



0.44" (11.1mm) LCD Display with On/Off Backlight Jumper

# PM-45X-DCV

- High Accuracy  $\pm 0.01\%$  of Reading
- 4.5 Digit ( $\pm 19999$ ) Wide-Range
- 200mV, 2V, 20V, 200V and 1200VDC
- Differential & Single-Ended Inputs
- Low Power Consumption ( $\sim 0.35W$ )
- Backlight LCD Panel Meter

5VDC standard or Optional 1.5kV Isolation 5VDC, or 3kV Isolation Auto-sensing 9-75VDC power supply for your 5V, 12V, 24V, and 48VDC applications

**Great for High Voltage EV Battery and Solar Battery Range**

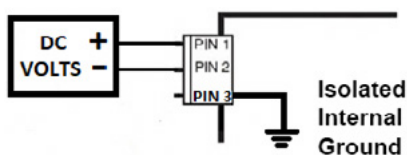
## General Features

The PM-45X-DCV is a high accuracy ( $\pm 0.01\%$ ), low power consumption ( $\sim 0.35W$ ), wide-range DC voltage measurement, single-ended or differential 4.5-digit ( $\pm 19999$  reading) LCD digital panel meter with backlight. The standard input is 2V, with optional ranges of 200mV, 20V, 200V, and 1200V DC.

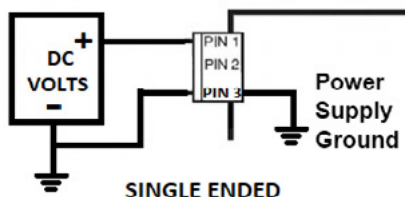
The PM-45X-DCV comes standard with a non-isolated 5V power supply with optional 1.5kV isolated 5V or an 3kV isolation autosensing 9-75VDC power supply for your 5V, 12V, 24V, and 48VDC applications. Please note that an isolated power supply is required for differential measurements and the 1200VDC input option.

Display Hold Reading, Decimal Point selection and Backlight On or Off jumper are standard features.

## Typical Application Connection -DCV input



**DIFFERENTIAL**  
Works with Isolated Power Supplies Options only



**SINGLE ENDED**

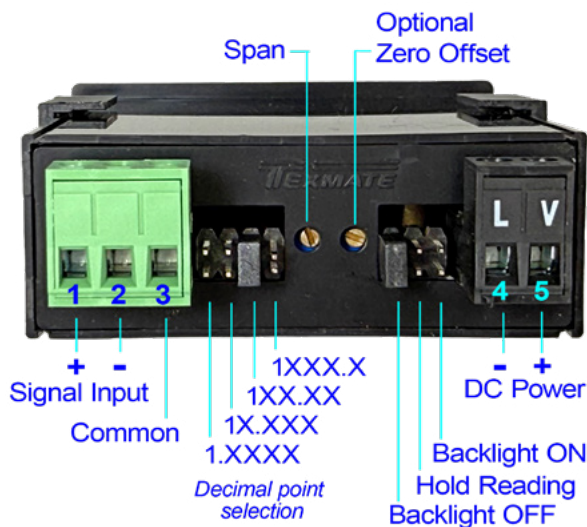
## Other PM series Meters

**PM-45-DCV**.....4.5 digit LED, 200mV/2V/20V/200V/1200V Precision Meter Single-Ended or Differential Input; 5VDC Powered; optional isolated 5V, or auto-sensing isolated 9-75VDC power supplies.

## Specifications

- Input Configuration:**..... True differential and single-ended
- Full Scale Ranges:**.....  $\pm 199.99$  (200mVDC)  
 **$\pm 1.9999$  (2VDC (standard))**  
 $\pm 19.999$  (20VDC)  
 $\pm 199.99$  (200VDC)  
 $\pm 1200.0$  (1,200VDC)
- Input Impedance:** ..... Approx. 1M $\Omega$
- Input Protection:**.....  $\pm 30VDC$  on 200mV and 2V ranges;  
 $\pm 220VDC$  on 20V and 200V ranges;  
 $\pm 1400VDC$  On 1200V range.
- Conversion Rate:** .....3 readings per second
- A/D Converter:** .....15 bit dual slope integrating
- Accuracy:**.....  $\pm 0.01\%$  of reading + 1 count  
1200V only:  $\pm 0.05\%$  of reading + 2 counts
- Temperature Coefficient:** 10 PPM/ $^{\circ}C$  (Typical)
- Warm Up Time:**..... 10 seconds to specified accuracy
- Display:**.....0.44" (11.1mm) LCD with Backligh On or Off jumper. Hold Reading are standard features.
- Overrange Indication:** ..... When input exceeds full scale on any range being used, "0000" flashes, minus sign shows if overage is negative.
- Power Supply:** ..... non-isolated 5VDC ( $\sim 0.35W$ ). Optional 1.5kV isolated 5VDC or optional 3kV isolated auto-sensing 9-75VDC power supply ( $\sim 0.35W$ ).
- Operating Temperature:** ..  $0^{\circ}$  to  $+50^{\circ}C$
- Storage Temperature:** .....  $-40^{\circ}$  to  $+85^{\circ}C$
- Relative Humidity** ..... 95% (non-condensing)
- Case Dimensions:**..... Bezel 2.75" x 1.17" (69.9 x 29.6mm)  
Depth behind Bezel 3.33" (84.66mm) plus 0.57" (14.41mm) for connector.
- Weight:** ..... 91 gms (3.2 oz)

## Connector Pinouts



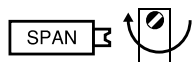
For the non-isolated 5VDC power supply option, DC Power Pin 4 (-) is electrically connected to Common Pin 3. For the isolated power supply options, the two pins are not electrically connected (isolated).



When the 1200VDC signal input option is chosen, it is critical NOT to short Common (pin 3) and DC Power Ground (Pin 4) to prevent any safety issues!

**Backlight: ON or OFF** by placing a jumper on the ON or OFF location.

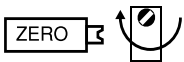
**Hold Reading:** When this jumper is shorted, the meter will freeze the reading while A/D conversions continue. The display will not be updated until the Hold short is disconnected.



Turn Clockwise to Increase Reading

### SPAN Fine Potentiometer (Pot)

Typically, the 25 turn SPAN Fine Pot's adjustment range is 9% of the input signal.



Turn Clockwise to Increase Reading

### ZERO Potentiometer (Pot) Optional

The Optional ZERO pot when installed enables the displayed reading to be offset 5000 counts (500mV).

## Display Range

The display range is set by the factory for each of the available input ranges; default (maximum) display range is +/- 19999 counts.

The Span pot is used to calibrate the input signal to achieve the default display range. For example, for the 2V input range, a 1.9999V input signal is calibrated to display 19999 counts; a 2.0000V input signal will then show an over-range condition.

A optional Zero Offset potentiometer is provided to zero out any small offsets in the input signal; the default offset is up to 500mV subtracted from the input. Different ranges of Zero Offset may be specified as an option, please contact Texmate for any specific zero offset range you might need.

With the Span and Zero Offset ranges, it is possible to scale the display range to specific requirements; contact Texmate for your custom display scaling needs.

## Signal Conditioning

The input voltage is first conditioned by a voltage divider, depending on the required input range, to scale the input signal to the input range of the analog-to-digital converter. The signal is then low pass filtered ( $F_c = 3.6\text{Hz}$ ). Measurement is done by a true differential, dual slope, analog-to-digital converter for superior noise suppression and accuracy.

## Power Supply

The standard power supply for PM-45X-DCV is 5VDC non-isolated (isolated 5V input is optional). Other power supply options include isolated 24V nominal (9-36VDC autosensing) and 48V nominal (36-75VDC autosensing) to meet your 5V, 12V, 24V and 48VDC applications needs. All isolated supplies have 1.5kV isolation.

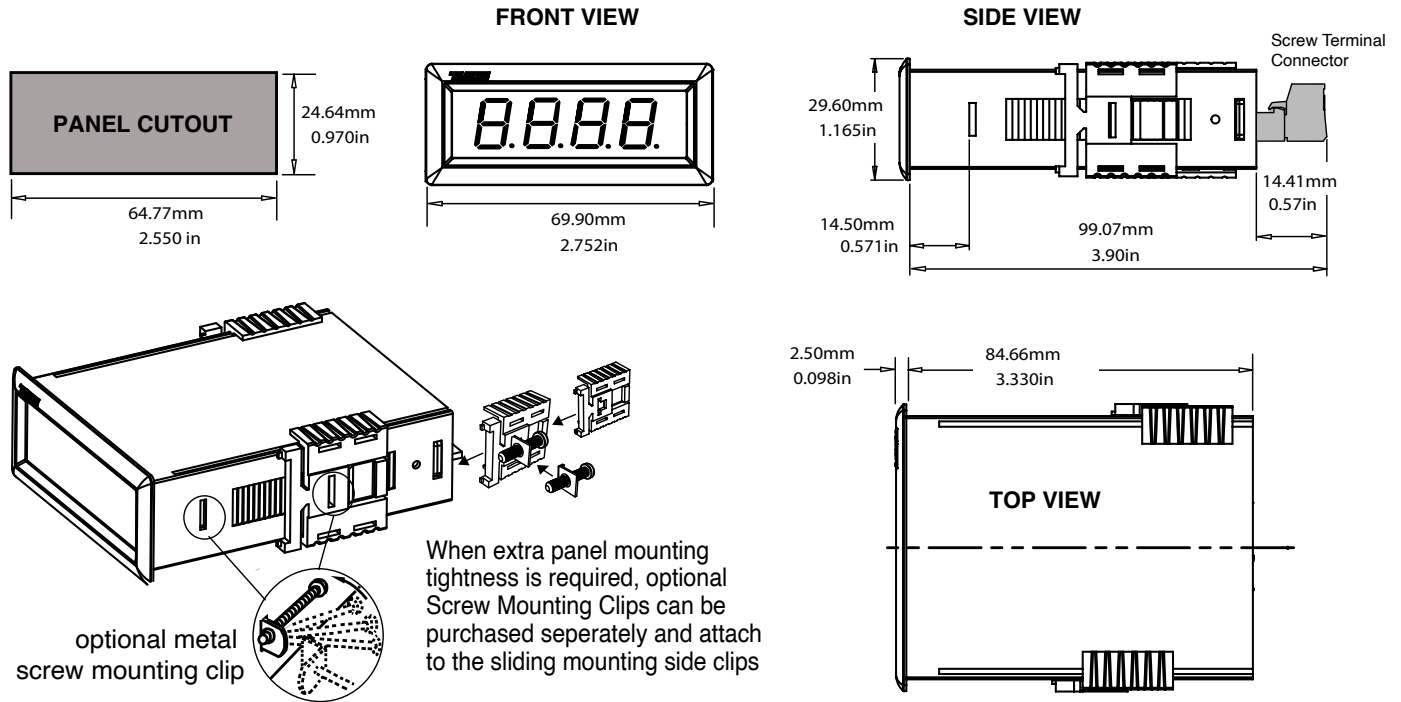


**CAUTION - ELECTRICAL SHOCK HAZARD** All internal parts of the meter may be at the same electrical potential as the input signal and power supply. Do not reposition the signal conditioning components when input voltages are applied. When measuring dangerously high input voltages, extreme care must be taken to insulate the connector pins as well as all metal parts of the meter. A suitable high voltage warning notice should be affixed to those meters where there is any possibility that the meter could be removed from its case, or the internal components accessed, concurrent with the existence of a high voltage input signal.

## Warranty Disclaimer

NOTE: Texmate provides documentation for modifying or altering the function of Texmate products solely for reference. Any customer alteration of Texmate products beyond the settings specified in their original purchase order, including recalibration or component modification/removal/substitution, will void their factory warranty.

# PM Case Dimensions and Panel Cutouts



## Ordering Information

### Standard Options for this Model Number

**Part Number**                      **Description**

► **BASIC MODEL NUMBER** Includes plug in type screw terminals, standard display and standard power supply unless optional versions are ordered.

**PM-45X-DCV**... 4.5 digit LCD with Backlight switch, non-isolated 5VDC powered; Optional Isolated (1.5kV) 5VDC, or (3kV) autosensing 9-75VDC Power Supply.

### Special Options and Accessories

**Part Number**                      **Description**

► **SPECIAL OPTIONS (Specify Inputs & Req. Reading)**

Z50K ..... Zero offset 50 K Pot.

ZR-PM-200mV    Factory default input 0 to 200mV DC. Default display scaling 199.99

ZR-PM-2V ..... Factory default input 0 to 2V DC. Default display scaling 1.9999

ZR-PM-20V . . . Factory default input 0 to 20V DC. Default display scaling 19.999

ZR-PM-200V . . . Factory default input 0 to 200V DC. Default display scaling 199.99

ZR-PM-1200V. . . Range change from 0 to 1200DCV. Default display scaling 1200.0

Range Change from Standard Range shown in **BOLD** Type. Please specify range when ordering. choose ZS for a different scaling.

ZS ..... Custom display scaling within standard range

### ► ACCESSORIES

SL.CASERED. . . Slim Bezel Case, Red Faceplate w/Mtg Hrdwre

PS-520 ..... 5V DC Regulated Power Supply, 2A Output

PS-510 ..... 5V DC Regulated Power Supply, 1A Output

93-PLUG2P-DL. . . Extra Screw Terminal Connector, 2 Pin Low Volt Power Plug

93-PLUG3P-DR . . Extra Screw Terminal Connector, 3 Pin Plug

75-PMMSET . . . . . PM Mounting Screw Set

75-PMMCLIPF. . . . Sliding mounting clips, extra set (2 pieces) for meter case.

### WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges pre-paid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

### USER'S RESPONSIBILITY

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