**4** Tension Ranges
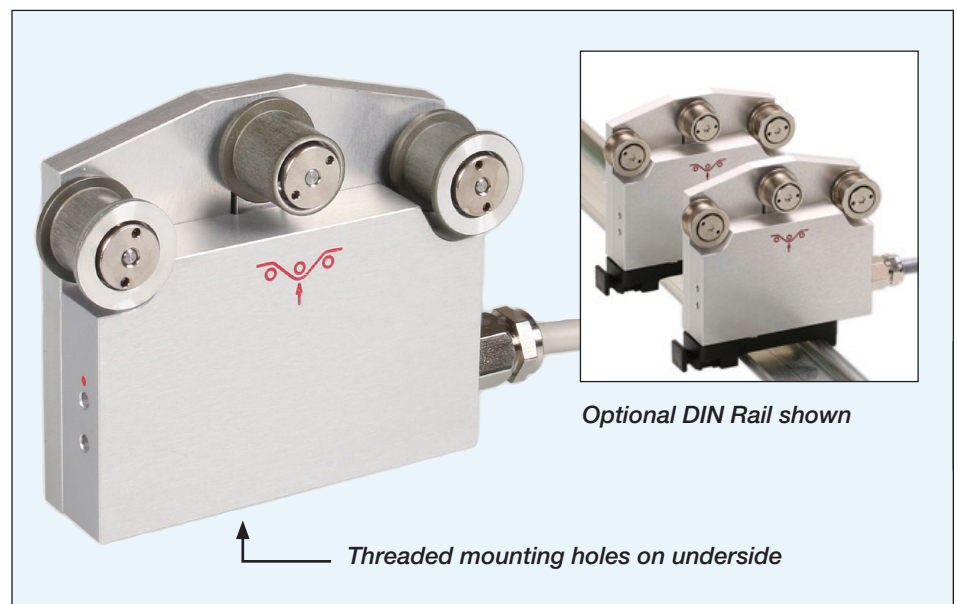from 0–50 g to 0–1000 g

**2** Roller Widths
7mm or 10mm

- Strain gauge-based sensor provides accuracy of 2% Full Scale or better.

- Built-in signal conditioner provides 0-1 V DC analog output (0-10V or mv/V, optional). Integrated Zero and Gain Pots allow end-user calibration for highest accuracy.

- Supplied with easy-running ball-bearing mounted, flat cylindrical rollers with flanges.

- 7mm wide roller is fabricated from nickel-plated steel, 10mm roller is hardcoat anodized aluminum.

- 3-Roller design ensures the center sensor roller always has the same wrap angle, so the sensor mounts in any orientation and any position on the line.

- Sensor mount to a flat plate or fixed on the optional rail allowing easy installation.

- Slim sensor housing allows mounting multiple sensors adjacent to one another with minimal spacing.

- Includes 2 meter (6 ft) long cable with open ends for connection to tension Indicator or user-supplied electronics

# Compact Online Tension Sensor
## TSCB Series For Tapes, Bands and Tows

Universal tension sensor for tapes, bands and tows (glass and carbon fibers).

The TSCB Series is a purpose-built online tension sensor for continuous measurement of running line tensions of narrow tapes, bands, webs, tows of fiberglass or carbon fibers and similar process materials. The precision-machined housing is constructed allowing for the installation of several sensors in close proximity to one another when the end-to-end spacing of the process material is limited. Multiple sensors can be mounted adjacent to another for fixed to a single rail for quick and easy mounting.. Built-in signal conditioning with ZERO and SPAN pots provide a high-level, analog output to minimize the chance for signal interference.

The TSCB Series tension sensor can be used for process diagnostics, for continuously monitoring and recording of online tensions. It can also be used as part of a closed-loop control system with third-party controller.

**Mounting possibilities:** Sensor can be mounted on a flat plate using the supplied thru holes on the underside of the housing body or fixed on the optional rail allowing for quick, easy installation and allows for multiple sensors mounted adjacent to one another with minimal spacing.
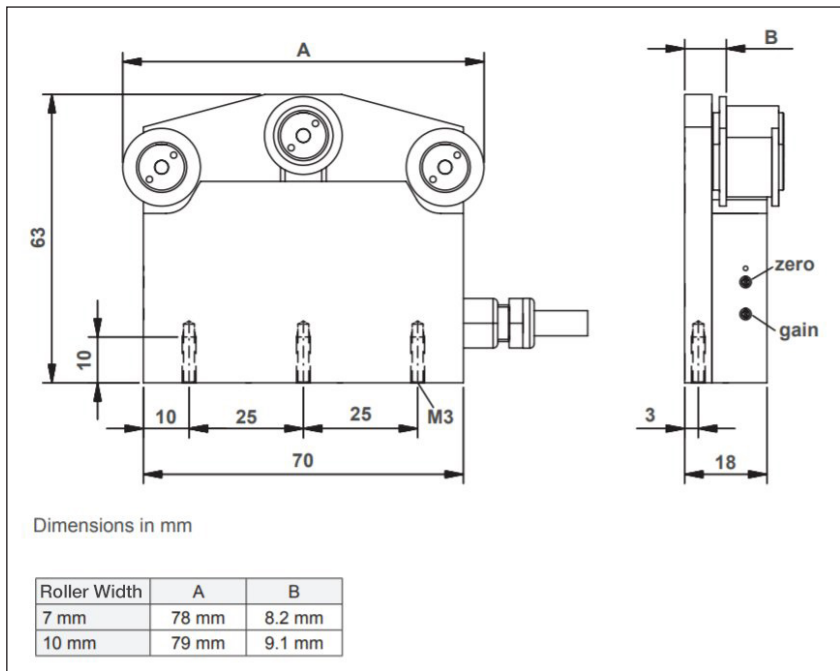


*Optional DIN Rail shown*

*Threaded mounting holes on underside*

# TSCB Series Specifications

| | |
|---|---|
| **Accuracy** | ±2% full scale and ±1 digit |
| **Overload protection** | 100% of tension range |
| **Measuring principle** | Strain gauge full bridge |
| **Measuring roller deflection** | max. 0.5 mm |
| **Signal processing** | Analog |
| **Output signal** | *Standard:* 0-1 V DC (analog)<br>*Option:* 0-10 V DC (Option "DC") or m<br>V/V direct strain gauge output (Option "A10") |
| **Option "A10" Output** | 1 mV/V output, 5V DC power required<br>(3-5V DC) |
| **Cable** | Shielded cable (2 m) with open ends |
| **Damping (fg)** | 30 Hz Standard (analog) |
| **Temperature drift** | Better ± 0.05% FS/ °C |
| **Temperature range** | 50 to 113 °F *(10 to 45 °C)* |
| **Air humidity** | 85% RH, max. |
| **Power supply** | +15 ... 24 V DC, 21 mA (regulated) |
| **Housing** | Aluminium, with threaded mounting holes on underside (M3 Thread) |
| **Housing dimensions**<br>*(L x W x H)* | 2.76 x 2.16 x .67 in. *(70 x 55 x 17mm)* |
| **Weight, net** | Approx. 3.52 oz. *(100 g)* |

## Tension Ranges

| Model | Range | Measuring Head Width* | Roller Width** |
|---|---|---|---|
| TSCBB-100-7 | 0–100 g | 70mm | 7mm |
| TSCBB-200-7 | 0–200 g | 70mm | 7mm |
| TSCBB-500-7 | 0–500 g | 70mm | 7mm |
| TSCBB-1000-7 | 0–1000 g | 70mm | 7mm |
| TSCBB-100-10 | 0–100 g | 70mm | 10mm |
| TSCBB-200-10 | 0–200 g | 70mm | 10mm |
| TSCBB-500-10 | 0–500 g | 70mm | 10mm |
| TSCBB-1000-10 | 0–1000 g | 70mm | 10mm |

cN units also availabler. * Outside dimensions of housing. ** Outside dimensions of the roller.

## Output Signal Mode

| | |
|---|---|
| **Standard** | 0 – 1 V DC (analog) |
| Option | Code DC: 0 – 10 V DC |
| Option | Code A10: Direct strain gauge output signal mV/V without amplifer |

## Dimensions



Dimensions in mm

| Roller Width | A | B |
|---|---|---|
| 7 mm | 78 mm | 8.2 mm |
| 10 mm | 79 mm | 9.1 mm |

## Related Products

### SC-PM
### Digital Tension Indicator



- Can be scaled to any engineering units desired with user-set decimal point.
- 4-20 mA analog output for recording and control purpose (No analog output provided on PD765-6R5-10)
- Requires 85-265V AC Power, provides regulated power for the tension sensor

### SC-PM4
### 4-Channel Digital Tension Indicator



- User-set limits (Min and Max Panel mount digital display for up to for 4 tension sensors. *Outputs:* USB, RS 422 and analog.
- 4 different calibrations for customer supplied material can be saved for each channel.
- Using the USB or RS 422 output all tension readings can be sent to PC for data analyzing and storage.