

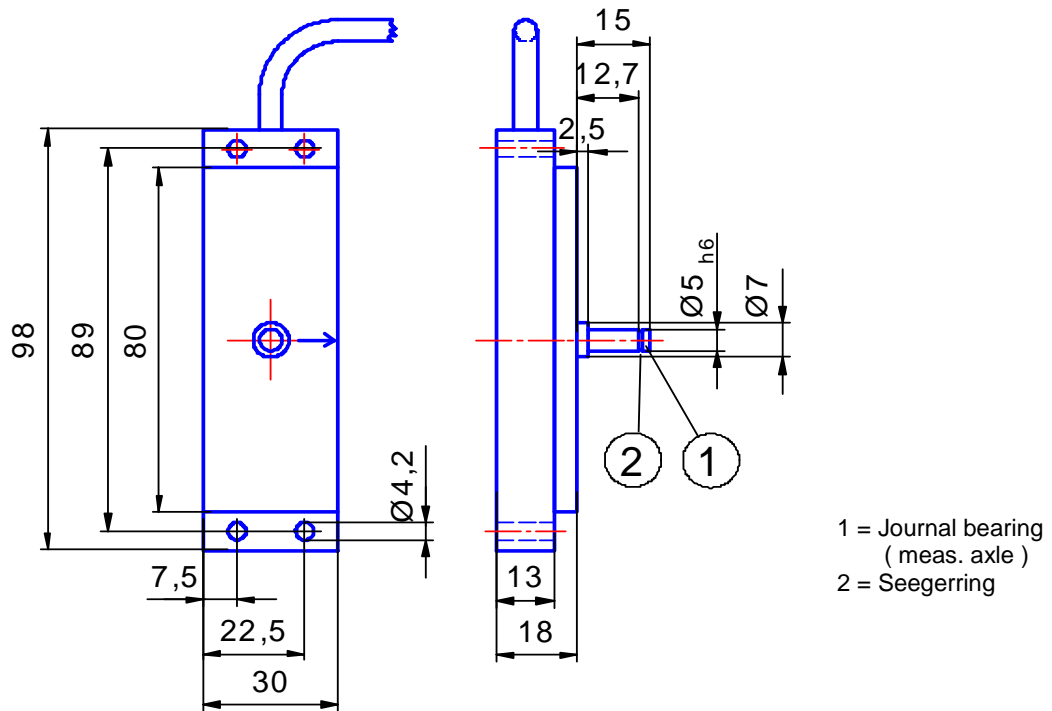
Radial Force Sensor Series LC 1190 and LC 1390



<i>Application</i>	measuring tensile forces on : optical fibres, wires, threads, tapes, etc. optimal for measurements ONLINE, as well for labs
<i>Characteristics</i>	extremely flat system. Pulleys (guide-rollers) existing in the machine, can be mounted on the journal bearing (measuring-axle) and used for measurement. The sensor works (almost) lever-arm-independent, as well with wide rollers
<i>Amplifier</i>	LC 1390 = with built-in amplifier LC 1190 = without built-in amplifier please see corresponding data sheets
Nominal loads	2 N up to 50 N, / others upon request
<i>Measuring range</i>	by means of the optimal choice of nominal load and angle of contact around the measuring roller, between 10 cN and 500 N
<i>Overload protection</i>	> 10 times the nominal load. Safe protection against unexpected operation conditions. No damage of the sensor due to a blockage by means of tearing material.
<i>Measuring principle</i>	the - on the journal bearing - radial acting force, causes a proportional, minimum deformation of a complex formed bending-beam. The built-in strain-gage full-bridge transforms this deformation into a proportional electric outputsignal.
<i>Fixing</i>	4 cylinder-head-screws, M 4 x 20 DIN 84
<i>Electrical connection</i>	connection cable, 3 m, fixed
<i>Journal bearing (meas. axle)</i>	standard: \varnothing 5 mm destined for anti-friction-bearings ULKZ 511 length and diameter can be changed tailor-made
<i>Extent of delivery</i>	sensor with fixed cable, instruction manual
<i>Accessories available</i>	- tailor-made rollers - amplifier KMV 10 without display please ask for the corresponding data sheets
	<i>Recommended instruments with digital display :</i> Tensometric series SA DMS 610, SA 310 DMS

Technical data LC 1190

Dimensions sensor series LC 1190:



1 = Journal bearing
(meas. axle)
2 = Seegerring

Series

Type LC 1190

tensile force sensor, realization the measured data via strain-gages

Type LC 1390

tensile force sensor, realization the measured data via strain-gages
amplifier is built-in. Please see separate data sheet

Type LC 1190 :

Nominal loads: 2 N, 3 N, 5 N, 10 N, 20 N, 30 N, 40 N and 50 N others upon request

Measuring principle: strain-gage, full-bridge
Measuring range: 1 % up to approx. 115 %
Charact. Value: 1,5 m V / V
Char.range of temp.: + 5°C ...+ 60°C
Coef. of temp.: < +/- 0,01 % / °C

Resistance input: 350 Ohm
Resistance output: 350 Ohm
Reference voltage: 10 V
Max. service voltage: 10 V
Error system strain-gage: < 0,3 %

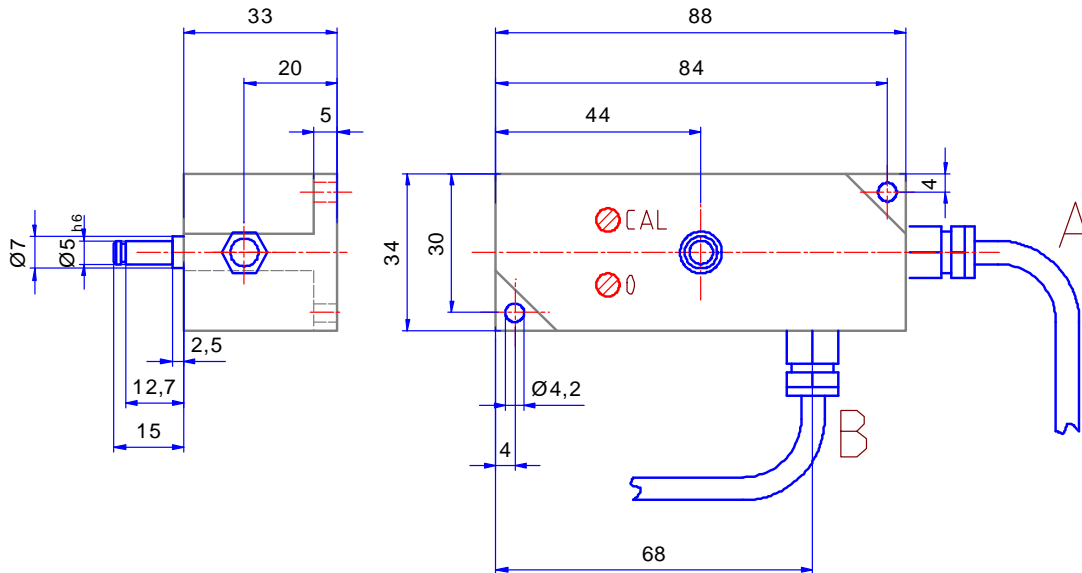
Measuring error: < 0,8 %, depends on the material
Natural frequency: 300 Hz up to 500 Hz, depends on the nominal load
Overload protection: 10 times
Protection: IP 50

Cable connections: brown + 10 V bridge excitation
white terra bridge excitation
green + Out measuring signal
yellow - Out measuring signal
grew not connected

Technical data - subject to change

Technical data LC 1390

Dimensions sensor LC 1390:



Sensor series LC 1390 is a radial-force sensor with built-in amplifier. It supplies an output signal of 0 up to +10 V, corresponding 0 up to 100% the nominal load. To adjust the electrical zero and the gain (calibration), corresp. potentiometer are accessible at the front page.

The desired service voltage is adjusted by Tensometric. It is necessary to specify this together with the order. Service voltage and output signal are galvanic separate. (not with service voltage of ± 15V !) The 3 m long connection cable is fixed. Shield of the cable is not connected to the housing.

Cable at pos. A or B

Nominal loads n 2 N, 3 N, 4 N, 5 N, 6 N, 10 N, 20 N, 30 N, others upon request
Overload protection > 10 - times the nominal load

<i>Measuring principle:</i>	strain-gage, full-bridge	<i>Service voltage:</i>	5 V ± 10%	< 90 mA
<i>Measuring range:</i>	1 % up to > 120%		12 V ± 10%	< 70 mA
<i>Charact. range of temp.:</i>	+ 5°C ...+ 60°C		24 V ± 10%	< 25 mA
<i>Coef. of temp.</i>		<i>Option</i>	±15 V ± 10%	+20 / -5 mA
- of the zero:	< 0,025 % / °C	<i>Adjusting range zero:</i>	± 20% of the nom.load	
- of the meas.range:	< 0,05 % / °C	<i>Adjusting range gain:</i>	± 20% of the nom.load	
<i>System strain-gage:</i>		<i>Outputsignal:</i>	± 10 V	
<i>meas. error:</i>	< ± 0,3%,	<i>Output current max.:</i>	2 mA	
<i>max. error in line.:</i>	< ± 0,2 %	<i>Option: Output current</i>	4-20mA	

Protection: IP 50

Housing: aluminium - alloy

Electrical connection: fixed, shielded 5 pol. connection cable. Standard-length 3 m, 5 m upon request
 Shield is connected to the housing

Extent of delivery: Sensor with fixed connection cable, instruction manual

Technical data - subject to change