

# Laurel Electronics

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## Customer Price List with Laureate Transmitters

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Effective February 1, 2009  
Updated with new products on November 6, 2009

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11/6/2009

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High accuracy, high read rate, programmable digital indicators / controllers / computer interfaces for a wide variety of analog and digital inputs. Modular design, field installable options.

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### **LAUREATE TRANSMITTER SERIES**

High accuracy, high update rate, digitally programmable transmitters. Available in 4-20 mA / 0-10V or Modbus versions, with relays, with same signal conditioners and programmable functions as Laureate meters, counters and timers.

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### **GRAND SERIES LARGE DIGIT DISPLAYS**

Grand series of large digit displays, digit heights from 2" to 8". Serial, process, strain gauge inputs. Also available as a clock, timer, totalizer, or frequency/rate meter.

<b>Grand 2"</b> .....	Large digit 2-inch display, NEMA 4X.....	<b>10</b>
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### **HOW TO ORDER**

When building a model number, make one entry per boxed heading. For example, Laureate model **L20010DCV1, IPC** is a 200 mV DC voltmeter with plug-in screw terminals, high voltage AC/DC power supply, and analog output, plus a NEMA-4 / IP67 splash-proof cover. Accessories are separated by commas.

## LAUREATE SERIES DIGITAL PANEL METERS

Configure a model number like **L20000DCV1, IPC**

L.....Laureate series meter with detachable screw clamp plug connectors .....\$220

### Display Color

1.....DPM with green LED display.....NC  
 2.....DPM with red LED display.....NC  
 3.....Extended DPM, green LED display .....\$40  
 4.....Extended DPM, red LED display .....\$40  
*Extended does not apply to temperature.*

### Power

0.....85-264 Vac universal AC power .....NC  
 1.....Low voltage 12-32 Vac or 10-48 Vdc .....\$30

### Setpoint Output

0.....None.....NC  
 1.....Two 8A, Form C, contact relays .....\$80  
 2.....Two 130 mA, Form A, solid state relays .....\$55  
 3.....Four 8A, Form C, contact relays.....\$100  
 4.....Four 130 mA, Form A, solid state relays .....\$75

### Analog Output

0.....None.....NC  
 1.....4-20 mA, 0-20 mA, 0-10 V, -10 to +10V .....\$90

### Digital Interface

0.....None.....NC  
 1.....RS232 .....\$60  
 2.....RS485 .....\$80  
 4.....Modbus RS485 (ASCII, RTU).....\$90  
 5.....USB .....\$60  
 6.....USB-to-RS485 converter.....\$100

### Input Type

#### DC Volts

DCV1.....± 200.00 mV.....NC  
 DCV2.....± 2.0000 V.....NC  
 DCV3.....± 20.000 V.....NC  
 DCV4.....± 200.00 V.....NC  
 DCV5.....± 600.0 V (range not UL certified) .....NC  
 DCV6.....± 300.0 V.....NC

#### DC Amperes

DCA1.....± 2.0000 mA.....NC  
 DCA2.....± 20.000 mA.....NC  
 DCA3.....± 200.00 mA.....NC  
 DCA4.....± 5.000 A.....NC

#### RMS Volts

RMV1.....200.00 mV.....\$35  
 RMV2.....2.0000 V.....\$35  
 RMV3.....20.000 V.....\$35  
 RMV4.....200.00 V.....\$35  
 RMV5.....600.0 V (range not UL certified) .....\$35  
 RMV6.....250.0 V.....\$35

#### RMS Amperes

RMA1.....2.0000 mA.....\$35  
 RMA2.....20.000 mA.....\$35  
 RMA3.....200.00 mA.....\$35  
 RMA4.....5.000 A.....\$35

#### Process Signals (4-20 mA, 0-5V, etc.)

P.....4-20 mA = 0-100.00 display .....NC  
 P1.....Custom scaling.....\$10  
 Specify minimum signal & displayed reading, maximum signal & displayed reading. Includes isolated excitation.

#### Strain Gauges, Potentiometers (4-wire ratio)

SG.....0-200 mV = 0-100.00 display .....NC  
 SG1.....Custom scaling.....\$10  
 Specify minimum signal & displayed reading, maximum signal & displayed reading. Full scale inputs from 200 mV to 20V. Includes isolated 10 Vdc excitation to power up to four 350Ω load cells in parallel.

#### Load Cells (6-wire ratio)

WM1.....-99,999 to +99,999 .....\$55  
 Specify minimum signal & displayed reading, maximum signal & displayed reading. Full scale inputs from 20 mV to 500 mV. Includes isolated 10 Vdc excitation to power up to four 350Ω load cells in parallel.

#### Thermocouple Input

JC.....-210 to 760°C.....NC  
 JF.....-347 to 1400°F.....NC  
 KC.....-244 to 1372°C.....NC  
 KF.....-408 to 2501°F.....NC  
 NC.....-245 to 1300°C.....NC  
 NF.....-410 to 2370°F.....NC  
 TC.....-257 to 400°C.....NC  
 TF.....-430 to 752°F.....NC  
 EC.....-270 to 1000°C.....NC  
 EF.....-450 to 1830°F.....NC  
 RC.....-45 to 1768°C.....NC  
 RF.....-49 to 3213°F.....NC  
 SC.....-46 to 1768°C.....NC  
 SF.....-51 to 3214°F.....NC

#### RTD Input (alpha tempco stated in ordering code)

P385C.....Pt 100 Ω platinum, -202 to 850°C.....NC  
 P385F.....Pt 100 Ω platinum, -331 to 1562°F.....NC  
 P392C.....Pt 100 Ω platinum, -202 to 850°C.....NC  
 P392F.....Pt 100 Ω platinum, -331 to 1562°F.....NC  
 N672C.....Ni 120 Ω nickel, -100°C to +260°C.....NC  
 N672F.....Ni 120 Ω nickel, -148°F to +500°F.....NC  
 C427C.....Cu 10 Ω copper, -100°C to +260°C.....NC  
 C427F.....Cu 10 Ω copper, -148°F to +500°F.....NC

#### Ohms Input

R1.....0-20 ohms .....NC  
 R2.....0-200 ohms .....NC  
 R3.....0-2 kohms .....NC  
 R4.....0-20 kohms .....NC  
 R5.....0-200 kohms .....NC  
 R6.....0-2 Mohms (factory-special fixed range) .....\$25

**Meter Add-On Options & Accessories**

BL .....	Blank lens, no button pads .....	NC
CBL01 .....	RJ11-to-DB9 cable for RS232 .....	\$19
CBL02 .....	USB-to-DB9 (can be used with CBL01) .....	\$39
CBL05 .....	USB cable, Type A to B .....	\$15
IPC .....	NEMA-4, IP67 splashproof cover .....	\$40
BOX1 .....	NEMA-4, IP67 enclosure .....	\$140
BOX2 .....	NEMA-4 enclosure plus IPC .....	\$180

**LAUREATE SERIES COUNTER / TIMERS**

Configure a model number in this format:

**L6000FR, IPC**

L .....	Laureate series multifunction counter / timer / rate meter with detachable screw clamp plug connectors .....	\$230
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**Display Color**

5 .....	Basic counter with green LED display .....	NC
6 .....	Basic counter with red LED display .....	NC
7 .....	Extended counter with green LED display .....	\$40
8 .....	Extended counter with red LED display .....	\$40

**Power**

0 .....	85-264 Vac universal AC power .....	NC
1 .....	Low voltage 12-32 Vac or 10-48 Vdc .....	\$30

**Setpoint Output**

0 .....	None .....	NC
1 .....	Two 8A, Form C, contact relays .....	\$80
2 .....	Two 130 mA, Form A, solid state relays .....	\$55
3 .....	Four 8A, Form C, contact relays .....	\$100
4 .....	Four 130 mA, Form A, solid state relays .....	\$75

**Analog Output**

0 .....	None .....	NC
1 .....	Single isolated analog output .....	\$90
2 .....	Dual isolated analog outputs .....	\$135

**Digital Interface**

0 .....	None .....	NC
1 .....	RS232 .....	\$60
2 .....	RS485 .....	\$80
4 .....	Modbus RS485 (ASCII, RTU) .....	\$90
5 .....	USB .....	\$60
6 .....	USB-to-RS485 converter .....	\$100

**Input Type**

**Dual Channel Pulse or AC Inputs**

FR .....	scalable to 999,999 .....	NC
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**Basic counter**

FR .....	scalable to 999,999 .....	NC
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**Basic counter**

Frequency (2 channels simultaneously), rate (2 channels simultaneously), total (up or down, 2 channels simultaneously), period (2 channels simultaneously), stopwatch, time interval, square root of rate.

**Extended counter**

Above plus rate and total simultaneously, linearized inputs using up to 180 points, arithmetic functions (A\*B, A/B, A+B, A-B, A/B-1), phase angle, duty cycle, up/down counting, batch control.

**Process Rate & Total**

VF1 .....	4-20 mA .....	NC
VF2 .....	0-1 mA .....	NC
VF3 .....	0-10V .....	NC
VF4 .....	Custom Scaling .....	Consult factory

**Standard main board**

Rate, rate & total simultaneously (analog totalizer), square root of rate (for differential pressure or target type flow meters).

**Extended main board**

Above plus linearized inputs using up to 180 points, batch control with rate, total and # of batches or grand total of all batches, time measurements based on rate.

**Quadrature**

QD .....	scalable to 999,999 .....	\$30
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**Basic counter**

Position or length from encoders. Accepts differential or single-ended inputs: 1x, 2x or 4x, plus zero index.

**Extended counter**

Above plus bidirectional rate (rate and position or length are not simultaneous).

**Meter Add-On Options & Accessories**

BL .....	Blank lens, no button pads .....	NC
CBL01 .....	RJ11-to-DB9 cable for RS232 .....	\$19
CBL02 .....	USB-to-DB9 (can be used with CBL01) .....	\$39
CBL05 .....	USB cable, Type A to B .....	\$15
IPC .....	NEMA-4, IP67 splashproof cover .....	\$40
BOX1 .....	NEMA-4, IP67 enclosure .....	\$140
BOX2 .....	NEMA-4 enclosure plus IPC .....	\$180

**LAUREATE SERIAL INPUT METER / 6-DIGIT  
REMOTE DISPLAY**

Configure a model number in this format: **L50001, IPC**

**L** ..... Laureate meter with detachable with detachable screw clamp plug connectors ..... \$170

**Display Color**

**5** ..... Remote display with green LEDs ..... NC  
**6** ..... Remote display with red LEDs ..... NC

**Power**

**0** ..... 85-264 Vac universal AC power ..... NC  
**1** ..... Low voltage 12-32 Vac or 10-48 Vdc ..... \$30

**Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 8A Form C relays contact relays ..... \$80  
**2** ..... Two 130 mA Form A solid state relays ..... \$55  
**3** ..... Four 8A Form C relays contact relays ..... \$100  
**4** ..... Four 130 mA Form A solid state relays ..... \$75

**Analog Output**

**0** ..... None ..... NC  
**1** ..... Single isolated analog output ..... \$90  
**2** ..... Dual isolated analog outputs ..... \$135

**Digital Interface (one required)**

**1** ..... RS232 ..... \$60  
**2** ..... RS485 ..... \$80  
**4** ..... Modbus RS485 (ASCII, RTU) ..... \$90  
**5** ..... USB ..... \$60  
**6** ..... USB-to-RS485 converter ..... \$100

**Meter Add-On Options & Accessories**

**BL** ..... Blank lens, no button pads ..... NC  
**CBL01** ..... RJ11-to-DB9 cable for RS232 ..... \$19  
**CBL02** ..... USB-to-DB9 (can be used with CBL01) ..... \$39  
**CBL05** ..... USB cable, Type A to B ..... \$15  
**IPC** ..... NEMA-4, IP67 splashproof cover ..... \$40  
**BOX1** ..... NEMA-4, IP67 enclosure ..... \$140  
**BOX2** ..... NEMA-4 enclosure plus IPC ..... \$180

**LAUREATE SCALE / WEIGHING METER**

Configure a model number in this format: **LW20001, IPC**

**LW** ..... Laureate scale meter with detachable screw clamp plug connectors ..... \$250

**Display Color**

**1** ..... Meter with green LED display ..... NC  
**2** ..... Meter with red LED display ..... NC  
**3** ..... Extended meter, green LED display ..... \$40  
**4** ..... Extended meter, red LED display ..... \$40

**Power**

**0** ..... 85-264 Vac ..... NC  
**1** ..... Low voltage 12-32 Vac or 10-48 Vdc ..... \$30

**Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 8A, Form C relays ..... \$80  
**2** ..... Two 130 mA, Form A solid state relays ..... \$55

**Analog Output**

**0** ..... None ..... NC  
**1** ..... 4-20 mA, 0-20 mA, 0-10 V ..... \$90

**Digital Interface**

**0** ..... None ..... NC  
**1** ..... RS232 ..... \$60  
**2** ..... RS485 ..... \$80  
**5** ..... USB ..... \$60  
**6** ..... USB-to-RS485 converter ..... \$100

**Input Type**

**Process Signals (4-20mA, 0-5V, etc.)**

**P** ..... 4-20 mA = 0-100.00 display ..... NC  
**P1** ..... Custom scaling ..... \$10

Specify minimum signal & displayed reading, maximum signal & displayed reading. 5, 10 or 24V DC excitation.

**Strain Gauges, Potentiometers (4-wire ratio)**

**SG** ..... 0-200 mV = 0-100.00 display ..... NC  
**SG1** ..... Custom scaling ..... \$10  
 Specify min input signal & min output, max input signal & max output. Full scale input 200 mV to 20V. Includes isolated 10 Vdc excitation up to power up to four 350-ohm load cells in parallel.

**Load Cells (6-wire ratio)**

**WM1** ..... -99,999 to +99,999 ..... \$55  
 Specify min input signal & min output, max input signal & max output. Full scale inputs from 20 mV to 500 mV. Includes isolated 10 Vdc excitation up to power up to four 350-ohm load cells in parallel.

**Meter Add-On Options & Accessories**

**BL** ..... Blank lens, no button pads ..... NC  
**CBL01** ..... RJ11 to DB9 cable for RS232 ..... \$19  
**CBL02** ..... USB to DB9 (can be used with CBL01) ..... \$39  
**CBL05** ..... USB cable, Type A to B ..... \$15  
**IPC** ..... NEMA-4, IP67 splashproof cover ..... \$40  
**BOX1** ..... NEMA-4, IP67 enclosure ..... \$140  
**BOX2** ..... NEMA-4 enclosure plus IPC ..... \$180

**LAUREATE LTA TRANSMITTERS, 4-20 MA OR 0-10V OUTPUT, "DPM" SERIES ANALOG INPUT**

Configure a model number in this format: **LTA200DCV1, CBL04**

Includes detachable screw clamp plug connectors, RS232 or RS485 port for programming, and isolated 5, 10 or 24V DC excitation. Jumpered for 10V excitation and RS232.

**LTA** .....Laureate DPM transmitter with 4-20 mA or 0-10V isolated analog output (selectable at connector). .....\$235

**Main Board**

**2** .....Standard analog input .....NC  
**4** .....Extended analog input.....\$40

Extended allows custom curve linearization & rate from successive readings. Not applicable to temperature.

**Power**

**0** .....85-264 Vac .....NC  
**1** .....Low voltage 12-32 Vac or 10-48 Vdc .....\$30

**Setpoint Output**

**0** .....None.....NC  
**2** .....Two 130 mA, Form A, solid state relays.....NC

**Input Type**

**DC Volts**

**DCV1** ..... ± 200.00 mV .....NC  
**DCV2** ..... ± 2.0000 V .....NC  
**DCV3** ..... ± 20.000 V .....NC  
**DCV4** ..... ± 200.00 V .....NC  
**DCV5** ..... ± 600.0 V .....NC

**DC Amperes**

**DCA1** ..... ± 2.0000 mA .....NC  
**DCA2** ..... ± 20.000 mA .....NC  
**DCA3** ..... ± 200.00 mA .....NC  
**DCA4** ..... ± 5.000 A .....NC

**RMS Volts**

**RMV1** ..... 200.00 mV .....\$35  
**RMV2** ..... 2.0000 V .....\$35  
**RMV3** ..... 20.000 V .....\$35  
**RMV4** ..... 200.00 V .....\$35  
**RMV5** ..... 600.0 V .....\$35

**RMS Amperes**

**RMA1** ..... 2.0000 mA .....\$35  
**RMA2** ..... 20.000 mA .....\$35  
**RMA3** ..... 200.00 mA .....\$35  
**RMA4** ..... 5.000 A .....\$35

**Process Signals (4-20 mA, 0-5V, etc.)**

**P** ..... 4-20 mA in = 4-20 mA out .....NC  
**P1** ..... Custom scaling.....\$10

Specify min input signal & min output, max signal & max output.

**Strain Gauges, Potentiometers (4-wire ratio)**

**SG** ..... 0-200 mV in = 4-20 mA out .....NC  
**SG1** ..... Custom scaling.....\$10

Specify min input signal & min output, max input signal & max output. Full scale inputs from 200 mV to 20V.

**Load Cells (6-wire ratio)**

**WM1** ..... Custom scaling.....\$55

Specify minimum signal & output, maximum signal & output. Full scale input from 20 mV to 500 mV.

**Thermocouples**

**JC** ..... -210 to 760°C .....NC  
**JF** ..... -347 to 1400°F .....NC  
**KC** ..... -244 to 1372°C .....NC  
**KF** ..... -408 to 2501°F .....NC  
**NC** ..... -245 to 1300°C .....NC  
**NF** ..... -410 to 2370°F .....NC  
**TC** ..... -257 to 400°C .....NC  
**TF** ..... -430 to 752°F .....NC  
**EC** ..... -270 to 1000°C .....NC  
**EF** ..... -450 to 1830°F .....NC  
**RC** ..... -45 to 1768°C .....NC  
**RF** ..... -49 to 3213°F .....NC  
**SC** ..... -46 to 1768°C .....NC  
**SF** ..... -51 to 3214°F .....NC

**RTD Input (alpha tempco stated in ordering code)**

**P385C** .....Pt 100 Ω platinum, -202 to 850°C.....NC  
**P385F** .....Pt 100 Ω platinum, -331 to 1562°F.....NC  
**P392C** .....Pt 100 Ω platinum, -202 to 850°C.....NC  
**P392F** .....Pt 100 Ω platinum, -331 to 1562°F.....NC  
**N672C** .....Ni 120 Ω nickel, -100°C to +260°C.....NC  
**N672F** .....Ni 120 Ω nickel, -148°F to +500°F.....NC  
**C427C** .....Cu 10 Ω copper, -100°C to +260°C.....NC  
**C427F** .....Cu 10 Ω copper, -148°F to +500°F.....NC

**Ohms Input**

**R1** ..... 0-20 ohms .....NC  
**R2** ..... 0-200 ohms .....NC  
**R3** ..... 0-2 kohms .....NC  
**R4** ..... 0-20 kohms .....NC  
**R5** ..... 0-200 kohms .....NC

**Transmitter Accessories**

**CBL04** .....RS-232 serial cable from transmitter to DB9 connector of computer or USB adapter.....\$19  
**CBL02** .....USB-to-DB9 adapter cable. Connects PC com port to CBL04 .....\$39

**LAUREATE LTA TRANSMITTER, 4-20 MA OR 0-10V OUTPUT, "CTR" SERIES PULSE INPUT**

Includes detachable screw clamp plug connectors, RS232 or RS485 port for programming, and isolated 5, 10 or 24V DC excitation output. Jumpered for 10V excitation and RS232.

LTA .....Laureate transmitter with 4-20 mA or 0-10V isolated analog output (selectable).....\$235

**Main Board**

6 .....Standard pulse input .....NC  
8 .....Extended (see notes below) .....\$40

**Power**

0 ..... 85-264 Vac universal AC power .....NC  
1 .....Low voltage 12-32 Vac or 10-48 Vdc .....\$30

**Setpoint Output**

0 .....None.....NC  
2 .....Two 130 mA, Form A, solid state relays .....NC

**Input Type**

**Dual Channel Pulse or AC Inputs**

FR ..... Output scalable to 4-20 mA or 0-10V .....NC

**Standard main board**

Frequency (2 channels simultaneously), rate (2 channels simultaneously), total (up or down, 2 channels simultaneously), period (2 channels simultaneously), stopwatch, time interval, square root of rate.

**Extended main board**

Above plus rate and total simultaneously, linearized inputs using up to 180 points, ratio, draw, arithmetic functions (A\*B, A/B, A+B, A-B), phase angle, duty cycle, up/down counting, batch control.

**Process Input with Totalizing**

VF1 .....4-20 mA input .....NC  
VF2 .....0-1 mA input .....NC  
VF3 .....0-10 V input .....NC  
VF4 .....Custom input ..... Consult factory

**Standard main board**

Rate, rate & total simultaneously (analog totalizer), square root of rate (for differential pressure or target type flow meters).

**Extended main board**

Above plus linearized inputs using up to 180 points, batch control with rate, total and # of batches or grand total of all batches, time measurements based on rate.

**Quadrature**

QD ..... Output scalable to 4-20 mA or 0-10V ..... \$30

**Standard main board**

Position or length from encoders. Accepts differential or single-ended inputs: 1x, 2x or 4x, plus zero index.

**Extended main board**

Above plus bidirectional rate (rate and position or length are not simultaneous).

**Transmitter Accessories**

CBL04 ..... RS232 serial cable from transmitter to DB9 connector of computer or USB adapter ..... \$19  
CBL02 ..... USB-to-DB9 adapter cable. Connects PC USB port to CBL04 ..... \$39

**LAUREATE LTS6 SERIAL-TO-ANALOG CONVERTER. 4-20 MA OR 0-10V TRANSMITTER OUTPUT, SERIAL DATA INPUT**

LTS6 .....Laureate serial data input transmitter, Modbus or Laurel ASCII serial input, and 4-20 mA, 0-20 mA or 0-10V analog output ..... \$175

**Power**

0 ..... 85-264 Vac universal AC power .....NC  
1 .....Low voltage 12-32 Vac or 10-48 Vdc ..... \$30

**Setpoint Output**

0 .....None.....NC  
2 .....Two 130 mA, Form A, solid state relays .....NC

**Accessories**

CBL04 ..... RS-232 serial cable from transmitter to DB9 connector of computer or USB adapter ..... \$19  
CBL02 ..... USB-to-DB9 adapter cable. Connects PC com port to CBL04 ..... \$39

**TRIPLE-OUTPUT 4-20 MA LOOP SPLITTER. SPLITS ONE 4-20 MA LOOP INTO THREE LOOPS**

TLSA-1 .... Loop splitter, 95-265 Vac power ..... \$255  
TLSA-2 .... Loop splitter, 11-30 Vdc power ..... \$280

**LAUREATE LTM TRANSMITTERS, SERIAL OUTPUT, "DPM" SERIES ANALOG INPUT**

Includes detachable screw clamp plug connectors, RS232 or RS485 port, and isolated 5, 10 or 24V DC excitation output. Jumpered for 10V excitation and RS485.

LTM .....Laureate transmitter, Modbus or Laurel protocol (selectable) .....\$235

**Main Board**

2 .....Standard.....NC  
4 .....Extended (not applicable to temperature) ...\$40

**Power**

0 .....85-264 Vac universal AC power .....NC  
1 .....Low voltage 12-30 Vac or 10-48 Vdc .....\$30

**Setpoint Output**

0 .....None.....NC  
2 .....Two 130 mA, Form A, solid state relays.....NC

**Scalable Analog Output**

0 .....None.....NC  
1 .....4-20 mA, 0-10 V .....NC

**Input Type**

**DC Volts**

DCV1 .....± 200.00 mV .....NC  
DCV2 .....± 2.0000 V .....NC  
DCV3 .....± 20.000 V .....NC  
DCV4 .....± 200.00 V .....NC  
DCV5 .....± 600.0 V .....NC

**DC Amperes**

DCA1 .....± 2.0000 mA .....NC  
DCA2 .....± 20.000 mA .....NC  
DCA3 .....± 200.00 mA .....NC  
DCA4 .....± 5.000 A .....NC

**RMS Volts**

RMV1 .....200.00 mV .....\$35  
RMV2 .....2.0000 V .....\$35  
RMV3 .....20.000 V .....\$35  
RMV4 .....200.00 V .....\$35  
RMV5 .....600.0 V .....\$35

**RMS Amperes\***

RMA1 .....2.0000 mA .....\$35  
RMA2 .....20.000 mA .....\$35  
RMA3 .....200.00 mA .....\$35  
RMA4 .....5.000 A .....\$35

**Process Signals (4-20 mA, 0-5V, etc.)**

P .....4-20 mA in = 0-100.00 out.....NC  
P1 .....Custom scaling.....\$10  
Specify min signal & min output, max input signal & max output.

**Strain Gauges, Potentiometers (4-wire ratio)**

SG .....0-200 mV = 4-20 mA or 0-100.00 out.....NC  
SG1 .....Custom scaling.....\$10  
Specify min input signal & min output, max input signal & max output. Full scale inputs from 200 mV to 20V. Includes isolated 10 Vdc excitation to power up to four 350-ohm load cells in parallel.

**Load Cells (6-wire ratio)**

WM1 .....Custom scaling.....\$55  
Specify minimum signal & output, maximum signal & output. Full scale input from 20 mV to 500 mV.

**Thermocouples**

JC .....-210 to 760°C .....NC  
JF .....-347 to 1400°F .....NC  
KC .....-244 to 1372°C .....NC  
KF .....-408 to 2501°F .....NC  
NC .....-245 to 1300°C .....NC  
NF .....-410 to 2370°F .....NC  
TC .....-257 to 400°C .....NC  
TF .....-430 to 752°F .....NC  
EC .....-270 to 1000°C .....NC  
EF .....-450 to 1830°F .....NC  
RC .....-45 to 1768°C .....NC  
RF .....-49 to 3213°F .....NC  
SC .....-46 to 1768°C .....NC  
SF .....-51 to 3214°F .....NC

**RTD Input (alpha tempco stated in ordering code)**

P385C .....Pt 100 Ω platinum, -202 to 850°C.....NC  
P385F .....Pt 100 Ω platinum, -331 to 1562°F .....NC  
P392C .....Pt 100 Ω platinum, -202 to 850°C.....NC  
P392F .....Pt 100 Ω platinum, -331 to 1562°F .....NC  
N672C .....Ni 120 Ω nickel, -100°C to +260°C .....NC  
N672F .....Ni 120 Ω nickel, -148°F to +500°F .....NC  
C427C .....Cu 10 Ω copper, -100°C to +260°C .....NC  
C427F .....Cu 10 Ω copper, -148°F to +500°F .....NC

**Ohms Input**

R1 .....0-20 ohms .....NC  
R2 .....0-200 ohms .....NC  
R3 .....0-2 kohms .....NC  
R4 .....0-20 kohms .....NC  
R5 .....0-200 kohms .....NC

**Transmitter Accessories**

CBL04 .....RS-232 serial cable from transmitter to DB9 connector of computer or USB adapter.....\$19  
CBL02 .....USB-to-DB9 adapter cable. Connects PC com port to CBL04 .....\$39

**LAUREATE LTM TRANSMITTERS, SERIAL OUTPUT TRANSMITTERS, "CTR" SERIES PULSE INPUT**

Includes detachable screw clamp plug connectors, RS232 or RS485, and isolated 5, 10 or 24V DC excitation output. Jumpered for 10V excitation and RS485.

LTM .....Laureate transmitter, Modbus or Laurel protocol (selectable) ..... \$235

**Main Board**

6 ..... Standard ..... NC  
8 ..... Extended ..... \$40

**Power**

0 ..... 85-264 Vac universal AC power ..... NC  
1 ..... Low voltage 12-32 Vac or 10-48 Vdc ..... \$30

**Setpoint Output**

0 ..... None ..... NC  
2 ..... Two 130 mA, Form A, solid state relays ..... NC

**Scalable Analog Output**

0 ..... None ..... NC  
1 ..... 4-20 mA, 0-10 V ..... NC

**Input Type**

**Dual Channel Pulse or AC Inputs**

FR ..... Output scalable -999999 to 9999999 ..... NC

**Standard main board**

Frequency (2 channels simultaneously), rate (2 channels simultaneously), total (up or down, 2 channels simultaneously), period (2 channels simultaneously), stopwatch, time interval, square root of rate.

**Extended main board**

Above plus rate and total simultaneously, linearized inputs using up to 180 points, ratio, draw, arithmetic functions (A\*B, A/B, A+B, A-B), phase angle, duty cycle, up/down counting, batch control.

**Process Input with Totalizing**

VF1 ..... 4-20 mA input ..... NC  
VF2 ..... 0-1 mA input ..... NC  
VF3 ..... 0-10 V input ..... NC  
VF4 ..... Custom input ..... Consult factory

**Standard main board**

Rate, rate & total simultaneously (analog totalizer), square root of rate (for differential pressure or target type flow meters).

**Extended main board**

Above plus linearized inputs using up to 180 points, batch control with rate, total and # of batches or grand total of all batches, time measurements based on rate.

**Quadrature**

QD ..... Output scalable -999999 to +999999 ..... \$30

**Standard main board**

Position or length from encoders. Accepts differential or single-ended inputs: 1x, 2x or 4x, plus zero index.

**Extended main board**

Above plus bidirectional rate (rate and position or length are not simultaneous).

**Accessories**

CBL04 ..... RS232 serial cable from transmitter to DB9 connector of computer or USB adapter ..... \$19

CBL02 ..... USB-to-DB9 adapter cable. Connects PC USB port to CBL04 ..... \$39

**GRAND SERIES 2-INCH DISPLAYS**

**G02** ..... Display with 2 inch (57 mm) high digits ...\$1040

**Display Brightness**

**0** ..... Normal indoor brightness ..... NC  
**1** ..... Daylight viewing brightness ..... \$130

**Power**

**0** ..... 95 to 265 Vac ..... NC  
**1** ..... 11 to 30 Vdc ..... \$120

**RS422 / Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 2A relays ..... \$110  
**2** ..... RS-422 output ..... \$110

**Mounting Options**

**0** ..... Black case panel mount ..... \$90  
**1** ..... White case panel mount ..... \$90  
**2** ..... Black case wall mount ..... NC  
**3** ..... White case wall mount ..... NC  
**4** ..... Black case suspension mount ..... NC  
**5** ..... White case suspension mount ..... NC  
**6** ..... Black weather cowl, 4 & 5 digits ..... \$230  
**7** ..... Black weather cowl, 6 & 7 digits ..... \$310

**Input Type****Serial ASCII Input**

**SER5** ..... 5 digits ..... NC  
**SER7** ..... 7 digits ..... \$125

**Clock**

**CLK4** ..... 4 digits, HH:MM ..... \$40  
**CLK6** ..... 6 digits, HH:MM:SS ..... \$155

**Timer**

**TIM4** ..... 4 digits, HH:MM ..... \$70  
**TIM6** ..... 6 digits, HH:MM:SS ..... \$190

**Process Signals (4 to 20 mA, 0 to 5V, etc.)**

**P** ..... 5 digits, 4-20mA ..... \$110  
**P1** ..... 5 digits, custom scaling ..... \$135  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Strain Gauges**

**SG** ..... 5 digits, 0-20 mV = 0-10000 display ..... \$125  
**SG1** ..... 5 digits, custom scaling ..... \$150  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Totalizer**

**TOT5** ..... 5 digit display ..... \$125  
**TOT7** ..... 7 digit display ..... \$245

**Frequency, Rate**

**FR** ..... 5 digit display ..... \$125

**Options**

**GRP** ..... Remote programmer ..... \$145

**GRAND SERIES 4-INCH DISPLAYS**

**G04** ..... Display with 4" (102 mm) high digits ..... \$1500

**Display Brightness**

**0** ..... Normal indoor brightness ..... NC  
**1** ..... Daylight viewing brightness ..... \$130

**Power**

**0** ..... 95 to 265 Vac ..... NC  
**1** ..... 11 to 30 Vdc ..... \$120

**RS422 / Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 2A relays ..... \$110  
**2** ..... RS422 output ..... \$110

**Mounting Options**

**0** ..... Black case panel mount ..... \$90  
**1** ..... White case panel mount ..... \$90  
**2** ..... Black case wall mount ..... NC  
**3** ..... White case wall mount ..... NC  
**4** ..... Black case suspension mount ..... NC  
**5** ..... White case suspension mount ..... NC  
**6** ..... Black weather cowl, 4 & 5 digits ..... \$310  
**7** ..... Black weather cowl, 6 & 7 digits ..... \$360

**Input Type****Serial ASCII Input**

**SER5** ..... 5 digits ..... NC  
**SER7** ..... 7 digits ..... \$180

**Clock**

**CLK4** ..... 4 digits, HH:MM ..... \$40  
**CLK6** ..... 6 digits, HH:MM:SS ..... \$215

**Timer**

**TIM4** ..... 4 digits, HH:MM ..... \$70  
**TIM6** ..... 6 digits, HH:MM:SS ..... \$245

**Process Signals (4-20mA, 0-5V, etc.)**

**P** ..... 5 digits, 4-20 mA ..... \$110  
**P1** ..... 5-digits, custom scaling ..... \$135  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Strain Gauges**

**SG** ..... 5 digits, 0-20 mV ..... \$125  
**SG1** ..... 5 digits, custom scaling ..... \$145  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Totalizer**

**TOT5** ..... 5 digits ..... \$125  
**TOT7** ..... 7 digit display ..... \$300

**Frequency, Rate**

**FR** ..... 5 digit display ..... \$125

**Options**

**GRP** ..... Remote programmer ..... \$145

**GRAND SERIES 6-INCH DISPLAYS**

**G06** ..... Display with 6 inch (144mm) high digits ..\$1735

**Display Brightness**

**0** ..... Normal indoor brightness ..... NC  
**1** ..... Daylight viewing brightness ..... \$130

**Power**

**0** ..... 95 to 265 Vac ..... NC  
**1** ..... 11 to 30 Vdc ..... \$120

**RS422 / Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 2A relays ..... \$110  
**2** ..... RS422 output ..... \$110

**Mounting Options**

**0** ..... Black case panel mount ..... \$90  
**1** ..... White case panel mount ..... \$90  
**2** ..... Black case wall mount ..... NC  
**3** ..... White case wall mount ..... NC  
**4** ..... Black case suspension mount ..... NC  
**5** ..... White case suspension mount ..... NC  
**6** ..... Black weather cowl, 4 & 5 digits ..... \$360  
**7** ..... Black weather cowl, 6 & 7 digits ..... \$415

**Input Type****Serial ASCII Input**

**SER5** ..... 5 digits ..... NC  
**SER7** ..... 7 digits ..... \$245

**Clock**

**CLK4** ..... 4 digits, HH:MM ..... \$40  
**CLK6** ..... 6 digits, HH:MM:SS ..... \$275

**Timer**

**TIM4** ..... 4 digits, HH:MM ..... \$70  
**TIM6** ..... 6 digits, HH:MM:SS ..... \$275

**Process Signals (4 to 20mA, 0 to 5V, etc.)**

**P** ..... 5 digits, 4-20mA ..... \$110  
**P1** ..... 5 digits, custom scaling ..... \$135  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Strain Gauges**

**SG** ..... 5 digits, 0 to 20mV ..... \$125  
**SG1** ..... 5 digit, custom scaling ..... \$150  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Totalizer**

**TOT5** ..... 5 digits ..... \$125  
**TOT7** ..... 7 digits ..... \$350

**Frequency, Rate**

**FR** ..... 5 digits ..... \$125

**Options**

**GRP** ..... Remote programmer ..... \$145

**GRAND SERIES 8-INCH DISPLAYS**

**G08** ..... Display with 8" (200 mm) high digits ..... \$2275

**Display Brightness**

**0** ..... Normal indoor brightness ..... NC  
**1** ..... Daylight viewing brightness ..... \$130

**Power**

**0** ..... 95 to 265 Vac ..... NC  
**1** ..... 11 to 30 Vdc ..... \$120

**RS422 / Setpoint Output**

**0** ..... None ..... NC  
**1** ..... Two 2A relays ..... \$110  
**2** ..... RS422 output ..... \$110

**Mounting Options**

**0** ..... Black case panel mount ..... \$90  
**1** ..... White case panel mount ..... \$90  
**2** ..... Black case wall mount ..... NC  
**3** ..... White case wall mount ..... NC  
**4** ..... Black case suspension mount ..... NC  
**5** ..... White case suspension mount ..... NC  
**6** ..... Black weather cowl, 4 & 5 digits ..... \$415  
**7** ..... Black weather cowl, 6 & 7 digits ..... \$465

**Input Type****Serial ASCII Input**

**SER5** ..... 5 digit display ..... NC  
**SER7** ..... 7 digit display ..... \$520

**Clock**

**CLK4** ..... 4 digit display, HH:MM ..... \$40  
**CLK6** ..... 6 digit display, HH:MM:SS ..... \$540

**Timer**

**TIM4** ..... 4 digit display, HH:MM ..... \$70  
**TIM6** ..... 6 digit display, HH:MM:SS ..... \$590

**Process Signals (4 to 20mA, 0 to 5V, etc.)**

**P** ..... 5 digit, 4 to 20 mA ..... \$110  
**P1** ..... 5 digit, custom scaling ..... \$135  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Strain Gauges**

**SG** ..... 5 digit, 0 to 20 mV ..... \$125  
**SG1** ..... 5 digit, custom scaling ..... \$150  
 Specify minimum signal & displayed reading, maximum signal & displayed reading.

**Totalizer**

**TOT5** ..... 5 digit display ..... \$125  
**TOT7** ..... 7 digit display ..... \$640

**Frequency, Rate**

**FR** ..... 5 digit display ..... \$125

**Options**

**GRP** ..... Remote programmer ..... \$145

**BAR SERIES 1/8 DIN BARGRAPH DISPLAY**

**BAR** .....BAR series 30-segment bargraph display, 1/8 DIN housing ..... \$325

**Display Color**

1 .....Bargraph with green LED ..... \$15  
 2 .....Bargraph with red LED ..... NC

**Power**

0 ..... 95 to 265 Vac ..... NC  
 1 ..... 11 to 30 Vdc ..... \$45

**Setpoint Output**

0 ..... None ..... NC  
 2 ..... Two 5A relays ..... \$45

**Format**

0 ..... Vertical ..... NC  
 1 ..... Horizontal ..... NC

**Input Type****Process Signals (4-20 mA, 0-5V, etc.)**

**P** ..... 4 to 20 mA = 0 to 100% ..... NC  
**P1** ..... Custom scaling ..... \$15  
 Specify minimum signal & displayed reading, maximum signal & displayed reading. 15V DC excitation.

**88-PRO LOOP POWERED METER**

**88 PRO** ....88-PRO loop powered meter, 3.5 digit LCD display with two selectable dummy zeros, plug-in screw terminal connectors..... \$175

**PRO-BAR LARGE BARGRAPH DISPLAY**

**PB** .....Large bargraph, 50-segment display, 11.3" x 2.8" (288 x 72 mm) case ..... \$875

**Display Color**

2 .....Bargraph with red LED ..... NC

**Power**

0 ..... 95 to 265 Vac ..... NC  
 1 ..... 11 to 30 Vdc ..... \$80

**Format**

0 ..... Vertical ..... NC  
 1 ..... Horizontal ..... NC

**Mounting Options**

0 ..... Panel ..... NC  
 1 ..... Wall ..... NC  
 2 ..... Suspension ..... NC

**Input Type****Process Signals (4-0mA, 0-5V, etc.)**

**P** ..... 4-20 mA = 0-10000 display ..... NC  
**P1** ..... Custom scaling ..... \$15  
 Specify minimum signal & displayed reading, maximum signal & displayed reading. 24V DC excitation.

**M35 MICROMINATURE PANEL METER**

**M35** ..... 3.5 digit microminiature meter in a 1.9" x 0.95" (48 x 24 mm) case. Process input (4-20 mA, etc), isolated 10-30 Vdc power..... \$200

## JUNIOR SERIES DPM

JR.....JUNIOR low-cost 3-1/2 digit indicator with plug-in screw terminal connectors.....\$155

### Display Color

1.....DPM with green LED.....NC  
2.....DPM with red LED.....NC

### Power

0.....110 Vac.....NC  
1.....230 Vac.....NC  
2.....24 Vac.....\$45  
3.....48 Vac.....\$45  
4.....5 Vdc.....\$60  
5.....11 to 30 Vdc.....\$80

### Digit Options

0.....None.....NC  
1.....Extra fixed zero for display to  $\pm 19990$ .....\$45

### Connector Options

0.....None.....NC  
1.....Decimal point selection.....\$15  
2.....Variable brightness adjustment.....\$40

### Input Type

#### DC Volts

DCV1..... $\pm 200.0$  mV.....NC  
DCV2..... $\pm 2.000$  V.....NC  
DCV3..... $\pm 20.00$  V.....NC  
DCV4..... $\pm 200.0$  V.....NC  
DCV5..... $\pm 500$  V.....NC

#### DC Amperes

DCA1..... $\pm 2.000$  mA.....NC  
DCA2..... $\pm 20.00$  mA.....NC  
DCA3..... $\pm 200.0$  mA.....NC  
DCA4..... $\pm 2.000$  A.....NC  
DCA5..... $\pm 5.00$  A.....NC

#### Process Signals (4-20 mA, 0-5V, etc.)

P.....4-20 mA = 0-1000 display.....\$20  
P1.....Custom scaling.....\$35  
Specify minimum signal & displayed reading, maximum signal & displayed reading. 10 or 24 Vdc excitation.

#### AC Volts (Average)

ACV1.....200.0 mV.....\$35  
ACV2.....2.000 V.....\$35  
ACV3.....20.00 V.....\$35  
ACV4.....200.0 V.....\$35  
ACV5.....500 V.....\$35

#### AC Amperes (Average)

ACA1.....2.000 mA.....\$35  
ACA2.....20.00 mA.....\$35  
ACA3.....200.0 mA.....\$35  
ACA4.....2.000 A.....\$35  
ACA5.....5.00 A.....\$35

## ACCESSORIES

### Enclosures for 1/8 DIN Cases

IPC.....Front panel cover, seals the front of meter case to NEMA 4X.....\$40  
BOX1.....Wall-mount polycarbonate enclosure sealed to NEMA 4X.....\$140  
BOX2.....Wall-mount polycarbonate enclosure sealed to NEMA 4X, plus IPC cover.....\$180

### Selector Switches

SW3P12T. 3-pole, 12-throw selector switch.....\$195

### Serial Cables for Laureate Meters & Transmitters

CBL01.....RJ11-to-DB9 cable. Connects meter to PC com port.....\$19  
CBL02.....USB to DB9 adapter cable. Connects CBL01 or CBL04 to PC USB port.....\$39  
CBL04.....RS232 cable, 3-pin connector on transmitter end, DB9 connector on computer end. Connects transmitter to PC com port.....\$19  
CBL05.....USB cable, Type A to B. Connects meter to PC com port.....\$15