

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,

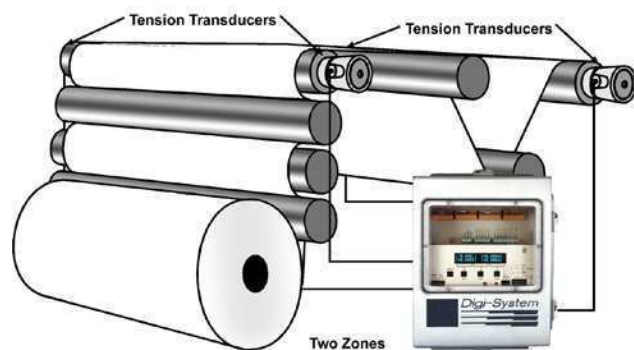
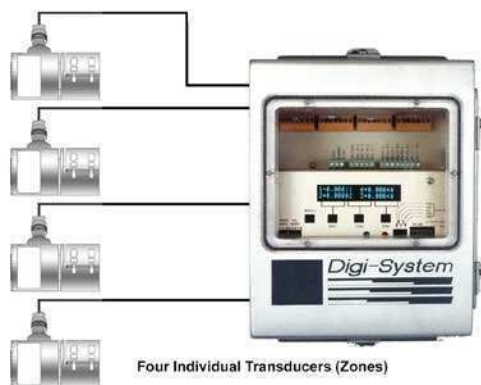


4–20 mA output. Total, individual, and differential outputs from two transducers (load cells) permit a comparison of tension signals on either side of a sheet, strip, or web.

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
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			100 ms (10 updates/s)
Full Scale Range			±35 mV/channel
Bipolar Dead Load Range			±100% (positive/negative signal)
Linearity			±0.0015% of full scale
Load Cell Excitation			10 V (65 mA/channel max.)
Software Filter (std)			50 to 10,000 ms
Optional Auto-Tune Filter			multivariable up to 10,000 ms
Remote Sense			user configurable, each channel
Span/Zero			±2 ppm/°C
Calibration Repeatability			0.6 µV 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			117/230 VAC +15% 50/60 Hz
Power			12 W max.
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)
		PARAMETER	VALUE
		RELAY OUTPUTS (OPTIONAL)	
		Solid State	110/220 VAC at 1.0 A
		Closed Contact	28 VAC/DC @ 0.4 A (max.)
		DIGITAL INPUTS	
		Logic"0" (Low)	short circuit or less than 0.5 VDC, sink 3 mA (min.)
		Logic"1" (High)	open circuit or 10 to 28 VDC (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
		SPECIAL INTERFACE (OPTIONAL)	
		Allen Bradley	Remote I/O – ¼ logical rack
		ENCLOSURE	
		Dimensions	11.5×8.0×4.3 in H×W×D NEMA 4/4X (292×203×109 mm H×W×D)
		Weight	12.0 lb (5.4 kg)
		Optional	EX 12.9×10.9×8.2 in H×W×D (328×277×208 mm H×W×D) (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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