Radial Force Sensor Series M 1111

M 1111 built - in into a roller of ∅ 300 mm:

M 1111 with standard - roller ∅ 100 mm:

This series M 1111 is a novel-type for precise measurement of radial - forces and tensile - forces on running material.
The radial-force measuring - system is space-saving accommodated inside of the anti-friction-bearing.
On the outer ring of the anti-friction-bearing a corresponding roller will be mounted.
For measuring tensile forces, the sensor has to be mounted in such a position, that the material
- which should be measured - will deviated in a defined angle.
Here angle of contacts, of the material which should be measured around the roller-groove,
between 3° and 180° are possible. The resulting rad ial-force, due to the deviation, is measured by the sensor.
This 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	tensile force measurement on running or static material, p.e.: cables, wires, tapes, belts, etc.
Characteristics	- by means of this novel construction of the measuring-system, high mechanical stability is obtainable - due to the extreme small construction, now it is possible to go ahead with tensile-force-measurments on running material, as well at points, which where inaccessible up to now. - this system is unusual robust as well against cross-forces, which are not in the measuring-direction, consequently it is suited for application in rotating machines - torques of the anti-friction-bearings have no influence on the measuring-results - high overload-protection by means of the mechanical stop - high frequency of the measuring-system - several sensors can be stacked one one journal-bearing - on restricted space - individual measurements are possible - rollers can be adjusted to the required application
Meas. range	by changing the angle of contact - around the measuring roller - the measuring range is variable
Mounting	4 hexagon-screws DIN 912, M 6
Connections	electrical connection via 5-pol. connector

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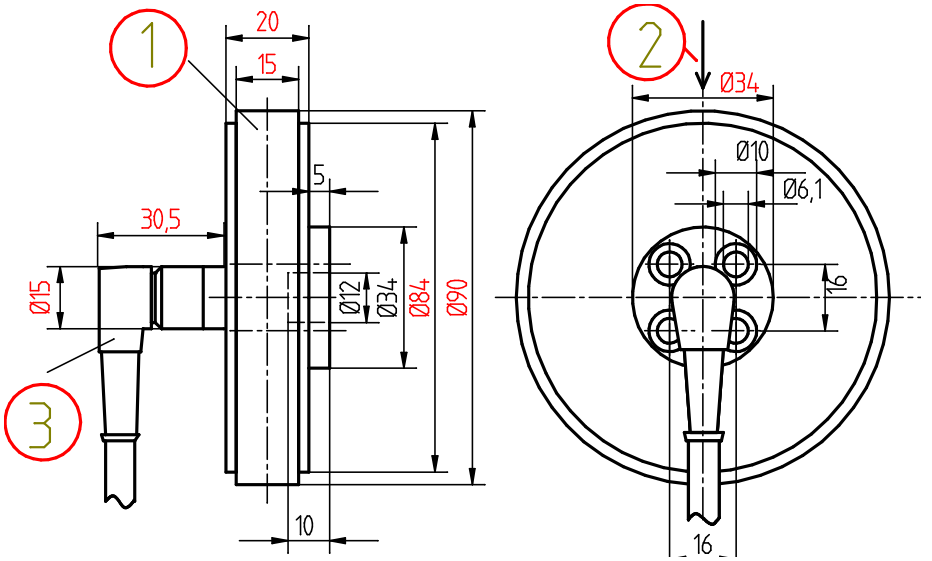
Technical data:

Radial - Force Sensor Series M 1111

Dimensions :



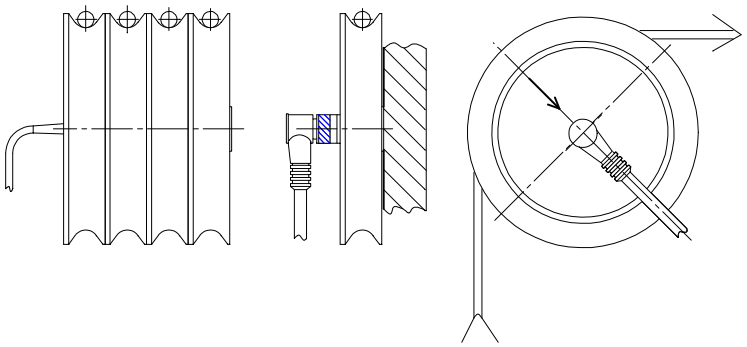
1 = anti-friction-bearing

2 = force - direction

3 = connector

Nominal loads	50 N, 100 N, 200 N, 300 N
Meas. principle	strain-gage, full-bridge
Measuring range	1% up to approx.. 115%
Error in measurement	< 0,5 %
Overload-protection	3 - 10 times
Resistance-input	350 Ohm
Resistance-output	350 Ohm
Max. service-voltage	10 V
Reference-voltage	10 V
Charact.range of temp.	+ 5℃ ...+ 60°C
Charact.value	1,5 mV / V
Charact.value tolerance	< +- 0,2 %
max. error in lin.	< +- 0,5 %
Coef. of temperature	< +- 0,01% / ℃
Protection	IP 50
Distance in stacking	min. 22 mm
Antif-friction-bearing	double-row oblique-ball-bearing load : dyn. 19200 N ; stat. 23800 N ; marginal-speed : 4400 U/min
Weight	approx. 400 gr, incl. anti-friction-bearing
Volume of del.	sensor with anti-friction-bearing plus connector, without roller, Instruction manual
Accessories available	Roller : inside = 100 mm diameter, outside = 114 mm diameter , radius = 6,5 mm. diameter and roller-forms can be adjusted connection-cable manufactured amplifier with or without indication the tensile forces, please see our corresp,. data sheets

Application, p.e. :



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