



LAUREATE™ Remote Displays

6-Digit Readouts with Control Capability

Features

Mechanical

- 6 digits, -999,999 to 999,999
- Red or green LED display
- NEMA-4X front panel
- 1/8 DIN case
- Screw terminal connectors

Choice of serial interfaces

- RS232
- USB
- RS485
- Modbus RS485
- USB-to-RS485 converter

Choice of input power

- 85-264 Vac or 90-300 Vdc
- 12-34 Vac or 10-48 Vdc

Relay output options

- Dual or quad relays
- 8A, 250 Vac contact relays
- AC/DC solid state relays
- Relay actuation based on displayed value or control characters.

Analog output options

- Single 4-20 mA, 0-20 mA, 0-10V or -10 to +10V analog output
- Dual 4-20 mA, 0-20 mA or 0-10V analog outputs

Isolation

- All inputs and outputs are mutually isolated to 250 Vrms working, 2.3 kV per 1 min test.



Laureate™ six-digit remote displays are serial input meters which accept an RS232, RS485, Modbus RS485 or USB signal from a computer, PLC or other instrument to display a numeric reading from -999,999 to +999,999. The units match the appearance of Laureate digital panel meters and counters. The display consists of six 14.2 mm (.56") high LED digits, available in red or green. The 1/8 DIN front panel is environmentally sealed to NEMA-4X when panel mounted.

Standard input power is 85-264 Vac or 90-300 Vdc. Optional low-voltage power is 12-34 Vac or 10-48 Vdc.

Communication Options

A serial interface is required. Choices are RS232, USB, RS485, Modbus RS485, or USB-to-RS485 converter.

The RS232 interface allows direct connection to a PC com port, while the USB interface allows direct connection to a PC USB port.

The RS485 interface allows up to 31 Laureate devices to be connected to the same RS485 line in parallel using the relatively simple Laurel ASCII protocol. Each networked remote display will only show the value transmitted for its unique address.

The Modbus RS485 interface further allows multiple Modbus devices by different manufacturers to share the same data line.

The USB-to-RS485 converter allows the remote display to be interfaced to a PC USB port using a standard A-to-B USB cable and to support a network of devices on an RS485 network.

Relay Output Options

The remote display can be equipped with a choice of four relay output boards: two or four 8A contact relays, and two or four AC/DC 130 mA solid state relays. The relays can respond to data values or to control characters in the serial data.

Analog Output Options

The remote display can be equipped with a choice of two isolated 16-bit analog output boards: a single 0-20 mA, 4-20 mA, 0-10V or -10 to +10V analog output, or dual 0-20 mA, 4-20 mA or 0-10V analog outputs. Each output can be scaled to data values in the serial data.

Easy Setup

Setup of relay outputs of analog outputs can be via the front panel of the remote display unit or via an external PC using Windows-based setup software, which is available at no charge.

Supervisory Monitoring & Control

With the addition of the scaled analog output and alarm/setpoint capabilities, Laureate remote displays can become significant components of a supervisory monitoring and control system.

SPECIFICATIONS

Display

Type Six 7-segment, 14.2 mm (.56") high
LED digits plus 4 LED indicators
Display color Red or green
Display range -999999 to 999999

Serial Interface (isolated)

Format RS232, USB, RS485, Modbus RS485
Protocol Modbus (RTU or ASCII), Laurel ASCII
Baud rate 300 to 19200 baud
Digital addresses 31 (Laurel ASCII), 247 (Modbus)
Meter setup Via front panel or computer

Operating Power

Voltage (std) 85-264 Vac or 90-300 Vdc
Voltage (opt) 12-34 Vac or 10-48 Vdc
Power frequency DC and 47-440 Hz

Contact Relay Options (isolated)

Number of relays 2 or 4
Load rating 8A at 250 Vac or 24 Vdc

Solid State Relay Options (isolated)

Number of relays 2 or 4
Load rating 130 mA at 140 Vac or 180 Vdc
Input Serial data or control characters

Analog Output Options (isolated)

Number of outputs 1 or 2
Output levels 4-20 mA, 0-20 mA, 0-10V
Output scaling Via front panel or computer

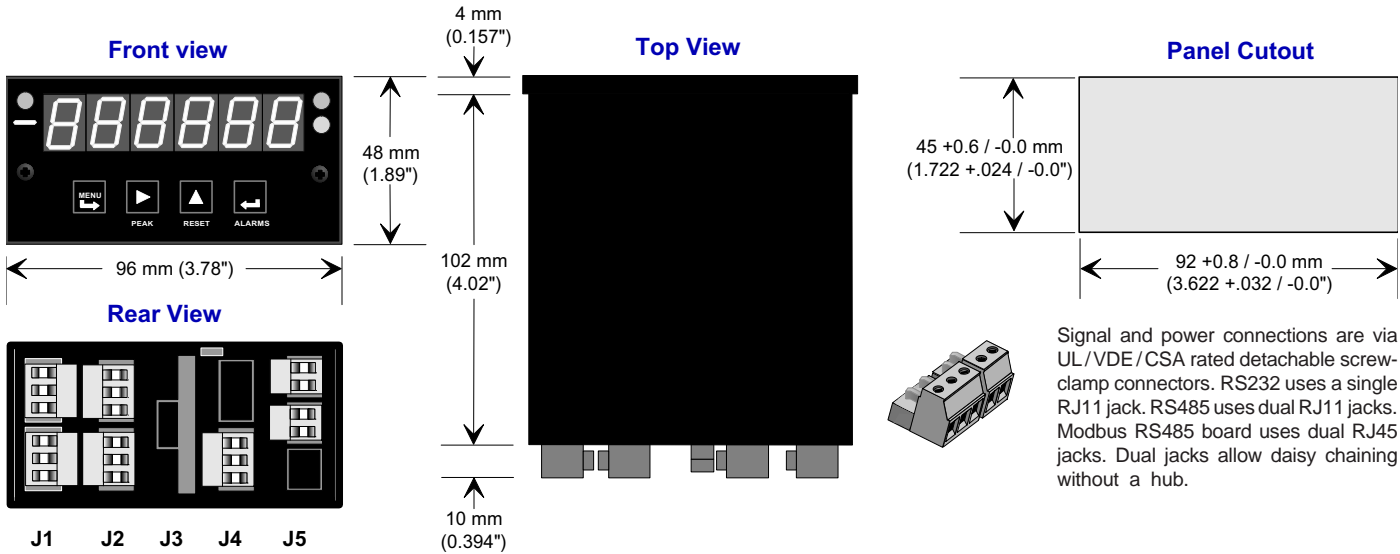
Meter Isolation (DC to 60 Hz)

Safety rated to 250 Vac, 4.2 kVp per high voltage test

Environmental

Operating temperature 0°C to 60°C
Storage temperature -40°C to 85°C
Relative humidity .. 95% at 40°C, non-condensing
Protection NEMA-4X when mounted in panel

MECHANICAL



ORDERING GUIDE

One entry required per box. Configure a model number in this format: **L50011**.
Laurel Electronics reserves the right to change pricing at any time.

<input type="checkbox"/> L ... Laureate™ with plug-in screw terminal connectors \$170	<input type="checkbox"/> Analog Output
<input type="checkbox"/> Display Color	0 None NC
5 Green LED display NC	1 4-20 mA, 0-10 V \$90
6 Red LED display NC	2 Dual 4-20 mA, 0-10V ... \$135
<input type="checkbox"/> Power	<input type="checkbox"/> Digital Interface (1 required)
0 85-264 Vac, 90- 300 Vdc NC	1 ... RS232 \$60
1 12-34 Vac, 10-48 Vdc \$30	2 ... RS485 \$80
<input type="checkbox"/> Setpoint Output	4 ... Modbus RS-485 \$105
0 None NC	5 ... USB \$60
1 Two 8A contact relays ... \$80	6 ... USB-to-RS485 converter ..\$90
2 Two solid state relays \$55	
3 Four 8A contact relays \$100	
4 Four solid state relays .. \$75	

YOUR LOCAL DISTRIBUTOR



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