Web Tension Sensor PFP

Measuring direction is parallel to mounting level.
No tare influence if levelled horizontally.

Purpose
Measuring of the force component parallel to the longitudinal axis of the sensor-mounting surface.

Functioning
Measuring of bending by means of strain gauge metrology.

Advantages
- Insensitive to affecting forces that are right-angled staggered towards the measuring axis` position.
- Fast response to load changes.
- Direct mounting of the pillow block without insert plates, with or without fitting, customized projected.
- As a standard it can be overloaded up to 15-times of nominal load without metrological damage; 30-times until break-point
- High contraction stiffness of the sensor-body in direction of the measuring-axis, typical contraction distance at nominal load < 0.025 mm, practically no contraction in other levels, provides smoothest operation of the turn-rollers as well as web movement stability.
- Insensitive to tip momentum that occur due to web tension and height of the roller-axis above the mounting level.
- Integrated calibration norm for monitoring the entire signal-path and calibration.

Assembly
Two parallel set circuit boards are connected at their outer endings through measuring-zones.
The dimensions are designed corresponding to the size of the pillow block housing and the sensors nominal load and can be modified for specific use if the need should arise.
The signal wire is firmly attached, led out at the front side and protected by a hose.

Use
In web tension measuring installations between pillow blocks of return rollers and their mounting base.

Specification

Bridge-resistor nominal	2000 Ω
Bridge-resistor actual value	see test test protocol
Charge Voltage	35 VDCmax
Nominal characteristic value =	
Output signal at nominal load	0.2 mV/V Standard
Calibration resistor	integrated
Length of wire (standard)	3.0 m
Protective Hose (standard)	2.0 m
Combined error	0.3 %
Hysterse and Linearity	0.2 % v. E.
Repeatability	< 0.1 % v. E.
Temperature gradient/ 10 K	< 0.1 % v. E.
Compensated Temperature Range	+ 20°C…+ 80°C
Maximum Operating Temperature Range	+ 20°C…+ 120°C
Nominal load according to Series Chart	kNmin…… kNmax
Load Limit without metrological damage	
at characteristic value 0.20 m V/V	15/30 times the nominal load