

Multi-Zone Web Tension Transmitter

FEATURES

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

OPTIONAL FEATURES

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

APPLICATIONS

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

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,

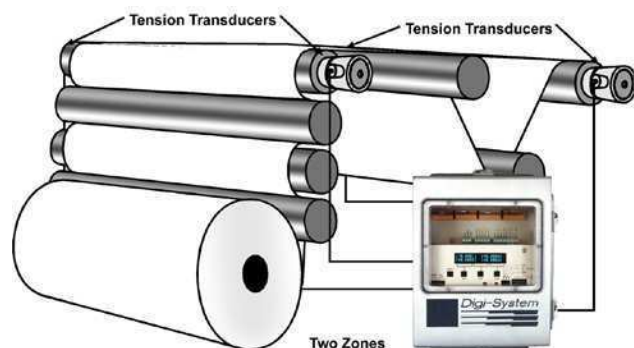
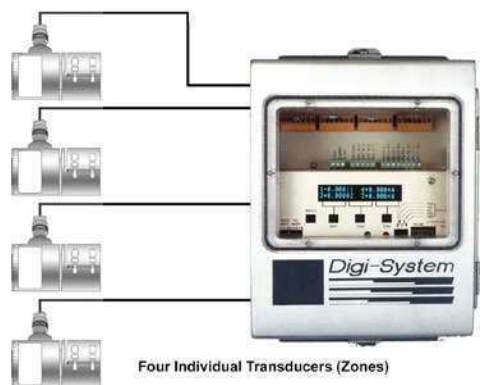


4–20 mA output. Total, individual, and differential outputs from two transducers (load cells) permit a comparison of tension signals on either side of a sheet, strip, or web.

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.

CONFIGURATION



Multi-Zone Web Tension Transmitter

SPECIFICATIONS			
PARAMETER	VALUE	PARAMETER	VALUE
PERFORMANCE		RELAY OUTPUTS (OPTIONAL)	
Internal Resolution	4,194,304 total counts	Solid State	110/220 VAC at 1.0 A
Max. Display Resolution	3,000,000 total counts	Closed Contact	28 VAC/DC @ 0.4 A (max.)
Max. Res. Per Channel	750,000 counts	DIGITAL INPUTS	
Conversion Speed	100 ms (10 updates/s)	Logic"0" (Low)	short circuit or less than 0.5 VDC, sink 3 mA (min.)
Full Scale Range	±35 mV/channel	Logic"1" (High)	open circuit or 10 to 28 VDC (TTL open collector)
Bipolar Dead Load Range	±100% (positive/negative signal)	SIMPLEX DATA OUTPUT (STANDARD)	
Linearity	±0.0015% of full scale	Type	RS-485 (Simplex)
Load Cell Excitation	10 V (65 mA/channel max.)	Baud	1200 or 9600
Software Filter (std)	50 to 10,000 ms	Data Format (Selectable) ASCII	7 data bits, even parity, stop bit
Optional Auto-Tune Filter	multivariable up to 10,000 ms	TERMINAL / COMPUTER INTERFACE (OPTIONAL)	
Remote Sense	user configurable, each channel	Interface Type	RS-485 half duplex (standard)
Span/Zero	±2 ppm/°C	Baud	1200 or 9600
Calibration Repeatability	0.6 µV per count	Protocol	duplex command / response format
Step Response	one conversion cycle	ASCII	7 data bits, even parity, stop bit
Units	LB, KG, N, PLI, (all) and N/M or Web Width (HTU only)	SPECIAL PROTOCOLS (OPTIONAL)	
ENVIRONMENT		Modbus	RTU Protocol
Operating Temperature	-10 to 55°C (12 to 131°F)	SPECIAL INTERFACE (OPTIONAL)	
Storage Temperature	-20 to 85°C (-4 to 185°F)	Allen Bradley	Remote I/O – ¼ logical rack
Humidity	5 to 90% RH, non-condensing	ENCLOSURE	
INTERNAL DISPLAY / OPERATOR INTERFACE		Dimensions	11.5×8.0×4.3 in H×W×D NEMA 4/4X (292×203×109 mm H×W×D)
Standard VFD Display	high visibility, vacuum fluorescent 2 columns of 20 characters each	Weight	12.0 lb (5.4 kg)
Interface	4 "soft buttons"	Optional	EX 12.9×10.9×8.2 in H×W×D (328×277×208 mm H×W×D) (Explosion Proof)
ELECTRICAL		APPROVALS	
Voltage	117/230 VAC +15% 50/60 Hz	FM (Factory Mutual)	3611 (Class I, II, III; Div.1, 2; Groups A-G)
Power	12 W max.	CSA	C22.2 (Class I, II, III; Div.1, 2; Groups A-G)
Input Impedance	10 MΩ, min. per channel		
Noise	0.002% full scale (max. ±16 counts w/o filter)		
Common Mode Rej.	100 dB @ 60 Hz		
Normal Mode Rej.	100 dB above 35 Hz		
Parameter Storage	EEPROM		
ISOLATED ANALOG OUTPUT(S) – FOUR AVAILABLE			
Type	16 bit digital to analog convertor		
Current	4–20 mA (600 Ω max. load)		
Voltage	0–10 VDC (25 kΩ min. load)		

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