

# DIGITAL PANEL METER FOR DC VOLTAGE, CURRENT, STRAIN GAUGES OR PROCESS SIGNALS

MODEL  
HI-QDPM

## FEATURES:

- **Multi-range at dedicated meter prices:**  
DC and AC Volts and Amps, Strain, Process, RTD's, Thermocouples
- **60 conversions per second for:**  
Fast control response  
True peak reading  
Analog outputs that track the input
- **Scaleable to 5 Digits:**  
Engineering Units to +/-99,999  
Set up by front panel pushbuttons
- **Worldwide input power:**  
85 to 264 VAC and 90 to 370 VDC
- **Isolated 5, 10 or 24 VDC output:**  
Powers up to 4 load cells or transmitter
- **Peak hold and auto tare**
- **Automatic, adaptive digital filter**



The HI-QDPM digital panel meter is a low cost solution to a wide range of monitoring and control applications. By simple front panel push-button setup, one meter with a DC signal conditioner can be programmed to display DC voltage, current, strain gauges or process signals. The temperature signal conditioner allows the user to select between 6 popular thermocouples or 2 RTD types. All at the price of a single function meter! Plug-in signal conditioners for AC (True RMS) voltage and current or low level load cells are available.

Input signals may be displayed as voltage or current, or scaled five full digits from 0 to 99,999 to read directly in engineering units, such as ft./lbs, rpm, psi, etc. No calibration equipment is required when changing ranges; all ranges are digitally pre-calibrated at the factory. Temperature scales (Celsius or Fahrenheit) are selectable from the front panel.

## PLUG-IN OPTIONS

- **Dual setpoint Controller:**  
10 Amp, 250VAC relays or isolated transistor outputs
- **Isolated Linearized Analog Outputs:**  
0 to 10VDC and 0 to 20mA
- **Isolated Digital Communications:**  
RS-232 for interface and meter setup  
RS-485 to interface with multiple meters  
Baud rates from 300 to 19,200  
Parallel BCD output
- **Isolated Low Voltage Power Supply:**  
9 to 37VDC and 8 to 28VAC inputs  
Isolated 5, 10 or 24VDC output

The HI-QDPM digital panel meter makes 60 readings per second (50 for 50Hz operation) for fast control response, true peak reading capability and an analog output that accurately tracks the signal input. The meter has an adaptive digital filter that can automatically select the best time constant for minimum noise, but yet responds rapidly to an actual change in signal level. The peak value of the input signal can be displayed by a push of a button on the front panel. Auto tare allows the meter display to be set to zero for any input signal level.

The HI-QDPM provides an isolated 5, 10 or 24VDC output to power strain gauges and transmitters, eliminating the need for an external supply. The meter has two alarm indicators with the set points programmed by front panel push-button. Transistors or dual 10 amp relays may be included to provide control outputs. The output can be set to operate above or below the set point and in a latched or non-latching mode. 0 to 10V and 0 to 20mA analog outputs are available to drive chart recorders, remote displays or for transmission to a central control room. The outputs are scaled through the front panel push-button. Adding RS-232 or RS-485 enables the HI-QDPM to communicate with PLC's or computers. Baud rates can be set from 300 to 19,200. Software provided by Process Instrument Company with these options makes meter setup even easier. Tri-state parallel BCD outputs are also available.

## SPECIFICATIONS

Display  
 Type: ..... 5 LED, 7-segment,  
 14.2mm (.56") high digits and 3 LED indicators  
 Color ..... Red or green  
 Range ..... -99999 to +99999  
 A to D Conversion  
 Technique (Pat. 5,262,780) ..... Concurrent Slope  
 Rate ..... 60/s at 60Hz operation  
 50/s at 50Hz operation  
 Output Update Rate ..... 56/s at 60Hz  
 47/s at 50Hz  
 Display Update Rate ..... 3.5/s at 60Hz  
 3/s at 50Hz

Accuracy at 25°C  
 DC Volts, Amps, Ratio ..... 0.01%FS +/- 1 Ct  
 Thermocouple ..... 0.3°C maximum error  
 RTD ..... 0.06°C maximum error  
 True RMS (1 to 100%) ..... 0.1%FS, 10Hz to 10kHz  
 Load Cell Meter ..... 0.01FS +/- 1 Ct.  
 Span Tempco ..... 0.003% of reading/°C  
 Load Cell Meter ..... 0.0015% of reading/°C  
 Zero Tempco ..... 0.1 Cts./°C  
 Reference Junction ..... 0.03 degree/degree  
 Noise Rejection  
 CMV from DC to 60Hz ..... Safety-rated to 250VAC,  
 4.2kVp her High Voltage Test  
 CMR from DC to 60Hz ..... 130dB  
 NMR to 50/60HzLine ..... 90dB with minimum  
 filtering

Environmental  
 Operating Temperature ..... 0° C to 55°C  
 Storage Temperature ..... -40°C to 85°C  
 Relative Humidity ..... 95% at 40°C,  
 noncondensing  
 NEMA4X ..... when mounted in  
 panel  
 Operating Power  
 Voltage (std.) ..... 85 to 264VAC, 90 to  
 370VDC  
 Voltage (opt) ..... 8 to 28VAC, 9 to  
 37VDC  
 Frequency ..... DC and 47 to 440Hz  
 Excitation Power Supplies  
 Outputs ..... 5VDC, 5%, 100mA max.  
 10VDC, 5%, 120mA max.  
 24VDC, 5%, 50mA max.

### ORDERING INFORMATION (01/2003)

