

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,

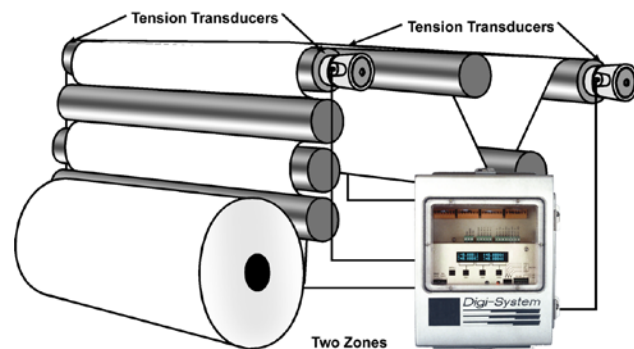
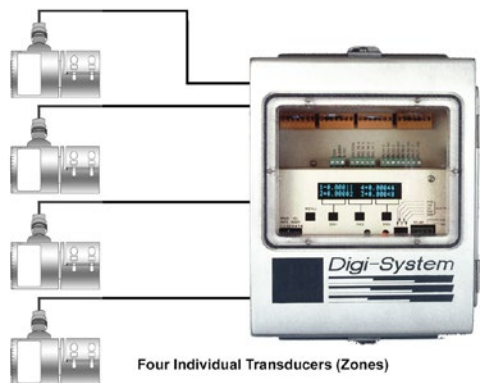


4–20 mA output. Total, individual, and differential outputs from two transducers (load cells) permit a comparison of tension signals on either side of a sheet, strip, or web.

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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