

Multi-Zone Web Tension Transmitter



FEATURES

- Individually digitized transducer forces for 4 web tension zones
- View left, right, and total tension values
- 100% digital calibration - no dead weight loading, no strapping
- On-Line diagnostics significantly reduce downtime
- Dynamic Digital Filtering for each tension zone
- Measure resultant force (F_r) and angle of inclination for any or all wrap angles (HTU version only)

OPTIONAL FEATURES

- Total, individual, and difference output control signals - four 4-20mA outputs
- 4 input/output dry contact relays
- Viewing window for internal vacuum fluorescent display
- Allen-Bradley Remote I/O or Modbus RTU interface

DESCRIPTION

DXt-40 Tension Transmitters measure up to four independent web points, or zones, to ensure maximum operating speeds without belt, felt, or product breakage. Each zone is precisely measured with 750,000 count resolution and produces a corresponding, high resolution, 4-20mA output. Total, individual, and differential outputs from two transducers (load cells) permit a comparison of tension signals on either side of a sheet, strip, or web.

Digital calibration eliminates time consuming dead weight loading and

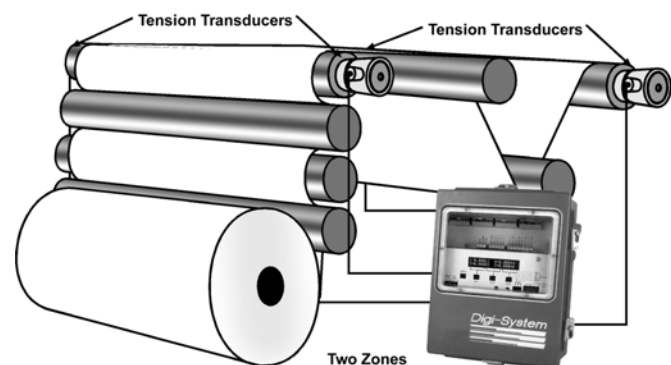
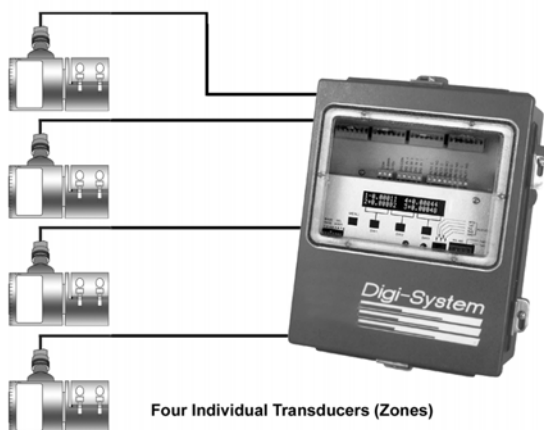
machine 'strapping'. With four integral operating modes, DXt-40 transmitters offer wide operating flexibility and easy installation. Simply select the mode that matches your application, enter the transducer zero and span values, and begin system operation.

When combined with unique HTU transducers, units measure both horizontal and vertical tension vectors. Based upon both measurements, software algorithms calculate the precise, resultant force vector and exact linear tension component.

APPLICATIONS

- Pulp and paper machinery
- Roofing machines
- Converting equipment
- Mining conveyors
- Winders, rewinders, laminators, coaters, dryers, felts

CONFIGURATION



SPECIFICATIONS

PERFORMANCE

Internal Resolution	4,194,304 total counts
Max. Display Resolution	3,000,000 total counts
Max. Res. Per Channel	750,000 counts
Conversion Speed	100msec (10 updates/sec)
Full Scale Range	±35mV/channel
Bipolar Dead Load Range	±100% (positive/negative signal)
Linearity	±0.0015% of full scale
Load Cell Excitation	10V (65mA/channel max)
Software Filter (Std.)	50 to 10,000msec
Optional Auto-Tune Filter	multivariable up to 10,000msec
Remote Sense	user configurable, each channel
Span/Zero	±2ppm/°C
Calibration Repeatability	0.6 microvolts per count
Step Response	one conversion cycle
Units	LB, KG, N, PLI, (all) and N/M or Web Width (HTU only)

ENVIRONMENT

Operating Temperature	-10 to 55°C (12 to 131°F)
Storage Temperature	-20 to 85°C (-4 to 185°F)
Humidity	5 to 90% rh, non-condensing

INTERNAL DISPLAY/OPERATOR INTERFACE

Standard VFD Display	high visibility, vacuum fluorescent 2 columns of 20 characters each
Interface	4 'soft buttons'

ELECTRICAL

Voltage	117/230Vac + 15% 50/60Hz
Power	12 watts max
Input Impedance	10 M-Ohms, min. per channel
Noise	0.002% full scale (max ±16 counts w/o filter)
Common Mode Rej.	100db @ 60Hz
Normal Mode Rej.	100db above 35Hz
Parameter Storage	EEPROM

ISOLATED ANALOG OUTPUT(S) - FOUR AVAILABLE

Type	16 bit digital to analog convertor
Current	4-20mA (600 ohm max load)
Voltage	0-10Vdc (25K ohm min load)

RELAY OUTPUTS (OPTIONAL)

Solid State	110/220Vac at 1.0 amp
Closed Contact	28Vac/dc @ 0.4 amps (max.)

DIGITAL INPUTS

Logic'0' (Low)	short circuit or less than 0.5Vdc, sink 3mA (min)
Logic'1' (High)	open circuit or 10 to 28Vdc (TTL open collector)

SIMPLEX DATA OUTPUT (STANDARD)

Type	RS-485 (Simplex)
Baud	1200 or 9600
Data Format (Selectable)	
ASCII	7 data bits, even parity, stop bit

TERMINAL/COMPUTER INTERFACE (OPTIONAL)

Interface Type	RS-485 half duplex (standard)
Baud	1200 or 9600
Protocol	duplex command/response format
ASCII	7 data bits, even parity, stop bit

SPECIAL PROTOCOLS (OPTIONAL)

Modbus	RTU Protocol
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SPECIAL INTERFACE (OPTIONAL)

Allen Bradley	Remote I/O - 1/4 logical rack
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ENCLOSURE

Dimensions	11.5 x 8.0 x 4.3in HxWxD NEMA 4/4X (292 x 203 x 109mm HxWxD)
Weight	12.0lb (5.4kg)
Optional	EX 12.9 x 10.9 x 8.2in HxWxD (328 x 277 x 208mm HxWxD) (Explosion Proof)

APPROVALS

FM (Factory Mutual)	3611 (Class I, II, III; Div.1, 2; Groups A-G)
CSA	C22.2 (Class I, II, III; Div.1, 2; Groups A-G)

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