

Laurel DIN Rail Transmitters

NEW

- Analog and Pulse Inputs
- Serial & Analog Outputs
- RS-232 or RS-485 Communications
- Dual Relay Outputs
- Input/Digital/Analog/Relay Isolation
- Free Setup Software



The Laureate transmitters provide serial data conversion and analog retransmit for all popular industrial signals. These modules use the proven circuitry of the Laurel panel meters for exceptional accuracy at high update rates.

All Laureate transmitters are easily configured from a PC using the graphical Laurel Instrument Setup Software. The isolated analog output can be digitally scaled to any portion of the full range. Dual relay outputs add alarm and control capability. Programmable modes include operation above or below setpoint, latching or non-latching, hysteresis and band deviation.

Each DC transmitter is precalibrated for all DCV & DCA ranges. The user can change the range without recalibration. On the temperature transmitter, thermocouple or RTD type is field selectable. Measurement range can be as wide as the entire span of the sensor type or as narrow as 15°. Cold junction compensation and open sensor detection are included.

Standard functions on pulse input models are frequency, rate, period, A to B interval, up/down total to 999999. The extended model provides additional user-configurable functions.

SPECIFICATIONS

Digital Output:	RS-232 or RS-485 (2- or 4-wire)
Protocol:	Modbus RTU, Modbus ASCII or Laurel ASCII
Baud Rate:	300-19200
Accuracy:	DCV, mA: $\pm 0.01\%$ of FS ± 2 counts ACV, mA: $\pm 0.15\%$ of FS ± 2 counts (10Hz-10kHz) Strain gage, load cell: $\pm 0.01\%$ of FS ± 2 counts RTD: 0.1°C Thermocouple: 0.2°C
Update Rate:	50 or 60/sec for analog inputs
Load Cell/Strain Gage:	20, 50, 100, 250, 500mV ranges
Thermocouple:	FS range is maximum for each sensor type
Frequency/Pulse Input:	AC, magnetic pickups, pulses from NPN or PNP transistors, contact closures, digital logic
Channel A Frequency:	0.005Hz to 1MHz
Channel B Frequency:	0.005Hz to 250kHz
Time Base Accuracy:	± 2 ppm
Signal Level:	12mV min, 250VAC max
Update Rate:	Gate time + 30ms + 1 period (20/sec at 60Hz)
Gate Time:	0.01 to 199.99 sec (selectable)
Curve Fitting:	Square root extraction standard, Custom curve fitting with LTA8
Quadrature Input:	Differential or single ended
Transitions Monitored:	x1, x2 or x4
Transitions/sec:	250k max.
Error Correction:	Zero index (Z-channel)
Analog Output:	4-20mA, 0-20mA, 0-10V
Compliance (mA):	10V (0-500 Ω load)
Compliance (V):	2mA (>5k Ω load)
Accuracy:	$\pm 0.02\%$ of span (analog inputs) $\pm 0.01\%$ of span (pulse inputs)
Resolution:	16 bits (65536 steps)
Power:	DC or 47-63 Hz
Relay Outputs:	Two SPST-NO (Form A) solid-state relays 130mA@140VAC/180VDC
Excitation Output:	5V@50mA, isolated 50V from signal gnd (DC, Process & FR inputs, jumper selectable) 10V@60mA, isolated 50V 24V@50mA, isolated 50V [DC & Process inputs] 15V@60mA, non-isolated [FR input]
Isolation:	250Vrms power/analog/digital
Temperature:	0-55°C operating
Size:	120 x 101 x 22.5 mm
Mounting:	35mm DIN rail
Connections:	Detachable screw terminal plugs

ACCESSORIES

- CBL04 RS-232 cable to PC serial port or USB adaptor
- CBL02 USB to RS-232 cable adapter

ORDERING INFORMATION

To Order—Insert Number Code for Each Letter to Select Catalog Number
Order Example: LTA200DCV1

A	B	C	D
A Model			
LTA2	Standard analog inputs		
LTA4	Extended analog inputs*		
LTA6	Standard pulse/frequency input**		
LTA8	Extended pulse/frequency input**		
B Power			
0	85-264VAC $\pm 10\%$, 90-300VDC		
1	12-30VAC, 10-48VDC		
C Setpoint Output			
1	Dual isolated solid-state relays		
D Input Type (LTA2 or LTA4)			
DCV1	200mV DC	DCA4	5A DC
DCV2	2V DC	RMV1	200mV AC Trms
DCV3	20V DC	RMV2	2V AC Trms
DCV4	200V DC	RMV3	20V AC Trms
DCV5	600V DC	RMV4	200V AC Trms
DCV6	300V DC	RMV5	600V AC Trms
DCA1	2mA DC	RMV6	300V AC Trms
DCA2	20mA DC	RMA1	2mA AC Trms
DCA3	200mA DC	RMA2	20mA AC Trms
P	Process 4-20mA in/out	J	Type J TC
P1	Process Custom mA scaling	K	Type K TC
SG	Strain Gage 200mV	R	Type R TC
SG1	Strain Gage Custom	S	Type S TC
WM	Load Cell 20mV	T	Type T TC
WM1	Load Cell Custom	E	Type E TC
P385	100 Ω Pt RTD $\alpha=385$	N	Type N TC
P392	100 Ω Pt RTD $\alpha=392$		
Input Type (LTA6 or LTA8)			
FR	Dual channel frequency/pulse***		
VF1	4-20mA (process totalizing)		
VF2	0-1mA (process totalizing)		
VF3	0-10V (process totalizing)		
QD	Quadrature***		

* LTA4 adds custom curve linearization & rate from successive readings.
** LTA6 scalable for frequency, rate, totalizing, timing. LTA8 adds phase angle, duty cycle, up/down counting, rate & total simultaneously, custom linearization, arithmetic functions (A+B, A-B, AxB, A/B, A/B-1).
*** LTA6 scalable for position. LTA8 adds scalable rate.