

**Technical data**

**Radial Force Sensor M 1391**

**Radial Force Sensor Series**  
**Dimensions:**



Type M 1391 is with an integrated .  
It supplies an output signal of 0 to +10V, corresponding to 0-100% the nominal load.  
To adjust the electrical zero and the gain (calibration), the corresponding potentiometer are accessible from outside on cable site.

By ordering this type - the desired service-voltage must be indicated.

**Service-voltage and output-signal are galvanic separate.** (not with  $\pm 15 \text{ V} !!$ )  
Connection-cable is fixed, 3 m long. Shield of the connection cable is connected to the housing.

- Application:** Tensile force measurement on material which is flexible
- Nominal loads:** 20 N, 30 N, 50 N, 100 N, 200 N, or 300 N others upon request
- Overload-protection:** > 10 times the nominal load
- Protection:** **IP 52 at the shaft-side / IP 50 at the cable side (Option IP 64 upon request)**  
Independent of the nominal load of the sensor, sealing for IP 52 and IP 64 can cause an additional error of 0,2 N. To obtain the highest possible accuracy, customer can remove sealing IP 52 by themselves, without problem. In this manner protection reduces to IP 50.
- Journal-bearing (shaft):** standard  $\varnothing 10 \text{ mm}$ , fixing the measuring roller by means of a circlip  
other shafts or roller-fixing upon request
- Material:** (tube) housing and shaft: stainless steel Sealing material: Silicon, SL 601
- Electrical connection:** shielded, fixed cable - standard length 3 m, upon request: 5 m or 30cm with M12 plug.  
Shield is connected to the housing.
- Mounting:** Mounting into a hole  $\varnothing 24 \text{ mm}$ , locking by means of screw-pressure on the tube  
Mounting by using Tensometric clamping device Z 24V+H or Z 1391
- Measuring principle:** strain-gauge, full-bridge **Service voltage:** 24 V  $\pm 10\%$  < 25 mA
- Measuring range:** 1 % up to min. 120 %
- Charact. range of temp.:** +5°C ...+60° C
- Coef. of temperature**
- of the zero: < 0,05% / °C **Adjusting range zero:**  $\pm 20\%$  of the nom. load
  - of the measuring range: < 0,04% / °C **Adjusting range gain:**  $\pm 20\%$  of the nom. load
- Error in measurement:** <  $\pm 0,3\%$  **Output signal:** 0 ...  $\pm 10 \text{ V}$
- max. error in line. :** <  $\pm 0,2\%$  **Output current max.:** 2 mA
- Volume of delivery:** Sensor without measuring roller, fixed connection cable  
Instruction manual with calculation tabular
- Accessories available:** Connection cable, amplifier with or without display  
measuring roller, clamping device Z 24H+V or Z 1391