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.

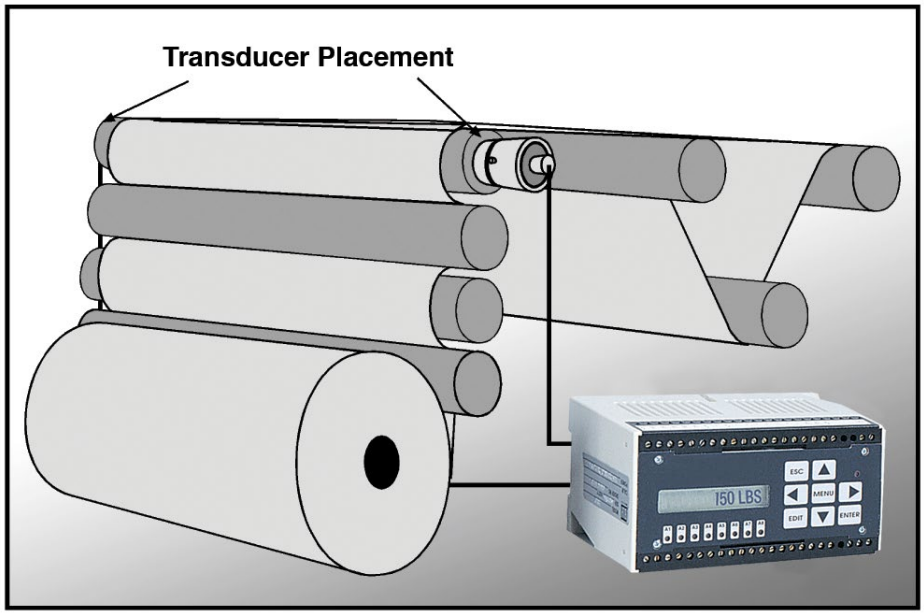
Simple set-up and calibration is performed using the integral LCD display and keypad assembly. Digital calibration techniques eliminate the need for costly, cumbersome machine “strapping” in most applications and greatly simplify the calibration of systems that do require loading. Standard units also 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



BLH NOBEL
A VPG Brand

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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 µV per count
Noise	0.4 µV per count (min. filt setting)
Full Scale Range	±3.5 mV/V
Bipolar Direction	±100% full scale
Input Impedance	10 mΩ min.
Excitation Voltage	10 VDC @ 240 mA
Linearity	±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	±2 ppm/°C
Temp Coefficient Span	±7 ppm/°C
Operating Humidity	95% RH non-condensing
ELECTRICAL	
Voltage (AC)	117/230 VAC ±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
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