



# LAUREATE™ Digital Panel Meters

## Unmatched Features, Speed & Accuracy

### Standard Features

#### Choice of 5 signal conditioners:

- DC volts, amps, process, strain
- 6-wire load cell to 20 mV FS
- True RMS volts & amps
- Thermocouple
- RTD & Ohms

#### Exceptional accuracy

- 0.01% of FS for DC, load, process
- 0.1% of FS for AC RMS
- 0.3°C for thermocouples
- 0.1°C for RTDs

#### Scalable to engineering units

- 5 digits to  $\pm 99,999$  or  $\pm 99,990$
- All ranges factory calibrated
- Three scaling methods: scale & offset, two-point, or signal input

#### High-speed data collection

- 50 or 60 conversions/sec
- Adaptive digital noise filter
- Peak hold & auto-tare

#### Universal power

- 85-264 Vac and 90-300 Vdc

#### Isolated 5, 10 & 24 Vdc output

- Powers 4 load cells in parallel

#### Red or green LED display

### Options

#### Relay outputs

- Dual/quad 8 A, 250 V contact relays
- Dual/quad AC/DC solid state relays

#### Isolated analog output

- 4-20 mA, 0-10 V or -10 to +10 V
- 16 bits, isolated & linearized

#### Isolated serial communications

- RS232
- USB2.0
- USB-to-RS485 converter
- RS485 with Laurel protocol
- RS485 with Modbus protocol

#### Isolated low-voltage power

- 10-48 Vdc or 12-32 Vac

#### Extended main board

- Custom curve linearization
- Rate from successive readings



Laureate™ digital panel meters are a cost-effective solution to a wide range of monitoring and control applications, offering performance and programmable features not found in other meters. Exceptional flexibility is provided by advanced software and isolated options for on/off control, analog output, and serial communications.

The meters are economical, fit in a standard 1/8 DIN panel cutout, and are sealed to NEMA-4X from the front.

#### Fast Response with High Accuracy

Accuracy is an exceptional 0.01% of FS for DC, process and load cell signals, and 0.1% of FS for AC RMS from 0% to 100% of FS. Measurements are taken at 60 readings per second (50 for 50 Hz operation) with 16-bit resolution for fast control, true peak and valley readings, and an analog output that accurately tracks the input. An adaptive digital filter can automatically select the best time constant for noise rejection, yet responds rapidly to actual changes in signal level.

The peak or valley value of the input can be displayed at the push of a button. Auto-tare can zero the display for any input signal.

#### Scalable to Five Full Digits

Input signals may be displayed as voltage or current, or be scaled to five digits from -99,999 to +99,999 for display in engineering units. Three calibration methods are selectable: scale and offset ( $y = mx + b$ ), two-point method ( $(x_1, y_1)$ ,  $(x_2, y_2)$ ), and calibration using actual transducer signals. All ranges are calibrated at the factory with calibration factors stored in EEPROM on the signal conditioner board, so that re-calibration is not needed when changing ranges or boards.

#### Choice Signal Conditioners

Five signal conditioners accommodate most industrial DC, AC, strain, load cell,

temperature and resistance signals. Please see our website for counter/timer products.

#### Isolated Excitation Power

Isolated 5, 10, or 24 Vdc output power can drive 2-wire transmitters or up to four 350 ohm load cells in parallel, thereby eliminating an external power supply.

#### Isolated Dual-setpoint Options

Setpoint options for alarm and control: are dual or quad 8A Form C contact relays, and dual or quad optoisolated 130 mA AC/DC Form A solid state relays. The relays can be latching or nonlatching, operate in a hysteresis mode, or operate in a deviation mode with a passband around each setpoint.

#### Isolated Analog Output Option

An isolated 16-bit 4-20 mA, 0-10V, or -10 to +10V isolated analog output is available for transmission to other instruments or to a central control room. The output is linearized and scaled to the meter reading.

#### Isolated Communication Options

RS232, RS485 or USB serial interface boards allow Laureates to communicate with computers, PLCs or printers. The Modbus protocol (RTU or ASCII) is fully supported, as is the simpler Laurel ASCII protocol. Windows-based Instrument Setup software is standard.

#### Rate & Nonlinear Curve Fit Options

An Extended main board can display rate from successive readings and perform custom curve linearization, for example to extend the range of transducers.

#### Easy Setup

All Laureate meters can be programmed from the front panel or via Windows-based Instrument Setup Software on a PC.

