DP-350 Series

Miniature LED Display Digital Panel Meters

Description

The DP-350 Series is an ultra-compact, highly reliable LED panel meter. This meter is ideal for applications requiring bright easy-to-read digits in a small package. The flexible window-mount packaging with optional bezel enables embedding within OEM equipment or traditional panel mounting. The simplicity of function, overvoltage protection, and low power consumption all contribute to the high reliability of this device.

Three input voltage ranges are offered: ±200mV, ±2VDC and ±20VDC. A 4-20mA current input adapter (DP-370) is also offered. Automatic polarity, overrange indication, adjustable decimal point, and display HOLD are standard features. The DP-350 Series employs a dual slope integrating A/D converter, and operates from an internal 100mV reference via a precision DC-to-DC converter. Typical accuracy is ±0.1%.

Features

- Large (0.56″) 3$^1/_2$-digit LED display
- Choice of red or green LED
- Low power consumption (5VDC, 200mA)
- Differential input, 3 voltage ranges
- 0.1% typical accuracy
- User-selectable decimal point
- Hold-display function
- Auto zero
- Quantity discounts

Technical Notes

1. The connection shown utilizes differential inputs. For single-ended operation, INPUT(-) is strapped to GND. If the signal is isolated from the power source, connect INPUT(-) to GND either directly or through a 10K resistor network to reduce common mode errors.

2. Display holds reading when HOLD is high (+5V). Readings are updated when HOLD is low or floating.

3. The decimal point is user selectable by connecting the decimal point pins (4, 5, or 6) to DP COM (pin 3).

4. Full-scale input span is adjusted prior to shipment. Further calibration is possible by adjusting the trimpot mounted on the back of the DPM.
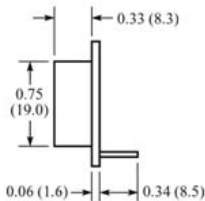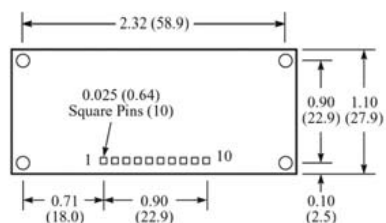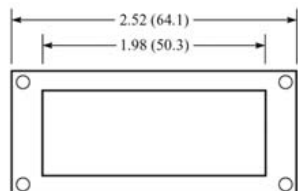
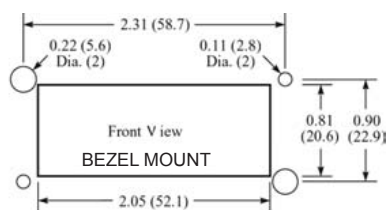5. Unused pins should be left open.

Applications

- Portable/mobile equipment
- Industrial measuring products
- Lab instrumentation
- Process monitoring

Ordering Information

Model	Description
DP-350	Miniature DPM red LED ±200mV
DP-352	Miniature DPM red LED ±2V
DP-354	Miniature DPM red LED ±20V
DP-350G	Miniature DPM green LED ±200mV
DP-352G	Miniature DPM green LED ±2V
DP-354G	Miniature DPM green LED ±20V
B-1	Bezel
C-10	Connector - 10 pin
APS-5	120V AC to 5V DC Power Supply

Dimensions

inches (mm)

DIMENSIONS

BEZEL ASSEMBLY
Includes: Bezel, 2ea. 2-56 screws and 2 ea. Pushnuts Fasteners

PANEL
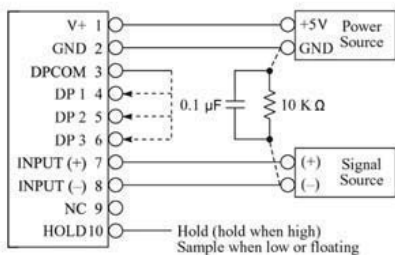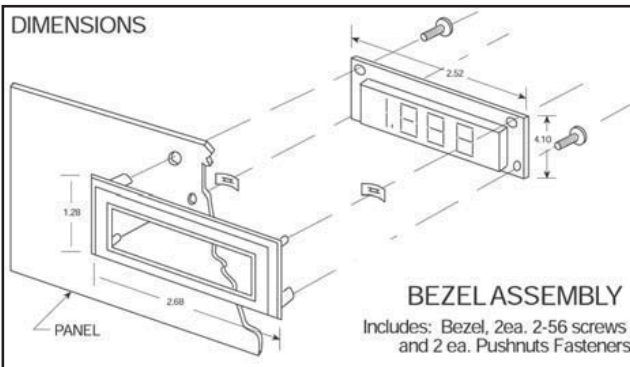
Connections

Pin No.	Pin Name	Description
1	V+	+5V power supply
2	GND	Power supply ground
3	DP COM	Decimal point return
4	DP1	1XX.X (connect to DP COM to turn on)
5	DP2	1X.XX (connect to DP COM to turn on)
6	DP3	1.XXX (connect to DP COM to turn on)
7	INPUT(+)	Positive input signal
8	INPUT(-)	Negative input signal (see Technical Note 1)
9	NC	No connection required
10	HOLD	Hold last display (see Technical Note 2)

Specifications

Display	Digits	3½ (±1999 count)
	Type	7-segment LED (red or green)
	Digit Height	.56in (14.2mm)
	Polarity Indication	Automatic "-" for neg input
	Decimal Point	3 position selectable
	Overrange Indication	1--- for positive, -1--- for negative
	Other Features/Options	Display hold function
Signal Inputs	Configuration	Bipolar, differential
	Full-Scale Input	±200mV, ±2V, ±20V
	Input Offset Adjustment	Auto zero
	Input Impedance	>100MΩ (±200mV), 1MΩ (other ranges)
	Common Mode Range	±1VDC
	Common Mode Rejection	>86dB
	Overrange Protection	±350VDC (±100 VDC for 200mV range)
	Input Bias Current	1pA typical, 100pA max
	Control Inputs	Decimal point select, hold, span adjust trimpot
Performance	Sampling Rate	3.3 readings/s
	Accuracy	±(0.1% + 2 counts) typ ±(0.2% + 2 counts) max
	Warmup, typical	10 min
	Temperature Drift, typical	100 ppm/°C
Power Supply Requirements		
	Supply Voltage	+5VDC ±5%
	Supply Current, typical	200mA
Physical	Package Style	Window mount
	Dimensions	2.52 x 1.10 x .73
	Panel Cutout	2.05 x .81
	Weight	0.7oz (20g)
	Connector	C-10 (10-pin) optional
	Bezel	Optional, see diagram
Environmental Requirements		
	Operating Temperature	0 to 50°C
	Storage Temperature	-10 to 60°C
	Relative Humidity	0 to 95% non-condensing