



Optional
Ratchetting
Mounting Side Clips

0.56" Red LED Display
Optional Blue or Green Display

SM-35-DCV

Easily-Scaled 5V DC Powered 3.5 Digit
(± 1999) Panel Meter

Multi-range:

2V standard with optional 50mVDC,
100mVDC Current Shunt,
20V, 200V, 1000VDC and
4-20mA, optional 5V isolator and optional
Differential Measurement

Great for High Voltage EV Battery &
Solar Battery Range

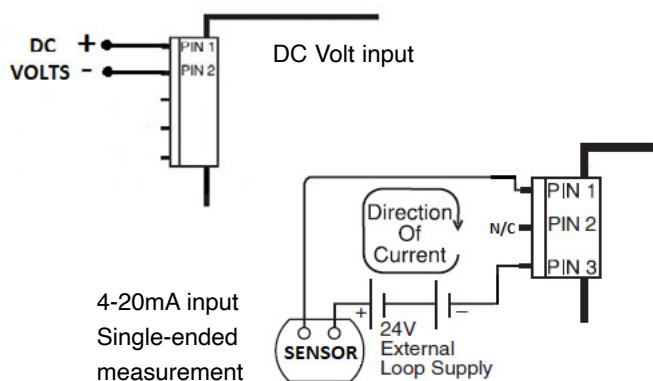
General Features

The SM-series of meters are designed to be scalable to almost any engineering unit of readout. The six ranges provided with the SM-35-DCV (LED display) and SM-35X-DCV (LCD display) are 50mV, 100mV current shunt, 2V, 20V, 200V and 1000V DC full scale. Optional 5V power isolator, 4-20mA and Differential Measurement are factory installed options only.

All SM-Series meters have bipolar single-ended inputs with optional differential measurement. The meters feature Display Hold, Display Test and Auto-Polarity indication.

The SM-Series meters have LED or LCD displays and offer many unique features designed to simplify usage. SM-35-DCV and SM-35X-DCV meters are pin-compatible, which enables LED and LCD meters to be interchanged within the same panel without necessitating wiring or panel cutout changes.

Typical Application Connection



SM-Series with LCD Display

SM-35X-DCV3.5 digit LCD with back light, 5VDC Powered;
optional isolation power.
input ranges: 50mV/100mV/2/20/200/1000VDC

Specifications

Input Configuration:Single-ended, with optional differential measurement and provision to offset the zero of the reading displayed

Input Impedance:1M Ω minimum

Full Scale Ranges: ± 2 VDC. (Meters shipped with 2V range selected) optional 50mVDC, 100mVDC ± 20 VDC, ± 200 VDC, ± 1000 V and 4-20mA ranges are available.

A/D Converter:12 Bit Dual Slope

Accuracy: $\pm 0.01\%$ of reading + 1 count
 $\pm 0.05\%$ of reading + 2 counts for 200V

Temperature Coefficient: 100 ppm/ $^{\circ}$ C typical

Warmup Time:One minute to specified accuracy

Conversion Rate:3 readings per second

Display:0.56" High efficiency Red LEDs .Optional Green, and Blue LEDs (visible under bright sunlight).Test and Hold Reading are standard features.

's "Display Hold" feature

Decimal Selection:User programmable to 3 positions

Over-range Indication: ...When input exceeds full scale on any range being used, most significant "1" digit and polarity symbol are displayed with all other digits blank

Power Supply:+4.5 to +5.5V DC at 150mA;
Optional 1.5kV 5V Isolation

Operating Temperature:... 0° C to $+50^{\circ}$ C

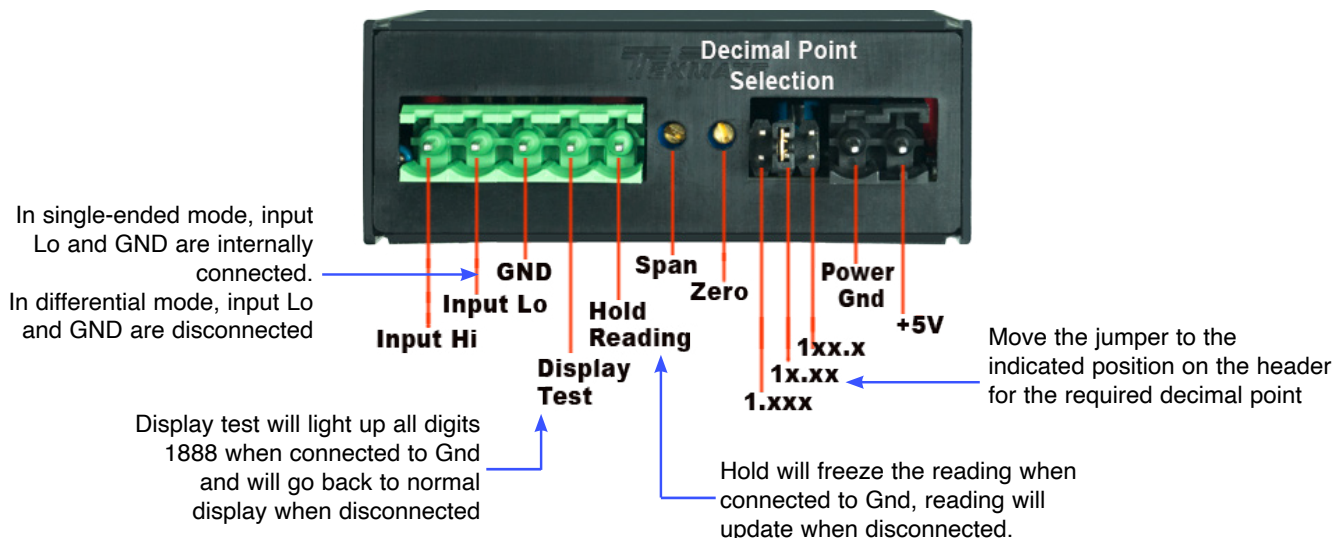
Storage Temperature: -20° to $+70^{\circ}$ C

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



Display Range

The display range is set by the factory for each of the available input ranges; default (maximum) display range is +/- 1999 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 1.999V input signal is calibrated to display 1999 counts; a 2.000V input signal will then show an over-range condition.

A optional Zero Offset potentiometer is provided to offset small voltages that may be coming from a sensor when the display is supposed to show zero. It is also installed with the 4-20mA input option to set the 4mA displayed value, typically to zero.

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

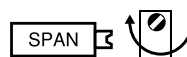
The input voltage is first conditioned by a voltage divider, depending on the required input range, to scale the input signal to the input range of the analog-to-digital converter. The signal is then low pass filtered ($F_c = 3.6\text{Hz}$). Measurement is done by a true differential, dual slope, analog-to-digital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

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.

WARRANTY

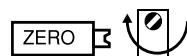
Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which 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.



Turn Clockwise to Increase Reading

SPAN Fine Potentiometer (Pot)

Typically, the 25 turn SPAN Fine Pot's adjustment range is 100% of the input signal.



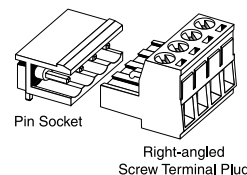
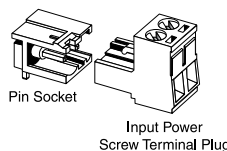
Turn Clockwise to Increase Reading

ZERO Potentiometer (Pot) Optional

The Optional ZERO pot when installed enables the displayed reading to be offset about ± 55 counts. Larger offset ranges can be done, contact Texmate with your requirements.

Connectors

This meter uses plug-in type screw terminal connectors for all input and output connections. The power supply connections have a unique plug and socket outline to prevent cross connection. The main board uses standard right-angled connectors.



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.

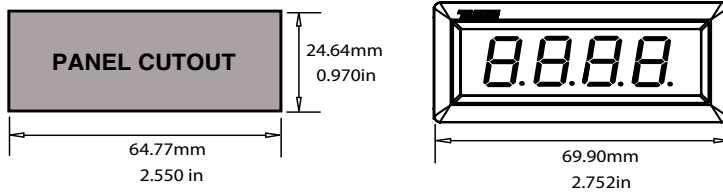
USER'S RESPONSIBILITY

We are pleased to offer suggestions on the use of our various products either by way of printed matter or through direct contact with our sales/application engineering staff. However, since we have no control over the use of our products once they are shipped, **NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE** is made beyond the repair, replacement, or refund of purchase price at the sole discretion of Texmate. Users shall determine the suitability of the product for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any of our suggestions or statements as to application or construction. In no event shall Texmate's liability, in law or otherwise, be in excess of the purchase price of the product.

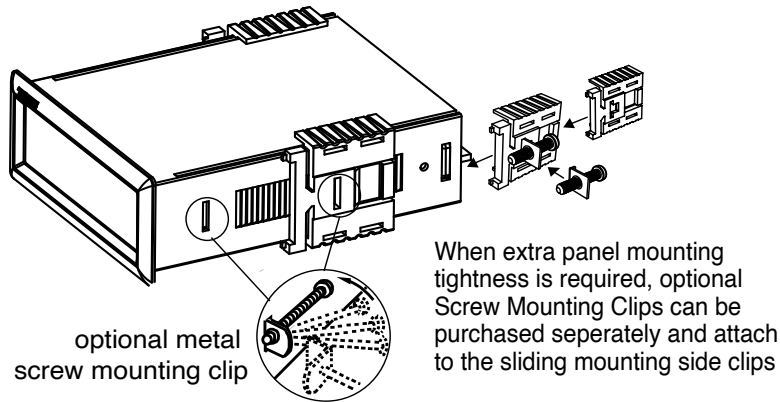
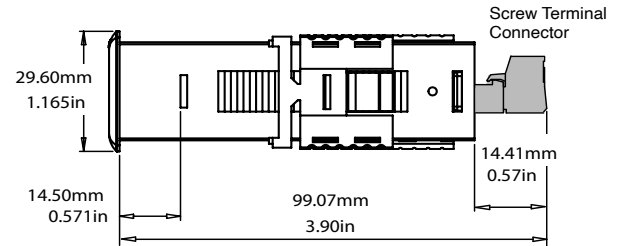
Texmate cannot assume responsibility for any circuitry described. No circuit patent or software licenses are implied. Texmate reserves the right to change circuitry, operating software, specifications, and prices without notice at any time.

SM Case Dimensions and Panel Cutouts

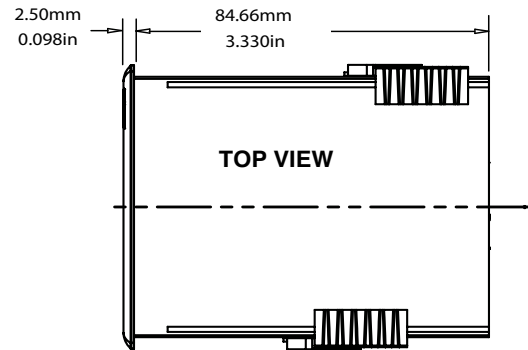
FRONT VIEW



SIDE VIEW



TOP VIEW



Ordering Information

Part Number Description

► **BASIC MODEL NUMBER** Includes screw terminal connectors, standard display and standard power supply unless optional versions are ordered.

SM-35-DCV 3.5 digit Red LED, **2V** (optional 50mV/100mV/20V/200V/1000V, 4-20mA, 5V Isolator and differential measurement.) 5VDC Powered (non-isolated)

► DISPLAY

STANDARD Red LED, 0.96 inch high

SM-GREEN . . . Green LEDs

SM-BLUE Blue LEDs

► SPECIAL OPTIONS (Specify Inputs & Req. Reading)

V0-ISO5V 5V isolator-1.5kV isolator between signal and power

ZZ-SM35-DIFF . Differential Measurement

ZR-SM35-50M. . Range change 0 to 50mV DC. Display scaling 100.0

ZR-SM35-100M . Range change 0 to 100mV DC. Display scaling 100.0

ZR-SM35-4-20 . . Range change 4 to 20mV DC. Display scaling 100.0

ZR-SM35-20V. . . Range change 0 to 20V DC. Display scaling 1999

ZR-SM35-200V . Range change 0 to 200V DC. Display scaling 1999

ZR-SM35-1KV. . . Range change 0 to 1000V DC. Display scaling 1000

ZS. Custom digital display scaling within standard ranges

► 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-PMMCCLIPF. . . Sliding mounting clips, extra set (2 pieces) for meter case.

Meters in Dashboard Case Enclosure



AM-20 20 segment LED bargraph, 5V DC powered.

CM-35XTL Less than 1V DC loop drop and 1 Joule energy storage 4-20mA Loop-powered meter



CM-35XT Economical 4-20mA loop-powered meter

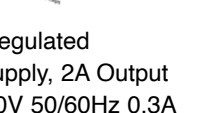


PM-45X-DCV .. 4.5 digit 0.48" LCD DPM

PM-45-DCV 4.5 digit 0.4.4" LED DPM



SP-35X Signal Power DC voltage measurement from 5.0V DC to 199.9V DC



PS-520 5V DC Regulated Power Supply, 2A Output operated from 90-260V 50/60Hz 0.3A



PS-510 5V DC Regulated Power Supply, 1A Output operated from 110-130VAC or 220-240VDC

TEXMATE Measurement Control Since 1976 Automation **MADE IN THE USA**
1934 Kellogg Ave., Carlsbad, CA 92008
Tel: 1-760-598-9899 • 1-800-TEXMATE
Email: orders@texmate.com
Tech Support: techsupport@texmate.com

SM-35-DCV Technical Manual Copyright © 2025 Texmate Inc. All rights reserved. Published by: Texmate Inc. USA. Information in this Technical Manual is subject to change without notice due to correction or enhancement. The information described in this manual is proprietary to Texmate, Inc. and may not be copied, reproduced or transmitted, in whole or in part, in connection with the design, manufacture, or sale of apparatus, device or private label product without the express written consent of Texmate, Inc.