



# HOSKIN SCIENTIFIC LTD.

Sensors, Transducers and Instrumentation Since 1946

## MICRO-PRO SERIES Digital Panel Meter

The **MICRO-PRO** series digital panel meter is the solution to a wide range of monitoring and control applications. With simple front panel push button setup, the display can be programmed for DC voltage or current, true RMS voltage or current, strain gauge based transducers, process signals, one of six thermocouple types and PT-100 RTDs.

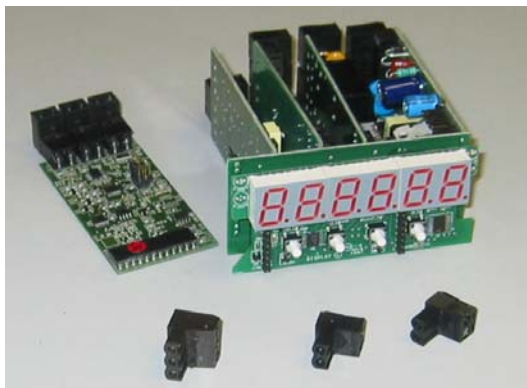
Input signals may be displayed as voltage, current, temperature or scaled to a full five digits from -99999 to 99999 to read in engineering units such as lbs, psi, ft-lb, etc. No calibration equipment is required when changing ranges. All ranges are digitally precalibrated at the factory. Temperature scales ( $^{\circ}\text{C}$  or  $^{\circ}\text{F}$ ) are selected from the front panel.

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

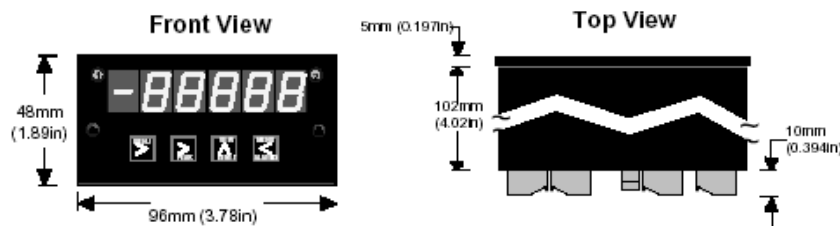
The **MICRO-PRO** provides an isolated 5, 10 or 24 VDC output to power transducers, eliminating the need for an external supply.

This meter has two alarm indicators with set points programmed with the front panel pushbuttons. Open collector transistors or dual 10 A relays may be added for control applications. The outputs can be set to operate above or below the set point and in a latched or non-latching mode. Time delays of the outputs are digitally selectable.

0 – 10VDC or 0 – 20mA analog outputs are available to drive chart recorders, remote displays or for retransmission to a central control room. The outputs are scaled through the front panel buttons.



Adding RS-232 or RS-485 enables the meter to communicate with PLCs or computers. Baud rates can be set from 300 to 19,200. Optional software provided makes meter setup even easier. Three-state parallel BCD outputs are also available.



### FEATURES

- **Universal Signal Inputs**
  - VDC, vac, A, mA, Wheatstone Bridge, process 4-20mA and 0-10VDC, RTD, thermocouples
- **60 Conversions per second for:**
  - fast control response
  - true peak reading
  - analog outputs that track the input
- **Scalable to 5 Digits**
  - Engineering units to +/-99999
  - Setup by front panel push buttons
- **Worldwide Input Power**
  - 85 – 264vac and 90 – 370VDC
- **Isolated 5, 10 or 24 VDC Excitation**
  - Provides transducer excitation
- **Peak Hold and Auto Tare**
- **Automatic Adaptive Digital Filtering**
- **Plug-in Screw Terminals**

### PLUG-IN OPTIONS

- **Dual Set point Controller**
  - 10A, 240vac Form C relays or isolated transistor outputs
- **Isolated Linearized Analog Outputs**
  - 0 – 10VDC or 0/4 – 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 – 37VDC and 8 – 28vac inputs
  - Isolated 5, 10, 24VDC output

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## SPECIFICATIONS

### Display

Type ..... 5 LED, 7-segment  
14.2 mm (0.56")  
Color ..... Red or Green LED  
Range ..... -99999 to +99999  
and -99990 to +99990

### AD Conversion

Technique ..... Concurrent Slope  
Rate ..... 60/s at 60Hz  
50/s at 50Hz  
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 V, A, Ratio ..... 0.01%FS +/-1 Ct.  
Thermocouple ..... 0.2°C max.  
True RMS (1-100%) ..... 0.05%FS  
Load Cell ..... 0.01%FS +/-1 Ct.  
Span Tempco ..... 0.003% of reading /°C  
Zero Tempco ..... 0.1 Cts/°C  
Reference junction ..... 0.03 °°

### Noise Rejection

CMV from DC to 60 Hz ..... Safety-rated to 250vac  
4.2kVp per High Voltage Test  
CMR from DC to 60 Hz ..... 130 dB  
NMR to 50/60 Hz line ..... 90 dB with minimum filtering

### Environmental

Operating temperature ..... 0 – 55°C  
Storage temperature ..... -40 – 85°C  
Relative Humidity ..... 95% at 40°C, non-condensing

### Operating Power

Voltage (std) ..... 85 – 264vac. 90 – 370VDC  
Voltage (opt) ..... 8 – 28vac, 9 – 37VDC  
Frequency ..... DC and 47 to 440Hz

### Excitation Power Supplies

Outputs ..... 5VDC, 5%, 200mA max.  
10VDC, 5%, 120mA max.  
24VDC, 5%, 50mA max.  
Isolation (power ground)..... Safety-rated to 250vac  
4.2kVp per High Voltage Test

## ACCESSORIES:



**Micro-Pro shown with optional enclosure.**

Front mounted toggle switch for selectable functions such as tare, reset, peak/hold and meter hold. Two connectors in rear allow connection to transducer and analog/discrete outputs.

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