CHECKLINE®
MADE TO MEASURE
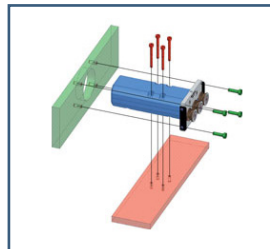
Online Tension Sensor
Model TS2B

8 tension ranges up to 20 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 & gain pots allows convenient user calibration for the highest accuracy .

- Fitted with 13mm diameter flat, cylindrical rollers with 1 or 2 flanges, widths of 7, 10, 15 ,20 or 30mm. Standard rollers are hardcoated aluminum however carbon optimized "Orange Peel" coating is optionally available.

- Rugged cast aluminum housing allows easy installation using thru-holes in housing body or front plate.

- Outer roller spacing changes from 40mm for ranges up to 1000 g, up to 100mm for ranges up to 10 Kg. and 200mm for 20 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.

A precision, narrow web/tow tension sensor for measuring textile ribbons, films, foils, fiberglass and carbon fiber tows, etc Sensor can be mounted in any orientation depending upon the material path.

The TS2B tension sensor accurately measures the running tension of fine wires, optical fibers, carbon fibers and similar process material. It is fitted with 13 mm diameter flat, cylindrical rollers with 1 or 2 flanges with width of 7, 10, 15 or 20 mm. Standard rollers are hardcoated aluminum however carbon optimized "Orange Peel" Coating is optionally available.

The TS2B features a 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.

Supplied with mounting holes in housing body and front plate.

The TS2B can be using for process diagnostics, for continuously monitoring and recording online tensions, or as part of a closed-loop control system with a third-party controller.

Mounting possibilities: The TS2B sensor can be mounted on a flat plate using the supplied thru holes in the housing body or fixed using the holes in the front plate, inserted thru a round hole in machine frame or plate.

max.500 grams

Model TS2B Specifications

Accuracy	±1.5% Full Scale and 1 digit or better	**Temperature Range**	50 to 113 °F *(10 to 45 °C)*
Overload Protection	100% of tension range	**Air Humidity**	85% RH, max
Measuring Principle	Strain gauge bridge	**Power Required**	+15 ... 24 V DC, 50 mA (regulated)
Measuring Roller Defelction	0.0197" *(0.5mm)*, max	**Housing Material**	Aluminum
		Weight net	**250 – 280 g**
Output Signal	**Standard:** 0 - 1 V DC (analog) Option DC: 0 - 10 V DC Option MA: 4-20 mA Option 232: RS-232	**Cable** (optional)	Straight Connector with 6 ft. *(2m)* cable length with open ends on far side (p/n TS2-CABLE-2M). Other cable lengths & 90-degree connector available.
Damping	Standard: 30 Hz (other values on request)		

Tension Ranges

Model	Range	Measuring Head Width**	Roller Width (mm)
TS2B-100	0–50 g	60 mm	7, 10, 15, 20
TS2B-200	0–100 g	60 mm	7, 10, 15, 20
TS2B-500	0–200 g	60 mm	7, 10, 15, 20
TS2B-1K	0–500 g	60 mm	7, 10, 15, 20, 30
TS2B-2K	0–1000 g	120 mm	7, 10, 15, 20, 30
TS2B-5K	0–5000 g	120 mm	7, 10, 15, 20, 30
TS2B-10K	0–10 kg	120 mm	7, 10, 15, 20
TS2B-20K	0–20 kg	220 mm	7, 10, 15, 20

Other tensions ranges available on request. ** Outside dimensions of front plate

Important for your order: Please specify model and roller width. Small dual-flanged outer guide rollers are standard. All 3 rollers can be equipped with one flange, if the material to be measured is wider than the rollers. Please request when you order.
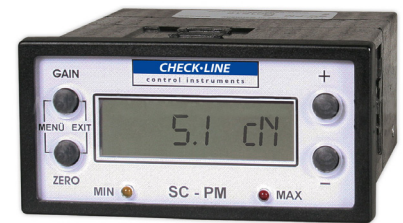
Guide Rollers

Roller Width	Line Speed V_{max}…m/min	Roller Material
7 mm	1000	Nickel-Plated Steel
10 mm	1000	Hardcoated Aluminum
15 mm	1000	Hardcoated Aluminum
20 mm	1000	Hardcoated Aluminum
30 mm	1000	Hardcoated Aluminum

Output Signal Options

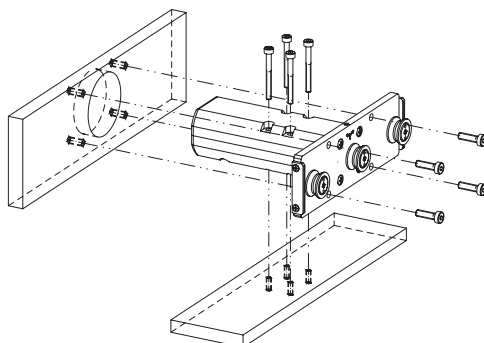|	
Standard	0 – 1 V DC (analog)
Option	Code DC: 0 – 10 V DC
Option	Code MA: 4 – 20 mA
Option	Code 232: RS-232
Option	Code USB: USB PC Output

Related Products

SC-PM Tension Indicator

- Connection of series TE, TF, TSW, TS2 and other with analog output 0 – 1 V DC, optionally series without integrated amplifier
- User set limits (Min and Max alarms) with LED and Open Collector output for external signal unit
- Adjustable damping to reduce tension fluctuates
- Display unit with Dotmatrix LCD display, 12mm high with backlight

Interfaces:

- *Analog:* 0 – 10 V DC (standard)
- *Digital (optional):* RS 232 or RS 422
- *Current (optional "-MA"):* 4 – 20 mA (instead of 0 – 10 V DC output)

Mounting Arrangements

High Capacity Models available with wider roller spacing

100mm outer roller spacing

200mm outer roller spacing