The SERIES SPPM-C Smart Programmable Panel Meter is a configurable, full-color display that can be used in a variety of applications. Utilizing a USB connection, the panel meter can be configured with downloadable software, using any computer running Windows® based software. Available with a 2.4”, 2.8” or 3.5” screen that features remarkable graphics which can easily be customized to read and/or graph pressure, temperature, humidity, gas concentration, or many other parameters. A single 0 to 50 mA current input is used to feed the display. The Series SPPM-C includes a gasket and mounting clip for quick installation into a panel.

**SPECIFICATIONS**

**Inputs:** 0 to 50 mA, scalable (factory set from 4 to 20 mA).

**Accuracy:** 0.1%.

**Resolution:** 0.3 to 9.8 mV (depending on input range).

**Power Supply:** 4 to 30 VDC.

**Current Consumption:** 190 mA max.

**Display:** 2.4”, 2.8” or 3.5” TFT full-color screen.

**Display Resolution:** 320 x 240 pixels.

**Sampling Rate:** 3 samples/second.

**Operating Temperature:** 32 to 104°F (0 to 40°C).

**Mounting:** Panel mount.

**Connection:** Screw terminals, pin connection, or USB.

**Computer Requirements:** Compatible with Windows® 7, Windows® 8, and Windows® 10.

**Weight:** SPPM-24-C: 3.2 oz (90.7 g); SPPM-28-C: 4 oz (113.4 g); SPPM-35-C: 5.1 oz (144.6 g).

**Approvals:** CE, RoHS.
Downloading Software
Customization software is available at www.dwyer-inst.com. To download, follow these instructions:
1. To begin downloading, click “Run” when prompted.

![Image of file download security warning]

2. When a security warning appears, click “Run” a second time.

![Image of Internet Explorer security warning]

3. As soon as the InstallShield Wizard screen appears, follow the on-screen instructions.

![Image of InstallShield Wizard]

4. If a Windows® logo testing error appears, click “Continue Anyway”.

![Image of Windows logo testing error]

5. When installation is complete, click “Finish” to quit the installer. The software can now be used by clicking on the new icon on the desktop.

Wiring
The Series SPPM-C uses a programmable gain amplifier (PGA) to offer the highest possible resolution on the meter. The 4 to 20 mA input is restricted to the 0 to 2.5 resolution voltage range.

The input voltage range is decided by the software based on the range the user enters in the scaling section. Software uses the smallest voltage range that accommodates both voltages entered by user.

### NOTICE

It and I- share a common ground (ie: not floating or isolated from each other).

<table>
<thead>
<tr>
<th>Voltage Range (V)</th>
<th>Resolution (mV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1.25</td>
<td>0.3</td>
</tr>
<tr>
<td>0 to 2.5</td>
<td>0.6</td>
</tr>
<tr>
<td>0 to 4</td>
<td>1.0</td>
</tr>
<tr>
<td>0 to 5</td>
<td>1.2</td>
</tr>
<tr>
<td>0 to 8</td>
<td>2.0</td>
</tr>
<tr>
<td>0 to 10</td>
<td>2.4</td>
</tr>
<tr>
<td>0 to 20</td>
<td>4.9</td>
</tr>
<tr>
<td>0 to 40</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Table 1

### NOTICE

The Series SPPM-C requires a fully floating power supply with respect to the current loop. This supply should be isolated from the current loop.

![Image of voltage range and resolution table]

Current Consumption
The current consumption of the panel meter is voltage dependent.

![Image of current consumption graph]

USB Connection
A USB cable is required for customization of the Series SPPM. When connected to a PC’s USB port, the display is powered by the PC.

### NOTICE

Launch the software before plugging in the smart panel meter.

Pin Connection
The DIL IDC socket is an alternative to using the screw terminals. This connection can also be utilized for data busses and alarm outputs. See Figure 3 for the pin layout.

![Image of pin connection diagram]

<table>
<thead>
<tr>
<th>0V</th>
<th>● ● ●</th>
<th>DAC1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI-MOSI</td>
<td>● ●</td>
<td>SPI-SLCK</td>
</tr>
<tr>
<td>SPI-CS2</td>
<td>● ●</td>
<td>SPI-MISO</td>
</tr>
<tr>
<td>I²C-SDA</td>
<td>● ●</td>
<td>I²C-MISO</td>
</tr>
<tr>
<td>ALM2</td>
<td>● ●</td>
<td>ALM1</td>
</tr>
<tr>
<td>V+</td>
<td>● ●</td>
<td>0V</td>
</tr>
<tr>
<td>IN2</td>
<td>● ●</td>
<td>IN1</td>
</tr>
</tbody>
</table>

Figure 3
Set Up Menus

When setting up new configurations, the following items can be adjusted, scaled, or changed:

Notice: For Current Input Models, the dual channel meter styles are not compatible.

**Meter Style**

**Input Voltage Range**

**Color and Appearance**

A configuration can be saved or immediately uploaded to a smart panel meter.

**MAINTENANCE/REPAIR**

Upon final installation of the Series SPPM-C, no routine maintenance is required. The Series SPPM-C is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

**WARRANTY/RETURN**

Refer to “Terms and Conditions of Sales” in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.