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**

PLUG-IN OPTIONS

- **Dual setpoint Controller:**
  10 Amp, 250VAC relays or isolated transistor outputs
- **Isolated Linearized Analog Ouputs:**
  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 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.

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.

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PRECISION INSTRUMENT COMPANY

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MADE IN USA

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^{0}C
DC Volts, Amps, Ratio ..... 0.01%FS +/-1 Ct
Thermocouple ..... 0.3^{0}C maximum error
RTD ..... 0.06^{0}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/^{0}C
Load Cell Meter ..... 0.0015% of reading/^{0}C
Zero Tempco ..... 0.1 Cts./^{0}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 ..... 0^0 C to 55^{0}C
Storage Temperature ..... -40^{0}C to 85^{0}C
Relative Humidity ..... 95% at 40^{0}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)

HI-QDPM-- [1] [2] [3] [4] [5] [6]

DISPLAY COLOR (1)
1 ..... Green
2 ..... Red

POWER INPUT (2)
0 ..... 90-260VAC
1 ..... 9-32VDC

ALARM OUTPUT (3)
0 ..... None
1 ..... 2 Ea. 10A Relay
2 ..... Open Collector XTR.

ANALOG OUTPUT (4)
0 ..... None
1 ..... 0-20mA, 0-10VDC

DIGITAL INTERFACE (5)
0 ..... None
1 ..... RS-232C
2 ..... RS-485
3 ..... BCD

ANALOG VDC INPUT (F.S.) (6)
DCV1 ..... 200mVDC
DCV2 ..... 2VDC
DCV3 ..... 20VDC
DCV4 ..... 200VDC
DCV5 ..... 660VDC

ADC
DCA1 ..... 2mADC
DCA2 ..... 20mADC
DCA3 ..... 200mADC
DCA4 ..... 5ADC

RTD (100? ?PT100)
P385C ..... -200 To 760^0 C
P385F ..... -330 To 1560^0 F
P392C ..... -200 To 850^0 C
P392F ..... -330 To 1560^0 F

TC (THERMOCOUPLE)
JC ..... -210 To 760^0 C
JF ..... -347 To 1400^0 F
KC ..... -244 To 1372^0 C
KF ..... -408 To 2500^0 F
TC ..... -257 To 400^0 C
TF ..... -430 To 752^0 F
EC ..... -240 To 1000^0 C
EF ..... -400 To 1830^0 F
SC ..... -46 To 1766^0 C
SF ..... -51 TO 3214^0 F
RC ..... -45 To 1768^0 C
RF ..... -48 To 3213^0 F

PROCESS SIGNAL
P 4-20mA
P1 ..... Custom (Specify)

STRAIN-GAGE (4 Wire Ratio)
SG ..... 0-200mV = 0-20,000
SG1 ..... Custom (Specify)

RMS VOLTS
RMV1 ..... 200mV
RMV2 ..... 2V
RMV3 ..... 20V
RMV4 ..... 200V
RMV5 ..... 660V

RMS AMPS
RMA1 ..... 2mA
RMA2 ..... 20mA
RMA3 ..... 200mA
RMA4 ..... 5AMPS