

**Tensile Force Measuring Head Series M 1156-LC, M 1356-LC**

**Head series M 1356-LC is a compact system to measure tensile forces on : cables, stranded-wire, wires, tapes etc.**

The smooth, in ball-bearing running rollers, can be adjusted to the material, which should be measured.

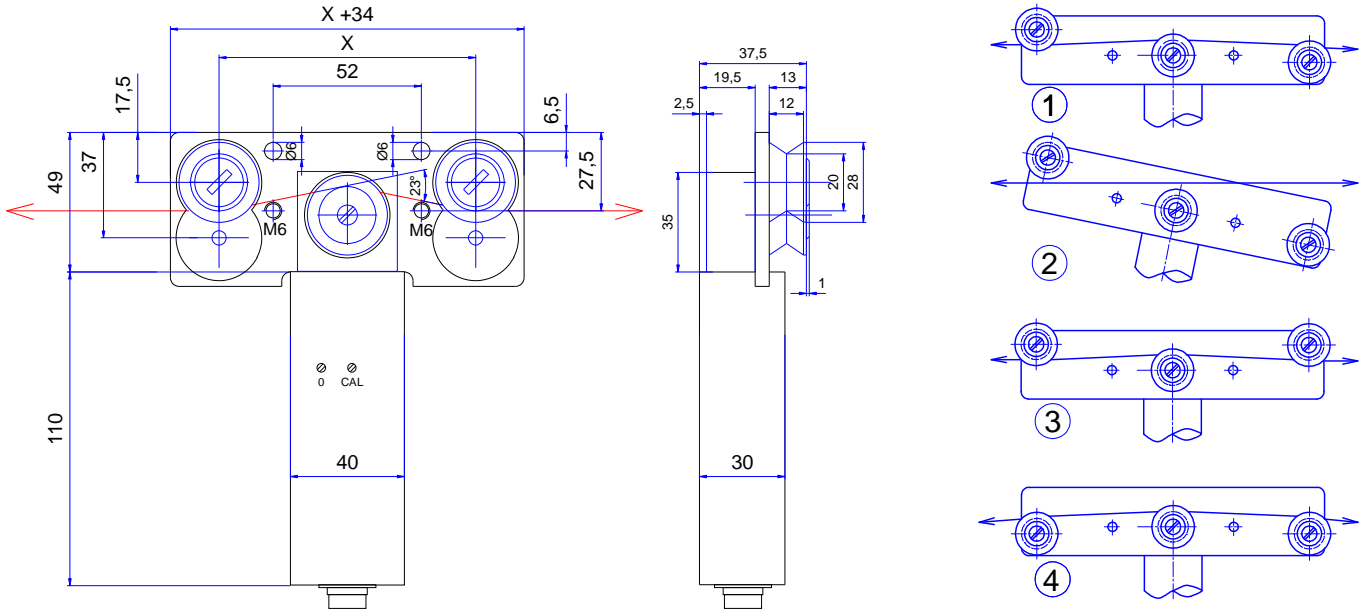
By means of a light turn, the measuring head can easily be threaded in the running material too.



- Application:** Tensile force measurement on stranded wire and cable up to  $\varnothing$  of 2 mm and wire up to diameter 1 mm.  
For cord, belts etc. using cylindrical rollers up to a width of 25 mm.
- Suitable for installation in machines, labs, or measurement by hand.
- Characteristics:** By changing the 2 outer guide-rollers, 3 various material guidings are possible.
- Nominal loads:** 5 daN, 10 daN, 2 hN, 5 hN
- Measuring principle:** Both the outer guide rollers guide the material in a defined angle over the measuring roller. Due to the deviation, the resulting radial force is measured by the head. It is proportional to the tensile force.
- A strain gages measuring bridge transforms the, on the measuring roller active radial force, into a proportional electric output signal.
- Roller material:** AlCuMgPb, Option: ceramic coated rollers
- Material speeds:** up to 1200 m/min.
- Dimensions:** Standard: distance between both the outer guide rollers: 90 mm.  
Optional: distance between both the outer guide rollers: 180mm and 280 mm ( for stiff material )
- Option:** Cylindrical rollers, ceramic coated rollers
- Hints:** Series M 1156-LC needs an external Tensometric amplifier.  
Series M 1356-LC is equipped with an integrated amplifier.  
This needs a service voltage of 24V (options: 5 V, 12 V or  $\pm 15V$ )  
and supplies an analog output signal 0 - 10 V corresp. 0 - 100 % the nominal load.
- Accessories available:** Connection cable, amplifier with or without display.

**Technical data :**

**Dimensions Tensile Force Measuring Head Series M 1156-LC and M 1356-LC**



**X = according to the design 90 mm, 180 mm or 280 mm**

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| <p>1 ) ideal arranged rollers - for measurement by hand easy threading of the material</p> <p>2 ) by means of a light turn of the measuring head, you reach the measuring position (1)</p> | <p>3 ) preferential roller-arrangement for installation no deviation of the normal material run</p> <p>4 ) preferential roller-arrangement for installation, various diameters have no influence to the measurement - measurement without new calibration -</p> |
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**M 1156-LC**

Series M 1156-LC cannot be used without amplifier.

<b>Nominal loads:</b>	<b>5 daN, 10 daN, 20 daN, 50 daN</b> ( 1 daN = 10 N )	<i>Angle of contact around the measuring roller:</i>	23°- 5daN 6° - 50 daN
<i>Measuring range:</i>	Approx. 2,5 % to 100 % the nom. load	<i>Charact. range of temp.:</i>	+ 10°...+ 35°C
<i>Error of the meas.system:</i>	< 0,3%	<i>Coef. of temp.:</i>	< ± 0,1 % / °C
<i>Measuring principle:</i>	Strain gage full bridge	<i>Overload protection:</i>	min. 5 times
<i>Natural frequency:</i>	150 Hz to 300 Hz acc.to the nom.load	<i>Protection:</i>	IP 40
<i>Volume of delivery:</i>	Measuring head, instruction manual		

**M 1356-LC ( M 1156-LC with integrated amplifier )**

Technical data identical with M 1156

<i>Service voltage:</i>	24 V ( optional: 5 V, 12 V or ± 15V) adjusted by Tensometric )
<i>Output signal:</i>	0 - 10 V, corresponding to 0 - 100 % of the nominal load
<i>option: Output current</i>	4 – 20 mA
<i>Calibration:</i>	Adjust the electrical zero and the gain by screwdriver.
<i>Volume of delivery:</i>	Tensile force measuring head with connector, instruction manual

