Scaling Without Known Loads (Continued)

3. Press \( \text{TPRT} \) again. The unit displays the last setting for \( \text{RD!1} \).

(The first digit flashes.)

4. Change \( \text{RD!1} \) as necessary:
   - Press \( \text{MA} \) to set or change the digit's current value. Continue to press \( \text{MA} \) until the meter displays the desired value for the flashing digit. Values can range from 0 to 9. For the first digit, you can also enter a minus sign (\( - \)) or \( -1 \).
   - Press \( \text{TPRT} \) to scroll to the digit(s) you want to change.

5. Press \( \text{MENU} \) to store the \( \text{RD!1} \). The unit displays:

\[ \text{RD!1} \]

6. Press \( \text{MENU} \) to store the \( \text{RD!2} \). The unit displays:

\[ \text{RD!2} \]

7. Change \( \text{RD!2} \) as necessary:
   - Press \( \text{MA} \) to set or change the digit's current value. Continue to press \( \text{MA} \) until the meter displays the desired value for the flashing digit. Values can range from 0 to 9. For the first digit, you can also enter a minus sign (\( - \)) or \( -1 \).
   - Press \( \text{TPRT} \) to scroll to the digit(s) you want to change.

8. Press \( \text{MENU} \) to store the \( \text{RD!2} \). The unit displays:

\[ \text{RD!2} \]

9. Press \( \text{TPRT} \) to store the \( \text{RD!2} \). The unit displays:

\[ \text{RD!2} \]

To identify the maximum load \( \text{RD!1} \) and \( \text{RD!2} \):

1. Apply the maximum known load (100%).
2. Repeat steps 4–9 above, for \( \text{RD!1} \) and \( \text{RD!2} \).

Once you've completed all steps, the unit displays:

\[ \text{RD!1} \]

To begin operation:

1. Press ..... twice or press \( \text{MENU} \) until \( \text{RD!1} \) and \( \text{RD!2} \) flashes on the display.
   - The unit is operational.

Scaling Without Known Loads (Continued)

For 4-20 mA sensors, the values for the minimum and maximum input loads are always as follows:

- Minimum load \( \text{MLO} = 2000 \)
- Maximum load \( \text{MLO} = 9999 \)

If your installation uses a different sensor type, you must calculate the values for \( \text{MLO} \) and \( \text{MLO} \) before proceeding with the steps below. Use the formula provided in the Operator's Manual.

To determine the minimum load \( \text{LO} \) and \( \text{LO} \):

1. If it's not already shown, press \( \text{TPRT} \) to the unit displays:
   - The \( \text{TPRT} \) displays:

\[ \text{LO} \]

2. Press \( \text{TPRT} \). The unit displays:

\[ \text{LO} \]

3. Press \( \text{TPRT} \). The unit displays:

\[ \text{LO} \]

Determining Reading Offset

The run mode reading for meters scaled without known loads may reflect an offset. For example, say you set \( \text{LO} \) and \( \text{LO} \) and \( \text{LO} \) at 100, but when the minimum load is applied, a negative value of \(-1.5\) displays on the front panel.

To correct the reading offset:

1. With zero load applied, note the reading on the display.
2. Subtract that amount from the \( \text{LO} \) and \( \text{LO} \) values you originally entered.
3. In the example, the offset would be \(-1.5\). If \( \text{LO} \) is to be read in \( \text{LO} \), it must be recentered as \(\pm 1.5\). This must be recentered as \(\pm 101.5\) if the meter is to read 100 when the minimum load is applied.
4. Repeat the steps for "Scaling Without Known Loads, but when the values for \( \text{LO} \) and \( \text{LO} \) display, do not change them. Instead, press \( \text{TPRT} \) to move to the prompts for \( \text{LO} \) and \( \text{LO} \) and make the necessary changes.
5. Reinitialize the unit and resume operation.
Using This Quick Start Manual

Use this Quick Start Manual to set up your Process Meter and begin operation. Information is provided on how to:
- Connect AC power
- Set basic options for operation
- Connect the sensor
- Scale the meter
- Configure the display
- Set up the unit

Features with **B** are for the "B" version which has three-color programmable "Big" LED display - All segment characters shown are for the "B" version.

IMPORTANT: For complete information on all setup options, please refer to the Operator's Manual.

This Quick Start Manual includes specific configuration parameters for transducers with an output range of 4–20 mA and 24 V excitation. Other sensor types may require different parameters or additions. When this is the case, we refer you to the Operator's Manual for detailed instructions.

Safety Consideration

This device is marked with the international Caution symbol. This device is a panel mount device protected in accordance with EN 61010-1:2001, electrical safety requirements for electrical equipment for measurement, control and laboratory purposes that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

SAFETY:
- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Do not connect power before connecting signal and power connections.
- Do not use this instrument on a work bench without its safety enclosure.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.
- Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

EMC:
- 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.

Warning: Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

Mount the Unit

1. Cut a panel opening using the dimensions shown to the right.
2. Position the unit in the opening, making sure the front bezel is flush with the panel.
3. Install retaining clips on both sides of the meter and tighten against the panel.

Wiring

**Warning:** Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

1. Remove the panel at the back of the unit.
2. Locate the TB1 connector.
3. Insert the correct wire in each terminal as shown in the following figure and tighten the lockdown screws.
4. Tug gently on the wires to verify the connections.

External Fuse Required:
- Time-delay, UL 204 A listed
- Time-lag, IEC 127-3 recognized

Time-delay: 175 mA (115 Vac line) 80 mA (230 Vac line)
- Time-lag: 125 mA (115 Vac line) 63 mA (230 Vac line)

WARNING: Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

To: Take This Action:

1. Press MENU until the menu displays.
2. Press \( u \) or \( d \) to select the submenu function.
3. Press \( u \) or \( d \) to select a value for that submenu function.
4. Press MENU to store it.
5. Go back to the previous menu function.

Select a submenu function:

1. Press MENU until the function you want to enter is displayed.
2. Press \( u \) or \( d \) to select the function you want.
3. Press \( u \) or \( d \) to select a value for that submenu function.
4. Press MENU to store it.
5. Press \( u \) or \( d \) to select the value.
6. Press MENU to store it.

To Set the Decimal Point

1. If it's not already shown, press MENU until the unit displays:
2. Press \( u \) or \( d \) to select the decimal point position shown.
3. The unit displays:
   - \( 0.1=F \)
   - \( 0.2=C \)
   - \( 0.3=E \)
   - \( 0.4=R \)
4. Change the display to the desired setting.
5. Press \( u \) or \( d \) to select the decimal point position shown.
6. The unit displays:
   - \( 0.1=F \)
   - \( 0.2=C \)
   - \( 0.3=E \)
   - \( 0.4=R \)

To Scale the Meter

You can scale the meter in one of two ways:
1. With a known load — This method uses input (load) information sent from another device such as a scale or a simulator for voltage or current.
2. Without a known load — This involves calculating the load based on transducer specifications and manually entering it to the meter.

For both methods, you must first identify the minimum input load \( I_{min} \) and the corresponding display reading \( D_{min} \). Then you identify the maximum input load \( I_{max} \) and its corresponding display reading \( D_{max} \).

The decimal point is for display purposes only — you set it where you want it to display for your application.

When entering \( I_{min} \) and \( I_{max} \), ignore any decimal point on the display. However, you must enter \( D_{min} \) and \( D_{max} \) values with the decimal point in the desired position.

Scaling With Known Loads

To identify the minimum known load \( I_{min} \) and \( D_{min} \):
1. If it's not already shown, press MENU until the unit displays:
2. Apply the minimum known load \( I_{min} \) and the corresponding display reading \( D_{min} \).

When entering \( I_{min} \) and \( I_{max} \), ignore any decimal point on the display. However, you must enter \( D_{min} \) and \( D_{max} \) values with the decimal point in the desired position.

Using the Configuration Menu

To configure the meter, you use the buttons on the front panel.

<table>
<thead>
<tr>
<th>To:</th>
<th>Take This Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display the menu.</td>
<td>Press the ( u ) or ( d ) button.</td>
</tr>
<tr>
<td>Select a submenu.</td>
<td>Press MENU until the function you want to enter is displayed.</td>
</tr>
<tr>
<td>Select a value.</td>
<td>Press ( u ) or ( d ) to select the function you want.</td>
</tr>
<tr>
<td>Select a value.</td>
<td>Press ( u ) or ( d ) to select the value.</td>
</tr>
<tr>
<td>Go back to the previous menu function.</td>
<td>Press ( c ) or ( r ) to go back to the previous menu function.</td>
</tr>
</tbody>
</table>

To Set the Input Type

1. Press MENU until the unit displays:
2. Press \( \| \) or \( \| \). The unit displays:
3. For this application you want \( \| \). If \( \| \) is not displayed, press \( \| \) until it appears. Other choices are \( \| \) and \( \| \). |
4. Refer to the Operator’s Manual for more information on setting ranges.

To Set the Decimal Point

1. If it’s not already shown, press MENU until the unit displays:
2. Press \( \| \). The unit displays:
   - \( 0.1=F \)
   - \( 0.2=C \)
   - \( 0.3=E \)
   - \( 0.4=R \)

To Scale the Meter

1. With a known load — This method uses input (load) information sent from another device such as a scale or a simulator for voltage or current.
2. Without a known load — This involves calculating the load based on the configuration menu.

When entering \( I_{min} \) and \( I_{max} \), ignore any decimal point on the display. However, you must enter \( D_{min} \) and \( D_{max} \) values with the decimal point in the desired position.

To enter \( I_{min} \):
1. Press \( \| \) and the corresponding display reading \( D_{min} \). Then you identify the maximum input load \( I_{max} \) and its corresponding display reading \( D_{max} \).

The decimal point is for display purposes only — you set it where you want it to display for your application.

When entering \( I_{min} \) and \( I_{max} \), ignore any decimal point on the display. However, you must enter \( D_{min} \) and \( D_{max} \) values with the decimal point in the desired position.

Warning: Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

1. Use signal wire connections with twisted-pair cables.
2. Install Ferrite Bead(s) on signal wire close to the instrument.

Using the Configuration Menu

<table>
<thead>
<tr>
<th>To:</th>
<th>Take This Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display the menu.</td>
<td>Press the ( u ) or ( d ) button.</td>
</tr>
<tr>
<td>Select a submenu.</td>
<td>Press MENU until the function you want to enter is displayed.</td>
</tr>
<tr>
<td>Select a value.</td>
<td>Press ( u ) or ( d ) to select the function you want.</td>
</tr>
<tr>
<td>Select a value.</td>
<td>Press ( u ) or ( d ) to select the value.</td>
</tr>
<tr>
<td>Go back to the previous menu function.</td>
<td>Press ( c ) or ( r ) to go back to the previous menu function.</td>
</tr>
</tbody>
</table>

Set the sensor wires and tighten the lockdown screws.
2. Press \( \| \) to display the option you want.
3. Press \( u \) or \( d \) to select the value.
4. Press MENU to store it.
5. Press \( u \) or \( d \) to select the value.
6. Press MENU to store it.
7. Press \( u \) or \( d \) to select the value.
8. Press MENU to store it.