



P.O. BOX 740755 ARVADA, CO. 80006 USA
 TEL. (303) 465-1011 • FAX (303) 466-9761

Model SM9850 Specifications
Digital Panel Meter For Load Cells/Tension Sensors
Accurate - Reliable - High Speed Update Rate

Meter Display: 5 LED 7 Segment, 0.56" (14.2mm) high digits & 3 LED indicators
Display Color: Red is standard, Green is Optional
Display Range: -99999 to +99999 and -99990 to +99990

A to D Conversion: Read Rate, 60/sec for 60 Hz NMR or 50/sec 50 Hz NMR
Display Update Rate: 3.5/sec at 60Hz or 3/sec at 50 Hz
Output Update Rate: 56/sec at 60 Hz or 47/sec at 50 Hz

Power Requirements:

Standard Voltage Inputs:..... 85-264 VAC or 90-300 VDC (DC range no UL approved)
Low Voltage Input Option:..... 12-32 VAC or 10-48 VDC
Power Line Frequency:..... DC and 47 – 63 Hz
Power Consumption:..... 5 Watts Maximum

Excitation Outputs: Voltage & Current Level (jumper selectable) 5 VDC $\pm 5\%$, 100 mA max
 10 VDC $\pm 5\%$, 120 mA max
 24 VDC $\pm 5\%$, 40 mA max

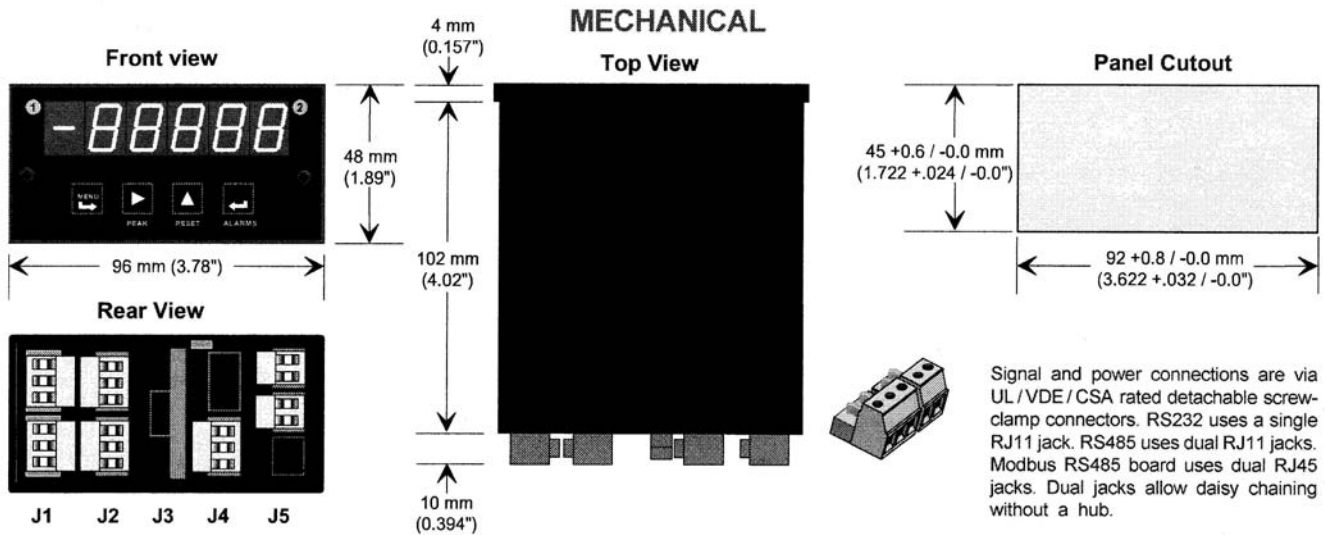
Isolation from power and outputs:..... 250 VAC
Isolation to signal common:..... 50 VDC
Excitation Output Ripple:..... 100 mVp max
Insulation dielectric strength to power and outputs: 3.5 kV AC for 5 sec, 2.3 kV AC for 1 min

**LOAD CELL INPUT TYPES: Strain Gaged Full Bridge Load Cells or Sensor Transducers
 With 4 or 6 Wire Connection.**

Range	Resolution	Resistance	Zero Range	Span Range	Error
± 20.000 mV	1 μ V	1 G Ω	-99999 to 99999	0 to $\pm 99,999$	0.01% of FS ± 2 counts
± 50.000 mV	2.5 μ V				
± 100.00 mV	5 μ V				
± 250.00 mV	12.5 μ V				
± 500.00 mV	25 μ V				

Environmental:

Operating Temperature: 0°C to 55°C
Storage Temperature: -40°C to 85°C
Relative Humidity: 95% from 0°C to 40°C, non-condensing
Case: NEMA-4X (IP65) from front when panel mounted
Certified to UL 61010C-1 (UL Mark), EN 61010-1 (CE Mark), and ROHS



Control Inputs: (CMOS/TTL Levels, Logic 0 = tied to digital ground, logic 1= open)

- /Hold Input..... Logic 0 holds display and outputs
- /Peak or Valley Input..... Logic 0 displays peak/valley value
- /Tare Input..... Logic 0 offsets input value to zero
- /Tare Reset..... Logic 0 resets Tare value to zero
- /Reset Input..... Logic 0 resets all meter functions
- /Function Reset Input..... Logic 0 resets peak values and alarms
- /Decimal Point Input..... Overrides internal DP selections and controls DP position
- /Display Blank Input..... Logic 0 shuts off the display

- Noise Rejection:**
- CMV from DC to 60 Hz..... Withstand 250 VAC
 - CMR from DC to 60 Hz..... 130 dB
 - NMR at 50/60 Hz..... 90 dB with minimum digital filtering
 - Dielectric Strength..... 3.5 kV AC for 5 sec, 2.3 kV AC for 1 min.

Analog Output Option: Power to analog output option is supplied by meter

- Output Levels: 0-10VDC, -10 to + 10VDC, 0-20mA, 4-20 mA
- Accuracy: Meter input accuracy of ±0.02% of FS output
- Resolution: 16 Bit (1 part in 65,536)
- Current Compliance: 2 mA at 10V (≥5 kOhm Load)
- Voltage Compliance: 12V at 20 mA (≤600 Ohm Load)
- Response Time: 50/60 Hz update rate
- Scaling of Reading for Zero Output....-99,999 to +99,999
- Scaling of Reading for Full Scale Output..... -99,999 to +99,999
- Isolation rating between signal common and analog output.....250 VAC
- Insulation dielectric strength between signal common and analog output:
 3.5 kV AC for 5 sec, 2.3 kV AC for 1 min

Relay Options: Dual and Quad Offered. Power to relays provided by meter

- Setpoint Setup..... Via front panel pushbuttons or RS232/485
- Update Rate..... 56/sec at 60 Hz, 47/sec at 50 Hz
- Response to input signal (min)... Display update rate
- Input Signal (selectable)..... Filtered or un-filtered input signal
- Actuation Modes (selectable)..... Above or below setpoint, latching or non-latching, disabled
- Output Time Delay (selectable)... 1 – 128 readings
- Front Panel Enable / Lockout Modes (selectable).....
 - 1) Display and change setpoints
 - 2) Display but do not change setpoints
 - 3) Neither display nor change setpoints
- Alarm Status Indication..... 2 or 4 red LED lamps
- Status Indication Setup (selectable)...Lit when output is ON or OFF, or disabled

Form C, SPDT Relay Output:

- AC Rating.... 8A@ 240 VAC
- DC Rating....8A @ 24 VDC
- Isolation rating between signal common and contacts: 250 VAC
- Insulation dielectric strength between signal common and contacts:
3.5 kV AC for 5 sec, 2.3 kV AC for 1 min

Form A, SPST Solid State Relay Output:

- AC Rating.....130 mA @ 140 VAC
- DC Rating..... 130 mA @ 180 VDC
- Isolation rating between signal common and contacts.....250 VAC
- Insulation dielectric strength between signal common and contacts:
3.5 kV AC for 5 sec, 2.3 kV AC for 1 min

Serial Interface Options: USB, RS232, RS485

- Power to Interface Option..... Powered by meter
- RS485 Wiring..... Half or full duplex
- Baud Rates..... 300, 600, 1200, 2400, 4800, 9600, 19200
- Serial Protocols..... Custom ASCII
- Signal Levels..... Meet RS232, RS485 or USB
- Connectors.....USB, Single RJ11 (RS232), two RJ11 (RS485),
- Isolation rating between signal common and serial I/O.....250 VAC
- Insulation dielectric strength between signal common and serial I/O:
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