

Web Tension Transmitter

FEATURES

- Ultra high speed 120 update-per-second, isolated 4–20 mA current output
- Compact, full function web tension indication/control
- DIN Rail mount capability
- 700,000 count resolution; eight millisecond sample rate
- Two (2) load cells per tension zone
- 8 open collector discrete setpoint outputs

APPLICATIONS

- Paper machines
- Film/foil/filament converting
- Textile web measurement
- Roofing machines

DESCRIPTION

PS-2010T Transmitters offer precision web tension measurement for applications that require a small, full function indicator/controller. Packaged much like a mini-PLC “brick”, units can be DIN rail mounted inside any existing cabinet. The standard RS-485 serial port interfaces easily with PLC/DCS systems using conventional ASCII or optional Modbus RTU protocol. A high speed, high resolution, isolated (16 bit) 4–20 mA analog output provides the perfect input for a brake/clutch motor controller.

Simple set-up and calibration is performed using the integral LCD display and keypad assembly. Digital calibration techniques eliminate the need for costly, cumbersome machine “strapping” in most applications



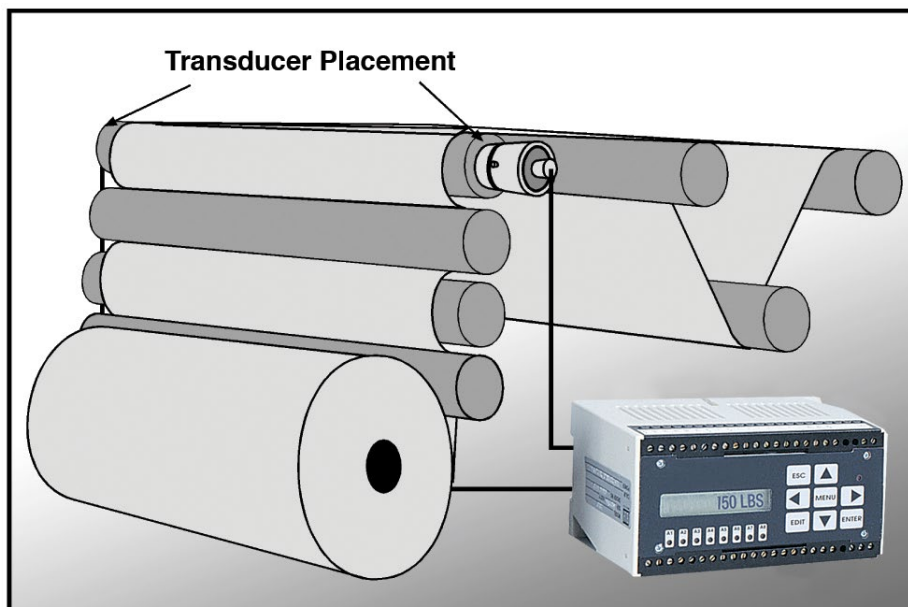
and greatly simplify the calibration of systems that do require loading. Standard units also include Dynamic Digital Filtering and eight setpoints.

Both the front panel display and the 16 bit analog output are updated every 8.3 ms (120 updates per second). This rate provides precise control for web applications running at 2000 ft per minute and faster.

Quick calibration and setup procedures save time, money, and even field service calls. On-line diagnostics continuously monitor system performance and alert service personnel to potential problems before they happen.

The 2010 offers a cost effective, reliable solution for the OEM and system integrator.

CONFIGURATION

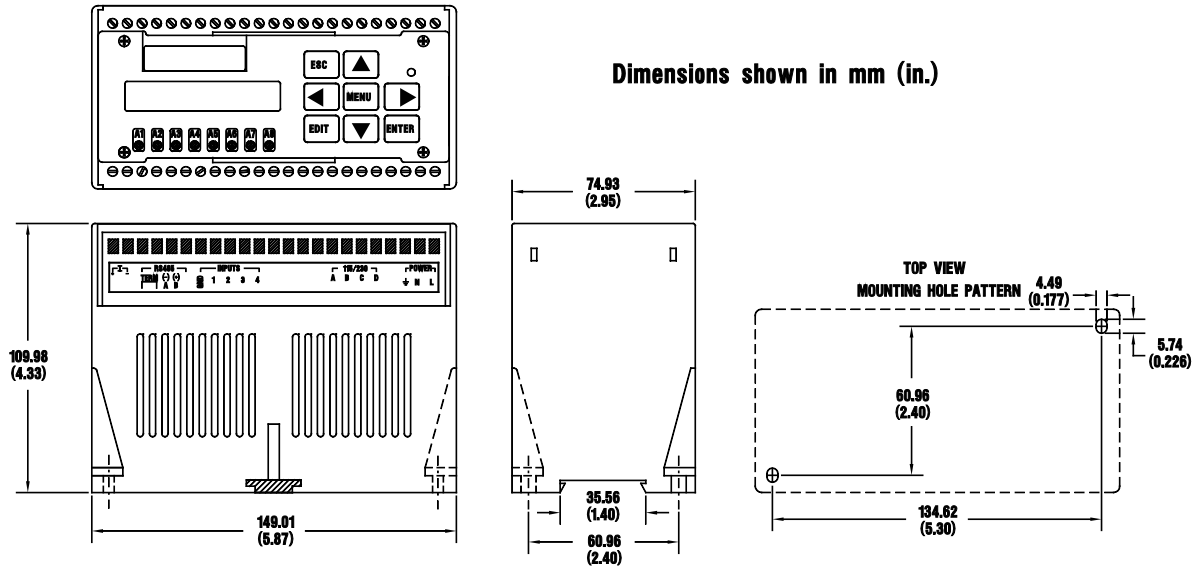


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SPECIFICATIONS		PARAMETER	VALUE
PERFORMANCE		Resolution	1,048,576 total counts
Displayed Resolution			700,000 counts
Conversion Speed			8.3 to 133 ms (5-selections) (7.5 to 120 updates/s)
Displayed Sensitivity			0.05 μ V per count
Noise			0.4 μ V per count (min. filt setting)
Full Scale Range			\pm 3.5 mV/V
Bipolar Direction			\pm 100% full scale
Input Impedance			10 m Ω min.
Excitation Voltage			10 VDC @ 240 mA
Linearity			\pm 0.003% full scale
Step Response			one conversion
TRANSDUCER SUPPLY			
Excitation			10 VDC
Gage Resistance			350 Ω
Gage Type			foil (2–3 mV/V), full bridge
Number of Load Cells			two (2) cells per tension zone
ENVIRONMENT			
Operating Temperature			–10 to 50°C (15 to 122°F)
Storage Temperature			–25 to 80°C (–10 to 175°F)
Temp Coefficient Zero			\pm 2 ppm/°C
Temp Coefficient Span			\pm 7 ppm/°C
Operating Humidity			95% RH non-condensing
ELECTRICAL			
Voltage (AC)			117/230 VAC \pm 15% @ 50/60 Hz
Voltage (DC)			24 VDC @ 1 A
Power			12 W typical, 18 W max.
DISPLAY			
Type			single line LCD
Active Digits			16 digit alpha numeric .24 in high
Display Units			PLI, LB, KG, N, N/M
ANALOG OUTPUT; 16 BIT D-A			
Current			4–20 mA – 500 Ω max.
PARAMETER	VALUE	PARAMETER	VALUE
COMMUNICATIONS		Serial RS485/422	full or half duplex ASCII protocol 7 or 8 data bits – selectable odd, even or no parity –selectable Baud Rates 300, 600, 1200, 2400, 4800, 9600, or 19200
SPECIAL INTERFACE (OPTIONAL)		Modbus RTU	Slave
REMOTE INPUTS – 4		Type	TTL or dry contact closure
		Functions	total tension, zero and print
		Low	0.0 to 0.4 VDC
		High	4.0 to 24 VDC
SET POINT OUTPUTS – 8		Type	open collector (current sinking)
		Operating Voltage	5–35 VDC
		ON Voltage	1.2 VDC @ 35 mA 0.8 VDC @ 1 mA
		OFF State Leakage	0.04 A @ 35 VDC
		Power	external supply required
APPROVALS		CSA	Class I, Div. 2; Groups A, B, C, (when mounted in a CSA certified enclosure)
ENCLOSURE MOUNTING DIMENSIONS		Standard Unit	5.8×3.0×4.3 in L×W×D DIN rail or wall mount weight approx 3 lb
		Single Unit NEMA 4X Enclosure	11.73×9.85×6.13 in L×W×D with single DIN rail mounting strip
		Double Unit NEMA 4X Enclosure	13.7×11.8×6.5 in L×W×D with two DIN rail mounting strips
MATERIALS		Enclosure (standard)	polycarbonate

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OUTLINE DIMENSIONS



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