

Digital Strain Gage Panel Meter Model SM9640



Rear
Termination

COMPACT - POWERFUL - ECONOMICAL

These small strain gage sensor meters are ideal for panel mount industrial applications. Easy calibration with a known load allows you to simply enter Low and High input values and corresponding Low and High reading. Options available include an analog output or RS232 output.

Standard Features:

- 3/64 DIN
- Compact 0.94" h x 2.83" w
- 1999 to 9999 Display Range
- 18 Bit Internal Resolution
- IP65/NEMA 4 Front Panel
- Input Range +/-30mV & +/-120mV
- 4 Digit 0.56" LED Display
- Selectable Decimal Point
- Peak/Valley
- Push Button Tare
- Two Alarm Relay Output
- 85-264 VAC Powered
- 10VDC @ 30mA Excitation
- 5/Sec Display Update Rate
- Digital Filtering Selection
- Password Protection
- CE Approved

Conversion The Model SM9640 has a microprocessor controlled charge balancing A/D converter with 18 bit internal resolution. The conversion rate is selectable to 5/second.

Autocalibration/Load Calibration This function allows the user to setup meter with known/calibrated inputs. Low signal input is applied and the value desired on the display is entered. High signal input is applied and the full scale value desired on the display is entered to complete the setup.

Peak/Valley Display Two independent memory storages using the front key selection and reset are standard features of this compact meter with an adjustable capture width from .1 to 120 seconds.

Autotare Function The autotare function allows the user the capability of setting the reading to zero, storing the tare value. This function is performed by pushing a front panel button.

Front Keys Function Selection The two front keys have different functions depending on the user setup.

Password Multilevel password protection is possible to prevent the operator from altering the calibration setup, setpoint setting or peak reset. A special function allows the user to restore the factory setup configuration.

Alarms • 2 x SPST relay outputs are programmable as high, low or low with start-up disable alarm, on/off controller with direct or reverse action; high or low deviation alarm. • Slope state detector • Adjustable on/off delay from 1 to 20 seconds • Adjustable hysteresis from 0 – 8000 counts

Display This large 4 digit LED display allows readings from -1999 to 9999. The decimal point is selectable and the display format and resolution are selectable as follows:

| | |
|---------------------|--------------------|
| -1000 to 9999 basic | -1998 to 9998 by 2 |
| -1995 to 9995 by 5 | 1990 to 9990 by 10 |

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OPTIONS AVAILABLE:

Analog Output (Option A) The optional Isolated analog output is selectable as 0 – 10 V (output impedance is 10 ohm), 0 – 5 V, 0 – 20 mA or 4 – 20 mA and is adjustable over a user defined part of the reading via the keypad setup. Load Resistance is 0 - 550 ohm. Isolation is 500 Vrms. Accuracy +/-0.1%.

RS-232 Serial Output For Data Acquisition (Option P) Optional isolated, unidirectional (transmit only) RS-232 serial output with front key single or continuous transmit of tension reading. Offers baud rate selection, output rate and CR/CRLF line terminator selection. Isolation is 200 Vrms. V.24 compatible. Options P and A not available together.

1/8 DIN Adapter (Option D)

NEMA 4X Front Cover (Option 4X)

Specifications

| | | | |
|----------------------|--|-------------------|--|
| Input voltage Range: | $\pm 30\text{mV}$ and $\pm 120\text{mV}$ | Span Drift: | $\pm 50 \text{ ppm } / ^\circ\text{C}$ of f.s. |
| Accuracy: | $\pm 0.04\%$ @ 100 mV | Input Impedance:> | 1000 Mohm |
| Zero Drift: | $\pm 1\mu\text{V}^\circ\text{C} + 20 \text{ ppm}/^\circ\text{C}$ of f.s. | Input Current: | <10 nA |

Excitation Supply

10V \pm 0.1% @ 30mA maximum
short circuit protected and internal
voltage trimming

Alarm Output

Relay Output: 250 ACV @ 5 A/24 DCV @ 1A
Alarm latching; off/manual reset/failsafe

Input

N.M.R.R: >60 dB @ 50 and 60 Hz
C.M.R.R: >135 dB from input to supply
Response Time: 1 second within $\pm 0.05\%$

Conversion

Measuring System: Continuous integration charge balancing converter
Internal Resolution: 1 part over 200,000
Conversion Time: Setable at 200, 400, 800 msec.
Digital Filter: Walking window mean setable as slow,
normal or fast

Power Supply

AC Supply voltage: 90-264 ACV @ 47-70Hz
Power Consumption: 4 VA
Isolation: >2500 Vrms

Environmental

Warm up time: 1 minute
Operating Temp. -10/+60°C
Storage Temperature: -40/+85°C
Humidity: 0/90% non-condensing

Mechanical

Front Protection: IP65/NEMA4
Case Material: Polycarbonate UL94V.2
Weight: 0.4 pound (or 200 gram)
Cut Out Dimensions: .875" Min./1.900" Max x 2.695 Min / 2.720 Max.
Dimensions: 3/64 DIN; 0.94" x 2.83" x 4.92" (24 x 72 x 125 mm)