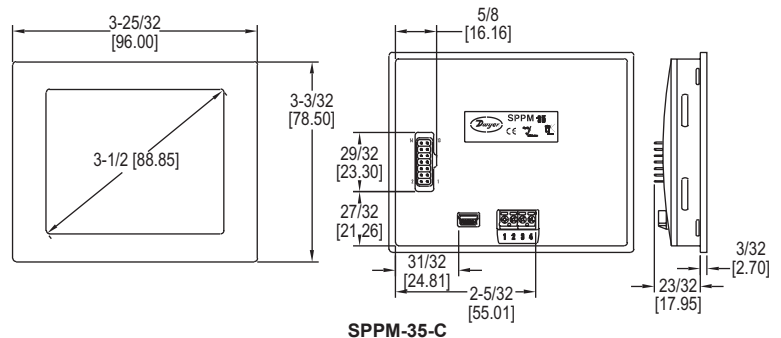
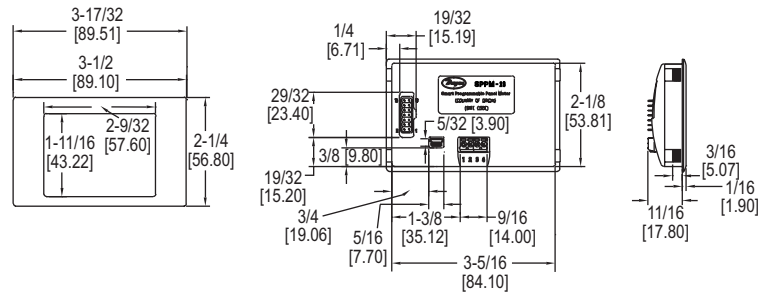
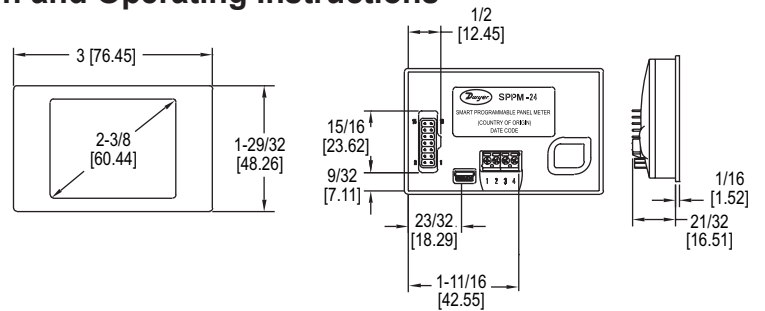




Series SPPM-C Smart Programmable Panel Meters

Specifications - Installation and Operating Instructions



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.

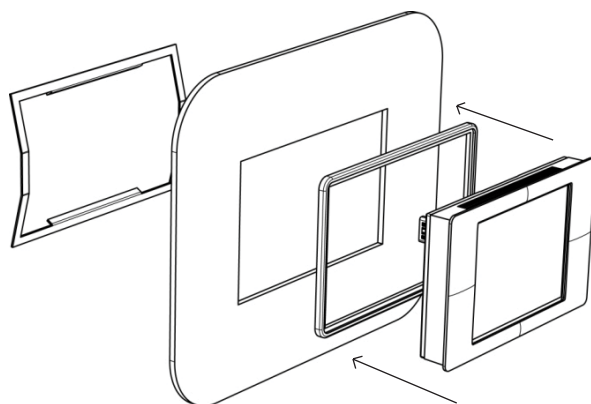


Figure 1

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.

Mounting

1. Punch out a rectangular hole in the panel or enclosure. SPPM-24 Panel Cut-out: 2.91 x 1.81" (74 x 46 mm). SPPM-28 Panel Cut-out: 3.43 x 2.15" (87 x 54.5 mm). SPPM-35 Panel Cut-out: 3.62 x 2.91" (92 x 74 mm).
2. Place the gasket around the bezel of the display.
3. Slide the display through the front hole in the panel or enclosure.
4. Attach the mounting clip from the rear as shown in Figure 1.

Windows® is a registered trademark of Microsoft Corporation.

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).

Voltage Range (V)	Resolution (mV)
0 to 1.25	0.3
0 to 2.5	0.6
0 to 4	1.0
0 to 5	1.2
0 to 8	2.0
0 to 10	2.4
0 to 20	4.9
0 to 40	9.8

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.

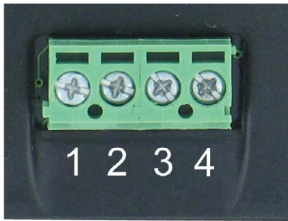
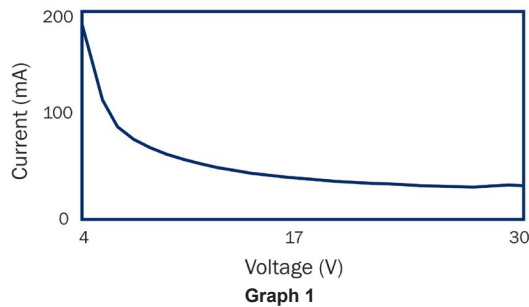


Figure 2

- 1. **NC** Do not connect
- 2. **I+** Positive connection from current loop
- 3. **I-** Negative connection from current loop
- 4. **V+** Positive power supply connection (4 to 30 VDC)

Current Consumption

The current consumption of the panel meter is voltage dependent.



Graph 1

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.

- 0V ●● DAC1
- SPI-MOSI ●● SPI-SLCK
- SPI-CS2 ●● SPI-MISO
- I²C-SDA ●● I²C-SCL
- ALM2 ●● ALM1
- V+ ●● 0V
- IN2 ●● IN1

Figure 3

Downloading Software

Customization software is available at www.dwyer-inst.com. To download, follow these instructions:

1. To begin downloading, click "Run" when prompted.



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



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



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



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.

Set Up Menus

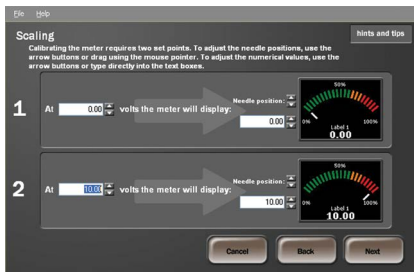
When setting up new configurations, the following items can be adjusted, scaled, or changed:

NOTICE

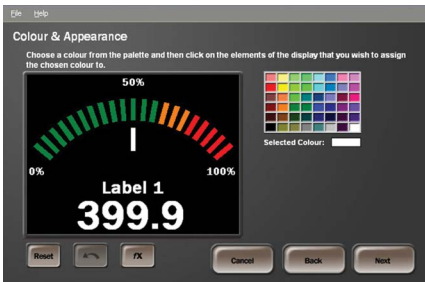
For Current Input Models, the dual channel meter styles are not compatible.



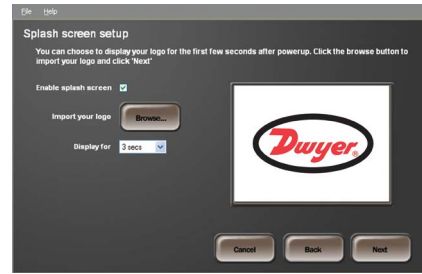
Meter Style



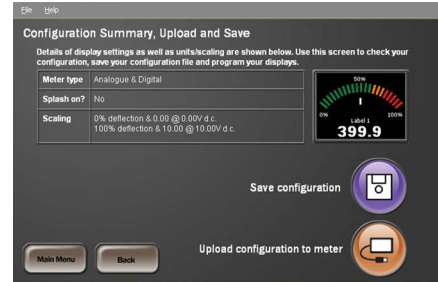
Input Voltage Range



Color and Appearance



Splash Screen



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.

