

Online Tension Sensor Model TS2

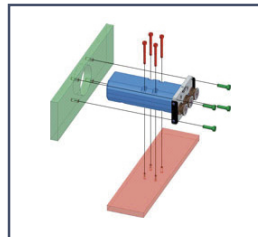
10 tension ranges from 0–50 g to 0–50 kg

- Accuracy of 1.5% Full Scale or better.
- 3-Roller design ensures that the center sensor roller has the same wrap angle at all times, allowing the sensor to be mounted in any position on the line.
- Built-in Signal Conditioner with integrated Zero and Gain Pots allows convenient user calibration for the highest accuracy.
- Hardcoat anodized Aluminum V-grooved guide rollers standard. Hardened steel, ceramic and U-Grooved roller options available.
- Rugged cast Aluminum housing allows easy installation using thru-holes in housing body or front plate.
- Outer roller spacing changes from 40 mm for ranges up to 1000 g, to 100 mm for ranges up to 10 Kg and 200 mm for ranges up to 50 Kg.
- Custom-designs are possible along with special features, such as air fitting to create positive internal pressure in the housing for protection against airborne chemicals or contaminants.

Accurately measure the running tension of wires, cables, yarns, fibers and similar process materials. Sensor can be mounted in any orientation depending upon the material path.

The TS2 features built-in signal conditioner that provides 0-1 V DC analog output (0-10V or 4-20mA, optional) with Integrated Zero and Gain Pots on the rear-side of sensor. This minimizes the chance for signal interference and allows convenient calibration by the end-user for highest accuracy.

The TS2 can be used for process diagnostics, for continuously monitoring and recording online tensions, or as part of a closed-loop control system with a third-party controller.



Thru holes in the the housing body and front plate allow the TS2 to be mounted in any orientation depending upon the material path.

The TS2 can be used together with TD-1-TE Digital Tension Indicator (see side 2) or with user-supplied electronics.

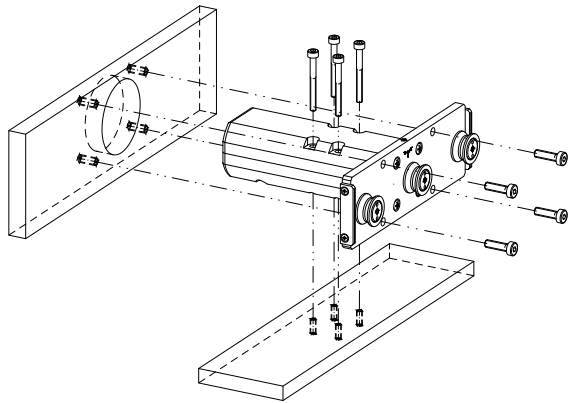
Supplied with mounting holes in housing body and front plate.



Model TS2 Specifications

Accuracy	± 1.5% Full Scale and 1 digit or better
Overload Protection	100% of tension range
Measuring Principle	Strain gauge bridge
Measuring Roller Deflection	0.0197" (0.5mm), max
Output Signal	Standard: 0 - 1 V DC (analog) Option DC: 0 - 10 V DC Option MA: 4-20 mA Option 232: RS-232
Damping	Standard: 30 Hz (other values on request)
Temperature Drift	Less than ± 0.1% Full Scale / °C
Temperature Range	50 to 113 °F (10 to 45 °C)
Air Humidity	85% RH, max
Power Required	+15 ... 24 V DC, 50 mA (regulated)
Housing Material	Aluminum
Weight net	Approx. 0.66 lbs. (300 g)
Cable (optional)	Straight Connector with 6 ft. (2m) cable length with open ends on far side (p/n TS2-CABLE-2M). Other cable lengths and 90-degree connector available.

Mounting Arrangements



Related Product

TD1-TE Tension Indicator

- User-set high & low alarm limits with relays
- Regulated power for sensor
- 4–20 mA and 0–10 VDC analog output for recording and control purpose
- Requires 115V AC power (230V AC optional)



Tension Ranges

Model	Range	Measuring Head Width*	Calibration Material**
TS2-50	0–50 g	64 mm	PA: 0.12 mm
TS2-100	0–100 g	64 mm	PA: 0.12 mm
TS2-200	0–200 g	64 mm	PA: 0.12 mm
TS2-500	0–500 g	64 mm	PA: 0.20 mm
TS2-1K	0–1000 g	64 mm	PA: 0.30 mm
TS2-2K	0–2000 g	124 mm	PA: 0.50 mm
TS2-5K	0–5 kg	124 mm	PA: 0.80 mm
TS2-10K	0–10 kg	124 mm	PA: 1.00 mm
TS2-20K	0–20 kg	224 mm	PA: 0.150 mm
TS2-50K	0–50 kg	224 mm	steel rope 1.50 mm

Other tensions ranges and measuring head widths available on request.
* Outside dimensions of front plate ** Suitable for 95 % of applications
PA = Polyamide Monofilament

Guide Rollers

V-Groove	Line Speed V _{max} ...m/min	Roller Material
Standard	2000	Hardcoated aluminum
Code K	3500	Hardcoated aluminum
Code H	5000	Plasma-coated aluminium for model TS2-100 and higher ranges
Code ST	1000	Hardened Steel
Code U	1000	U-grooved, R = 3mm
Code B	1000	Tempered steel, specially for measuring tire cords
Code CE2	1000	Ceramic
Code ASY*	1000	Hardcoated aluminium, asymmetrical groove
Code ASYB*	1000	Tempered steel for tire cord, asymmetrical groove

* For TS2-500 and higher ranges with measuring head width 124 mm .

Output Signal Mode

Standard	0 – 1 V DC (analog)
Option	Code DC: 0 – 10 V DC
Option	Code MA: 4 – 20 mA
Option	Code 232: RS-232

For additional information or to place an order CALL TOLL FREE 1-800-645-4330

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