

Product Description

Tension Sensor Wire TSW

Special Features

- Measurement system includes measurement and guide rollers
- Amplifier with analog output
- Adjustment for zero (tare) and gain (calibration)

Scope of Supply

- Measuring head with fixed cable, 3 meters in length
- Instruction manual

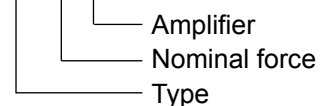
Additional Accessories

- Custom made rollers
- **Option A:**
Integrated Amplifier 0-10 V



Ordering Data

TSW10-A



Application

Measurement of tension forces in wires, cables, threads, yarn and other flexible material.

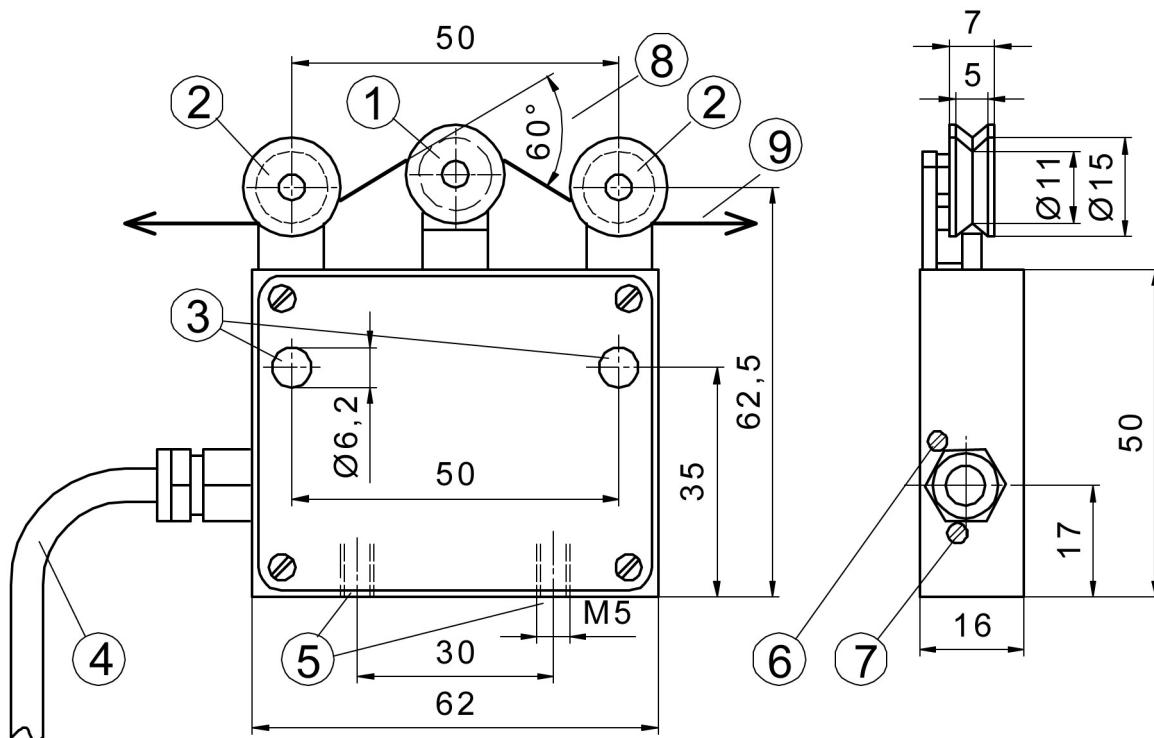
TSW is a compact sensor for measuring tension forces on running material. It contains all necessary components for measuring tension forces in a very narrow housing. It is easy to mount into the production line and it is immediately ready for operation. Two mounting options are available, several sensors can be stacked into one block. The TSW is deliverable for supply voltages of 5 V, 12 V, 24 V or $\pm 15V$. Therefore it is compatible to most of the existing sources of power. The analog output provides a voltage of 0 ... 10 V, which is proportional to the measured tension. This signal can be used as actual value in a control loop.

Technical Data

Nominal forces (Measuring range)	2 N*, 3 N, 5 N, 10 N, 20 N, 30 N
Nominal resistance input	350 Ω
Nominal resistance output	350 Ω
Charact.temp.range	+ 5°C ...+ 60°C
Temperatur coefficient	< + - 0,01 %/°C
Overload protection	400 to 1000 %

Values (%) based on nominal force

Protection class	IP 50
Combined error	< 0,3 %
Measuring principle	strain gauge, full bridge
Natural frequency	200 Hz up to 500 Hz
Nominal rating	1,5 mV / V
Max. bridge excitation	10 V
* 2N available only with analog amplifier (option A)	



- 1 = Measuring roller
- 2 = Guide roller
- 3 = Fixing holes
- 4 = Connection cable, 3 m
- 5 = Fixing threads
- 6 = Zero adjustment (tare)
- 7 = Gain adjustment (calibration)

- Rollers: ø 11 mm aluminium rollers running in double ball bearings, V - shaped
 ø 10 mm aluminium rollers running in double ball bearings, ceramic coated
- Option: Custom made rollers
- Calibration: The electrical zero and the gain are adjustable by means of a screw driver
- Housing: Aluminium
- Weight: approx. 150 g, without connection cable