Series SPPM Smart Programmable Panel Meters

Specifications - Installation and Operating Instructions

SPPM-24

SPPM-28

SPPM-35
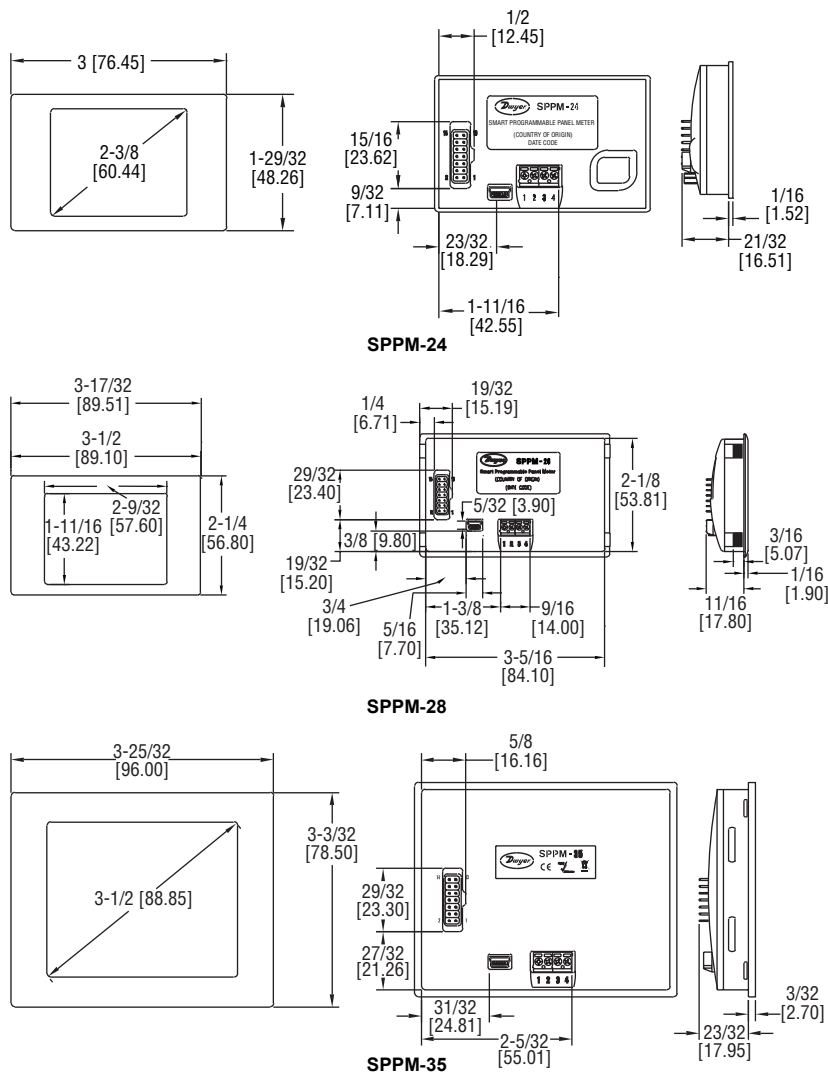
The Series SPPM Smart Programmable Panel Meter is a configurable, full color display that can be used in a variety of applications. Utilizing a USB connection, the panel meter can be configured with downloadable software, using any computer running Windows® based software. Available with a 2.4″, 2.8″ or 3.5″ screen which features remarkable graphics that can easily be customized to read and/or graph pressure, temperature, humidity, gas concentration, or many other parameters. Up to two transmitters or transducers can feed the panel meter's user scalable inputs. The Series SPPM includes a gasket and mounting clip for quick installation into a panel.
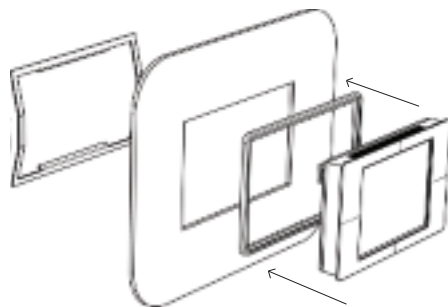

Figure 1

SPECIFICATIONS
Inputs: 0 to 40 VDC, scalable (factory set from 0 to 10 V).
Accuracy: 0.1%.
Resolution: 0.3 to 9.8 mV (depending on input range).
Power Supply: 4-30 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.
Software Requirements: Compatible with Windows® XP, Windows® 2000, Windows® 7 and Windows Vista®.
Weight: SPPM-24: 3.2 oz (90.7 g); SPPM-28: 4 oz (113.4 g); SPPM-35: 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.

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Wiring

Series SPPM features two voltage inputs that can be programmed independently. With the downloadable software, the user can scale the two voltages to create eight different voltage ranges. The software is programmed to use the smallest range possible because the smallest voltage range offers the highest resolution. The eight possible voltage ranges and their corresponding resolutions can be found in the Table 1.

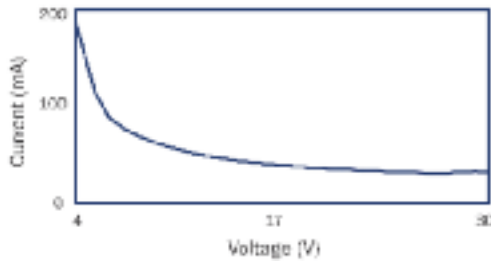| Voltage Range (V)	Resolution (mV)
0 to 1.25	0.3
0 to 2.5	0.6
0 to 4	1.0
0 to 5	1.2
0 to 8	2.0
0 to 10	2.4
0 to 20	4.9
0 to 40	9.8

Table 1

Figure 2

IN2 Analog voltage input 2 (maximum of 40 VDC);
IN1 Analog voltage input 1 (maximum of 40 VDC);
0 V 0V power supply input;
V+ Positive power supply input (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.

⚠ **CAUTION** For safety reasons, the meter should be isolated from both the supply and signal voltages before connecting the USB.

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:

Meter Style

Input Voltage Range

Color and Appearance

Splash Screen

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

MAINTENANCE
Upon final installation of Series SPPM, no routine maintenance is required. The display is not protected against moisture or dust and should only be cleaned with a dry, soft, and lint free cloth. Series SPPM is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.

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