**SPECIFICATION**

- **Power Supply:** 100-240 Vac ±10%, 50/60 Hz, 22.5 W
- **Operating Temperature:** 0 to 40°C
- **Storage Temperature:** -20 to 60°C
- **Relative Humidity:** 0 to 85%

**SERIAL INTERFACE**

- **Communication Standard:** RS-485, RS-422 or RS-232
- **Transfer speed (Baud rate):** 300, 600, 1200, 2400, 4800, 9600, 19200 bps
- **Data Format:** Even, 1 stop bit

**DISPLAY**

- **Display color when Alarm 1 triggered:** Red Color
- **Display color when Alarm 2 triggered:** Green Color

**Alarm 1**

- **Status:** Low
- **Value:** 10.00 to 9999
- **Latched/Unlatched:** Latched
- **Mode:** Host
- **Message:** "Alarm 1 Low" and "Alarm 1 Low Value"

**Alarm 2**

- **Status:** Low
- **Value:** 10.00 to 9999
- **Latched/Unlatched:** Unlatched
- **Mode:** Slave
- **Message:** "Alarm 2 Low" and "Alarm 2 Low Value"

**Flow Control**

- **No Flow control**

**Flow Rate**

- **Value:** 99.99
- **Units:** m³/h

**Weight**

- **Value:** 2,495 g (5.5 lbs)

**Approvals**

- **RoHS 2 Compliant**

**TRADEMARK NOTICE:**

- **®**
- **™**

**RETURN REQUESTS/INQUIRIES**

1. In Slave Mode the Big Display will wait for commands and data from the Serial Bus.
2. In Host Mode the Big Display will send data automatically and continuously into the Serial Bus.
3. When used in RS-485 Mode, the device must be accessed with an appropriate Address Value.
4. Latched Mode: Alarm remains latched until reset. To reset already alarm select any menu items and then press “up” or “down” button.

**DISCLAIMER**

- **WARRANTY**

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of one (1) year.

**CONDITIONS:**

- Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a “Basic” life support system component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

**For immediate technical or application assistance:**

- **USA and Canada:** Sales: 1-800-639-7678 / 1-800-TC-OMEGA® Customer Service: 1-800-826-6342 / 1-800-TC-OMEGA® Engineering Service: 1-800-972-9406 / 1-800-USA-OMEG®
- **Mexico and Latin America:** For Spanish (09) 250-33970, e-mail: espanol@omega.com
- **Europe:** For English (0800) 250-33970, e-mail: sales@omega.eu

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**DESCRIPTION:**
The ILD44 is a 4-digit master/slave display providing remote readout from instruments such as programmable controllers, digital panel meters and other instruments with serial output. Communication interfaces supported are RS-232 or RS-485 standards. Both RS-232 or RS-485 are programmable through front panel buttons.

**SAFETY:**
- The instrument is a panel mount device protected in accordance with EN61010-1:2001.
- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

**MOUNTING**

**Mounting Big Display on Bail:**
1. Mark the location of mounting screws on the flat surface.
2. Be sure to leave enough room around the bail to allow for removal and rotation of the display.
3. The display can be rotated for the best viewing angle.

**Disassembly Instruction:**
- Warning: Disconnect all ac power from the unit before proceeding.

1. Remove all wiring connections from the rear of the instrument, by unscrewing the power and input connectors.
2. Remove the Big Display from the panel.
3. To remove the Big Display from the bail, unscrew the two knits at each end of the mounting brackets.

**WIRING**

1. **Wiring RS-232 Interface.** The RS-232 standard (point-to-point) allows a single device to be connected using a two-wire connection (half-duplex) plus a common wire to connect to the shield of the cable. It is recommended to use shielded cable with one twisted pair for EMI noise protection.

2. **Wiring RS-485 Interface.** The RS-485 standard (multipoint) allows a computer, one or more devices and Big Displays (up to 32) to be connected using a two-wire connection (half-duplex) plus a common wire to connect to the shield of the cable. It is recommended to use shielded cable with one twisted pair for EMI noise protection.

**OPERATIONS**

1. **Peak Value (Display in Host Mode)**
   
   a) RS-232 Mode, will send: *X02 (Interface DRNT), or *X03 (Interface DRNP)
   b) RS-485 Mode, will send: *01X02 (Interface DRNT), or *01X03 (Interface DRNP)

2. **Valley Value (Display on Host Mode)**
   
   a) RS-232 Mode, will send: *X03 (Interface DRNT), or *X04 (Interface DRNP)
   b) RS-485 Mode, will send: *01X03 (Interface DRNT), or *01X04 (Interface DRNP)

3. **Process Value (Display on Host Mode)**
   
   a) RS-232 Mode, will send: *X01
   b) RS-485 Mode, will send: *01X01

4. **Write alphanumeric characters to the Big Display from the computer (Display in Slave Mode)**
   
   a) Single Big Display: (RS232) write 4 characters, then CR (carriage return)
   b) Multiple Big Display: (RS485) write 4 character(s), then CR

5. **Display Color Setup (Alarm Setup)**
   
   a) This menu allows the user to select the color of the display in normal conditions and when an alarm is triggered. If user wants the Display to change color every time when both Alarm 1 and Alarm 2 are triggered, the Alarm value should be set in such a way that Alarm 1 is always on the top of Alarm 2 value, otherwise value of the Alarm 1 will overwrite value of Alarm 2 and Display color would not change when Alarm 2 is triggered.

**Example 1:**
- Alarm 1 setup: "ON", Alarm Mode High 'A1H', Alarm High Value 'HI-1'=400, Alarm Color 'A1CR'=Amber
- Alarm 2 setup: "ON", Alarm Mode High 'A2H', Alarm High Value 'HI-2'=500, Alarm Color 'A2CR'=Red

**Example 2:**
- Alarm 1 setup: "ON", Alarm Mode Low 'A1L', Alarm Low Value 'LO-1'=100, Alarm Color 'A1CR'=Amber
- Alarm 2 setup: "ON", Alarm Mode Low 'A2L', Alarm Low Value 'LO-2'=300, Alarm Color 'A2CR'=Red

**Example 3:**
- Alarm 1 setup: "ON", Alarm Mode High/Low 'A1HL', Alarm High Value 'HI-1'=250, Alarm Low Value 'LO-1'=150, Alarm Color 'A1CR'=Amber
- Alarm 2 setup: "ON", Alarm Mode High/Low 'A2HL', Alarm High Value 'HI-2'=200, Alarm Low Value 'LO-2'=100, Alarm Color 'A2CR'=Red

**WIRING**

<table>
<thead>
<tr>
<th>Pin Function</th>
<th>Device with RS-232 Pin</th>
<th>Device with RS-485 Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx</td>
<td>-Tx/-Rx</td>
<td>+Tx/+Rx</td>
</tr>
<tr>
<td>Rx</td>
<td>+Tx/+Rx</td>
<td>-Tx/-Rx</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remote Display</th>
<th>Device Pin</th>
<th>Screw Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>TB1</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**POWER CONNECTION**

Connect the main power connections as shown in the figure below.

**CONFIGURATION**

Button Functions in Configuration Mode

- **(MENU)**
  - To enter the Menu, the user must first press (Menu). Use this button to advance/navigate to the next menu item. The user can navigate through all the top level menus by pressing (Menu).
  - While a parameter is being modified, press (Menu) to escape without saving the parameter.

- **(UP)**
  - Press the up button to scroll through submenu selections. When a numerical value is displayed press this key to increase value of a parameter that is currently being modified.
  - In the Run Mode pressing (Up) causes the display to flash the PEAK value several times before returning to the Run Mode.
  - In the top menu press (Up) causes the display to return to the Run Mode.

- **(DOWN)**
  - Press the down button to scroll through submenu selections. When a numerical value is displayed press this key to decrease value of a parameter that is currently being modified.
  - In the Run Mode pressing (Down) causes the display to flash the Valley value several times before returning to the Run Mode.
  - In the top menu press (Down) causes the display to return to the Run Mode.

- **(ENTER)**
  - Press this button to access the submenus from a Top Level Menu item.
  - Press this button to send the submenus selection or after entering value – the display will flash a blinking message to confirm your selection.

**Display colors change sequences:**

<table>
<thead>
<tr>
<th>AMBER</th>
<th>RED</th>
<th>GREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>LO-1</td>
<td>100</td>
<td>LO-2</td>
</tr>
<tr>
<td>LO-1</td>
<td>300</td>
<td>LO-2</td>
</tr>
</tbody>
</table>

**Example 2:**
- Alarm 1 setup: "ON", Alarm Mode Low 'A1L', Alarm Low Value 'LO-1'=100, Alarm Color 'A1CR'=Amber
- Alarm 2 setup: "ON", Alarm Mode Low 'A2L', Alarm Low Value 'LO-2'=300, Alarm Color 'A2CR'=Red

**Example 3:**
- Alarm 1 setup: "ON", Alarm Mode High 'A1H', Alarm High Value 'HI-1'=250, Alarm Color 'A1CR'=Amber
- Alarm 2 setup: "ON", Alarm Mode High 'A2H', Alarm High Value 'HI-2'=200, Alarm Color 'A2CR'=Red

**Normal Color**
- NO CR = Green