</td>
<td>Grey</td>
</tr>
<tr>
<td>Digital Input 3</td>
<td>3</td>
<td>Red</td>
</tr>
<tr>
<td>Digital Input 4</td>
<td>4</td>
<td>Green</td>
</tr>
<tr>
<td>Digital Output 1</td>
<td>5</td>
<td>Brown</td>
</tr>
<tr>
<td>Digital Output 2</td>
<td>6</td>
<td>Blue</td>
</tr>
<tr>
<td>Digital Output 3</td>
<td>7</td>
<td>Orange</td>
</tr>
<tr>
<td>Digital Output 4</td>
<td>8</td>
<td>Yellow</td>
</tr>
<tr>
<td>Isolated Ground</td>
<td>9</td>
<td>Black</td>
</tr>
</tbody>
</table>

Table 3-3 Digital I/O Cable Pinout.

<table>
<thead>
<tr>
<th>Signal Name</th>
<th>Terminal #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm 1</td>
<td>1</td>
</tr>
<tr>
<td>Alarm 2</td>
<td>2</td>
</tr>
<tr>
<td>Alarm 3</td>
<td>3</td>
</tr>
<tr>
<td>Alarm 4</td>
<td>4</td>
</tr>
<tr>
<td>Ground</td>
<td>5</td>
</tr>
<tr>
<td>External Trigger</td>
<td>6</td>
</tr>
<tr>
<td>Isolated Ground</td>
<td>7</td>
</tr>
<tr>
<td>+24 Vdc</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 3-4 Alarm Terminal Block Signals

Figure 3-1 Digital I/O Connector Pin Numbers

Figure 3-2 Alarm Terminal Block
3.1 User Interface Flowchart

**Log Data**
- Depending on current state, starts logging or arms data logger.

**Annotate**
- Pauses display and allows annotation on the display using the stylus.

**Screenshot**
- Immediately takes a screenshot.

**Views**
- Select data view or Toggle slide show

**Display Channel**
- Select channel group or Assign channels to groups

**Add Channel**

**Channel Group**
- Allows assignment of channels to 4 groups.

**Input Type**

**Data Ranges**
- Configure a new channels input type setting.
- Configure a new channels data range settings.

**Channel List**
- Shows a tabular list of all currently configured channels

**Stored Files**
- Allows access to all stored data files for reviewing or copying.

**Settings**
- Select the type of settings you wish to change.

**Help**
- Provides access to context appropriate help screens

**Figure 3-3 Menu Flowchart**
NOTE: For initial login use the default account with user name and password: omega, omega. This is an administrator account allowing additional users to be created.
3.2 Home Toolbar

1. **Tools Button** - Extends or retracts the toolbar with each tap. When the toolbar is retracted there is additional channel information displayed in the toolbar area.

2. **Log Data** - The log data button is used to change the logging state of the data logger. Depending upon the current state this button will appear white (free running), red (logging) or orange (armed).

3. **Annotate** – The annotate button freezes the current display and allows the user the ability to make annotations on the display using the stylus. A screenshot will then be saved showing the annotation.

4. **Screen Shot** – Takes a screenshot of the current display and saves it to the memory location specified in the data session settings.

5. **Views** – Invokes a fly-out menu list with selections for the 4 different view modes as well as a selection for toggling the slide show feature.

6. **Display Channels** – Invokes a fly-out menu list with selections for the four channel groups as well as selection to bring the user to the channel group channel selection screen.

7. **Add Channel** – Opens the add channel screen with the next available channel selected for configuration.

8. **Channel List** - Opens the channel list screen which lists all the currently configured channels.

9. **Stored Files** – Opens the stored files screen to perform various operations on files in stored in memory.

10. **Settings** – Invokes a fly-out menu list with selections for trigger, alarm, and data session and device settings. Each selection opens a screen where settings related to that function can be set and saved.

11. **Help** – Opens a context sensitive help screen which will display content appropriate to the current screen. This button is present in all of the various UI screens.
3.3 Add Channels

Channel settings can be configured for new channels using the Input Type and Data Ranges screens. To add a new input channel and configure its settings, hit the Add Channel button on the toolbar to navigate to the Input Type screen. There are two types of channels which can be configured, physical input channels and virtual math channels. Depending on the type of channel being configured, the Input Type screen will have different settings available. The toolbar appears as shown below when adding channels.

**Input Setup – Physical Input Channel**
The Input Type screen is used to configure the basic settings for an input channel. For physical input channels the input type selected will determine the settings available.

**Temperature Inputs**
For temperature input types the Input Type screen will appear as shown below.

![Figure 3-6 Input Type - Temperature]

1. **Channel Type Button**
The channel type selects between physical and math channel input types. Temperature inputs are physical input channels.

2. **Input Type Settings**
For temperature inputs there are multiple sensor types available. These include thermocouple, RTD and thermistor. Each of these sensor types have additional sensor sub types available. The sub type drop-down list will populate with the appropriate subtypes for each sensor type. A channel number, color and name must be assigned for each channel.

3. **Channel Map**
The channel map provides a quick view of which channels have already been configured (blue) and the currently selected channel (orange). Some temperature input types require the use of two input channels.
The Data Ranges screen appears the same for all temperature input types. Depending on the sensor type selected the fixed values shown for the input and display range will vary.

1. Engineering Units
   The two drop downs allow selection of various engineering units for display.

2. Input Range
   The input range boxes show the full measureable input of the data logger for the sensor type being configured. These are not editable.

3. Display Range
   The display range boxes show the full display range available on the data logger. The graph range can be any subset of this range. This range is fixed for all temperature inputs.

4. Zero Adjust
   The zero adjust provides a user configurable offset adjustment, in engineering units, which will be applied to measurements across the full range of input.

5. Moving Average Filter
   This setting provides the option to average an individual channels input samples.

6. Graph Range
   The graph range is the y-axis range that will be shown on the waveform view of the data logger. This can be any subset of the display range and is defined in the assigned engineering units. It can also be adjusted on the waveform view.

7. Decimal Places
   Selects the number of decimal places to display.
4 Specifications

4.1 General

Display: 7.0” TFT color LCD (WVGA: 800 x 480 pixels) with chemically hardened touch panel.

Internal Memory: 1 GB FLASH Memory

SD Memory Card: 32 GB

USB Flash Drive: 1GB

Operating Environment: 0 to 50°C (32 to 122°F), 0 to 95% RH non-condensing

Storage Conditions: -10 to 60°C (32 to 140°F)

Computer Interface: USB

Dimensions

With Rubber Boot: (9.00 X 6.5 X 3.5”)

Without Rubber Boot: (8.75 X 5.75 X 2.42”)

Weight: 3.2 lbs (1.45 kg)*

Power Supply: AC Adapter Input:100 to 240 Vac, 50 to 60 Hz, 1.5 A max

AC Adapter Output: 12 Vdc, 5A max

Battery: Lithium Ion Rechargeable (7.2 V, 4800 mAh)

Battery Life: Approximately 4-8 hours depending on display settings before recharge

Screen Time Out: 30 sec, 1 min, 2 min, 5 min, 10 min, Never

Slide Show Timing: 5 sec, 10 sec, 15 sec, 20 sec, 30 sec

Auto Power Shut Down: 5 minutes after screen time out

Line Graph Time Scale: From 400 msec/div up to 1 hr/div

External Excitation Output: 24 Vdc, regulated (±2%) isolated. Maximum current output 50 mA.

External I/O: 4 digital inputs, 4 digital outputs, 4 alarm outputs, 1 external trigger input.

*Includes battery and rubber boot
4.2 Inputs

Number of Analog Inputs: 8 or 16

Sampling Rate

Maximum Sampling Rate per Number of Channels (Analog and Digital):
1 Channel: 125 s/sec
2 Channels: 50 s/sec
4 Channels: 25 s/sec
8 Channels: 10 s/sec
16 Channels: 5 s/sec

Logging Rate

Maximum logging Rate per Number of Channels (Analog and Digital):
1 Channel: 125 s/sec
2 Channels: 50 s/sec
4 Channels: 25 s/sec
8 Channels: 10 s/sec
16 Channels: 5 s/sec

Thermocouple

<table>
<thead>
<tr>
<th>Type</th>
<th>Range (°C)</th>
<th>Range (°F)</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>-200 to 1100°C</td>
<td>-328 to 2012°F</td>
<td>±(0.15% of reading +1.1°C)</td>
</tr>
<tr>
<td>K</td>
<td>-200 to 1370°C</td>
<td>-328 to 2300°F</td>
<td>±(0.15% of reading +1.7°C)</td>
</tr>
<tr>
<td>T</td>
<td>-200 to 400°C</td>
<td>-328 to 752°F</td>
<td>±(0.15% of reading +2.0°C)</td>
</tr>
<tr>
<td>E</td>
<td>-200 to 1000°C</td>
<td>-328 to 1832°F</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>-100 to 1300°C</td>
<td>-148 to 2372°F</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>0 to 1760°C</td>
<td>32 to 3200°F</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>0 to 1760°C</td>
<td>32 to 3200°F</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>500 to 1820°C</td>
<td>932 to 3308°F</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0 to 2315°C</td>
<td>32 to 4200°F</td>
<td></td>
</tr>
</tbody>
</table>

RTD

<table>
<thead>
<tr>
<th>Type</th>
<th>Range (°C)</th>
<th>Range (°F)</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt 100, Pt 500, Pt 1000 (0.00385 curve)</td>
<td>-200 to 850°C</td>
<td>-328 to 1562°F</td>
<td>±(0.25% of reading +1°C)</td>
</tr>
<tr>
<td>Pt 100, Pt 500, Pt 1000 (0.00392 curve)</td>
<td>-200 to 660°C</td>
<td>-328 to 1220°F</td>
<td>±(0.25% of reading +1°C)</td>
</tr>
</tbody>
</table>

Thermistor

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2252 Ω</td>
<td>-30 to 150°C</td>
<td>±1°C</td>
</tr>
<tr>
<td>10,000 Ω</td>
<td>-5 to 150°C</td>
<td>±1°C</td>
</tr>
</tbody>
</table>

Voltage

<table>
<thead>
<tr>
<th>Range</th>
<th>Measurement Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>50mV</td>
<td>-50 to 50mV</td>
<td>±0.1% of FS</td>
</tr>
<tr>
<td>100mV</td>
<td>-100 to 100mV</td>
<td></td>
</tr>
<tr>
<td>1V</td>
<td>-1.00 to 1.00V</td>
<td></td>
</tr>
<tr>
<td>5V</td>
<td>-5.00 to 5.00V</td>
<td></td>
</tr>
<tr>
<td>10V</td>
<td>-10.00 to 10.00V</td>
<td></td>
</tr>
<tr>
<td>20V</td>
<td>-20.00 to 20.00V</td>
<td></td>
</tr>
<tr>
<td>50V</td>
<td>-50.00 to 50.00V</td>
<td></td>
</tr>
</tbody>
</table>

Current

<table>
<thead>
<tr>
<th>Range</th>
<th>Measurement Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>20mA</td>
<td>-20 to 20mA</td>
<td>±0.1% of FS</td>
</tr>
</tbody>
</table>

Frequency

<table>
<thead>
<tr>
<th>Measurement Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 250 KHz</td>
<td>±2 Hz</td>
</tr>
</tbody>
</table>
Measurement Accuracy

*At room temperature after 30 minute warm up period.

Input Type: Thermocouple, RTD, Thermistor, Voltage, Current, Strain Gage

Strain Gage Input: Only Channels 1, 2, 3, 4, 9, 10, 11, 12 are available.

Frequency Update Rate: 250 msec

Digital Input and Functions: Frequency, volumetric flow rate, totalization, resettable counter

Virtual Math Channels 1 to 16: Math equation of any two physical channels

Filter:
- Per channel selectable moving average filter: None, 2, 5, 10, 20 or 100 samples
- Data session selectable 50 or 60 Hz filter.

Resolution: One to four decimal places depending on the Input type

Statistics: Peak to peak, average, minimum, maximum, RMS

Input Sampling/Logging Rate: 125 s/sec (1 Channel), 50 s/sec (2 Channels), 25 s/sec (4 Channels), 10 s/sec (8 Channels), 5 s/sec, 1 s/sec, 12 s/min, 6 s/min, 2 s/min, 1 s/min, 12 s/hr, 6 s/hr, 2 s/hr, 1 s/hr (For All Channels)

Logging Mode: Interval, average

Trigger Conditions (Start & Stop): Timer, date and time, weekday and time, alarm output, external trigger

Logging Condition: On command or trigger condition

4.3 Functions

Display

Views: Waveform, waveform and table, table only, digital, slide show

Display Channels: 4 channels per group – 4 groups

Stored Files: Screen capture and log (internal, SD card, USB drive)

Data Review: Up to any 4 channels – scroll or page right and left, zoom in, zoom out, annotate

Device Settings:
- General – Set current Time & Date
- Display Option – Screen Timeout, Background & Grid color, Brightness, Slide show timing, Key sound, Calibrate Touch screen
- Diagnostics – Analog, Digital, Power shut down test & generate report
- User Management – Admin, Normal User (Set User ID & Password)
- About – Firmware Upgrade

Help:
- Help screen for every menu screen
Virtual Math Channels: Up to 16 virtual channels can be created.
Statistics: Peak to Peak, Average, Minimum, Maximum, RMS
Triggers
   Trigger Types:
   • Start, Stop, Repeat
   Trigger Conditions:
   • Timer, Date & Time, Weekday & Time, Alarm Output, External Trigger
Logging
   Logging Modes:
   • Interval, Average
   Logging Conditions:
   • On demand or trigger condition
Digital input functions:
   Frequency, Volumetric flow, Totalization, Resettable counter

4.4 Communication
   USB: High speed USB 2.0 host for external Flash drive; USB device for external PC communications.

4.5 External I/O:
   Alarm Outputs: 4 open collector alarm outputs rated for 0.5A @ 30 Vdc with audible alarm buzzer
   Digital Outputs: 4 open collector digital outputs rated to 30 mA @ 5 Vdc logically tied to alarm outputs
   Digital Inputs: 4 Schmitt trigger based inputs
   • 0 to 24 Vdc single ended, grounded input range
   • Logic high threshold 2.5 V; Logic low threshold 1.5 V
   • Contact closure detection
   • Maximum input frequency: 250 kHz
Power Input to Digital I/O Isolation: 1.5 kVrms
Alarm Condition: High, Low, Window In, Window Out, Open Sensor
On Alarm Event: Map to 4 Alarm outputs, Sound Buzzer, Take Screen shot
Alarm Type: Latch, Non-Latch
Alarm per Channel: Two
4.6 Dimensions

Dimensions: mm (inch)
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.

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