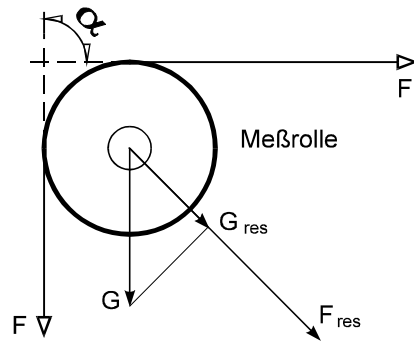


Radial Force Sensor Series M 1355 – NH and NH-2



- α = angle of contact
 F = tensile force of the material to be measured
 F_{res} = resulting force which is measured
 G = weight of the measuring roller
 G_{res} = part of the -measuring roller weight- in sphere -direction of the sensor



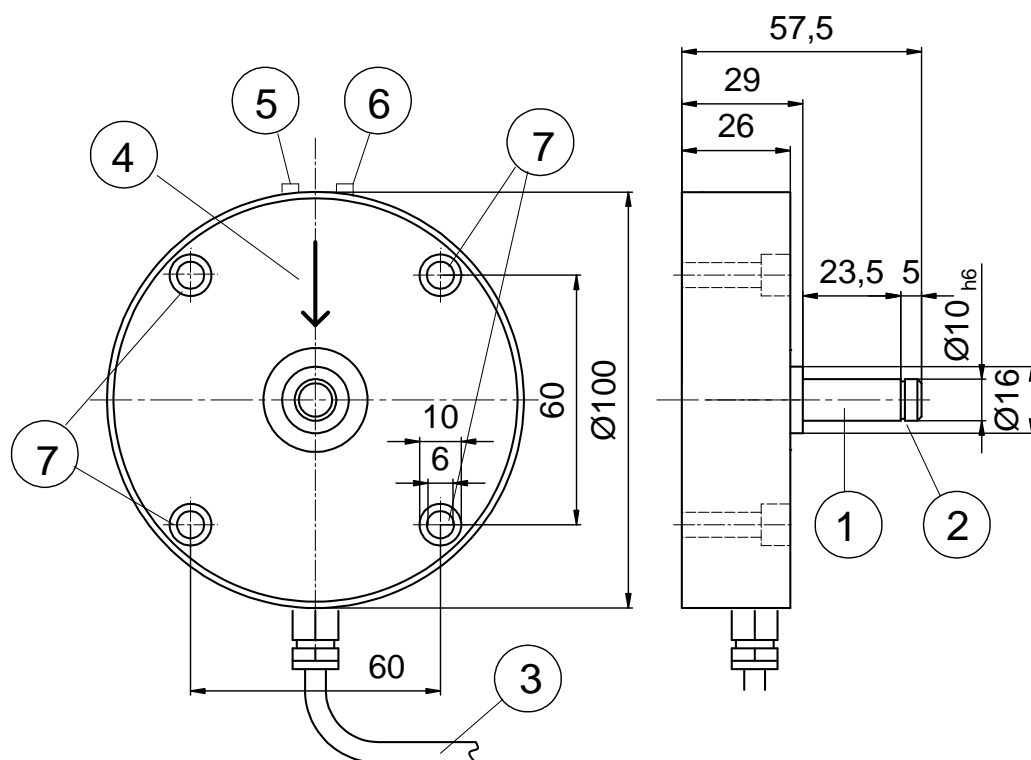
Radial - Force - Sensors of series M 1355 NH are precise and reliable measuring systems, as well high overload-protected as high in long-time-stability.

For measuring tensile forces on running material, fit a ball-bearing-mounted roller on the journal-bearing. This measuring roller has to be mounted in a position, that the material which will be measured, will deviate in a defined angle. Here angle of contacts, of the material which is measured - around the measuring-roller, between 3° and 180° are possible. The resulting forces, due to the deviation, are measured by the sensor. The radial force is proportional to the tensile force, in the material which is measured. Corresponding to this radial-force the nominal load of the sensor is to select.

- Application:** measuring tensile forces on running or not running material
 p.e.: on wires, cables, tapes etc.
 p.e.: range of centrifugal-forces, in rotating stranding machines
- Characteristics:** extreme space-saving and flat construction, easy mounting
 equipped with a standard - journal bearing of $\varnothing 10$ mm
 realisation the measured data is independent of the width of the used roller
- Nominal loads:** 50 N, 100 N, 200 N, 300 N - others upon request
- Measuring range:** by changing the angle of contact - around the measuring roller -
 the measuring range is variable
- Measuring principle:** strain-gage, full-bridge, built in amplifier
 the sensor transforms the - on the measuring roller - active radial forces
 into a proportional electric signal
- Mounting:** 4 screws M 6
- Connection:** Electrical connection by means of a fixed cable, length 3 m.
- Accessories available:** Connection cable, amplifier with or without indication, rollers

Technical data :
Radial Force Sensor Series M 1355-NH

Dimensions :



- | | |
|------------------------------|--|
| 1 = Axle (journal-bearing) | 5 = Potentiometer to adjust the electrical zero (Offset) |
| 2 = Seeger ring A10 | 6 = Potentiometer to adjust the gain (Calibration) |
| 3 = Connection cable | 7 = Holes to fix the sensor |
| 4 = Loading direction | |

Realization the measured data via strain-gages, amplifier is built in.
 The desired service voltage must be indicated together with the order.

Nominal loads: 50N, 100 N, 300 N - others upon request

Measuring principle: strain-gage, full-bridge

Measuring range: 1 % up to 115% the nom.load

Value tolerance: $\pm 0,2 \%$

Overload protection: 5- times up to 10- times
 depends on the nom.load

Coef. of temperature:

- of the zero

- of the meas. range

$< 0,035 \% / ^\circ\text{C}$

$< 0,05 \% / ^\circ\text{C}$

Service voltage:

5 V $\pm 10\%$ < 90 mA

12 V $\pm 10\%$ < 70 mA

24 V $\pm 10\%$ < 30 mA

$\pm 15 \text{ V} \pm 10\%$ < +20 mA < -10 mA

Outputsignal:

Output current:

option: Output current

0 ... $\pm 10\text{V}$

max. 2 mA

4 - 20mA

Protection: IP 50

Charact. of temperature: $+5^\circ\text{C} \dots +55^\circ\text{C}$

Adjusting range zero:

Adjusting range gain:

$\pm 20\%$ of the nom.load

$\pm 20\%$ of the nom.load

Adjusting the zero
 Adjusting the gain

by means of a screw-driver
 by means of a screw driver

Connection cable: length 3 m, fix connected

Delivery: Sensor with Seegerring A10, Instruction manual