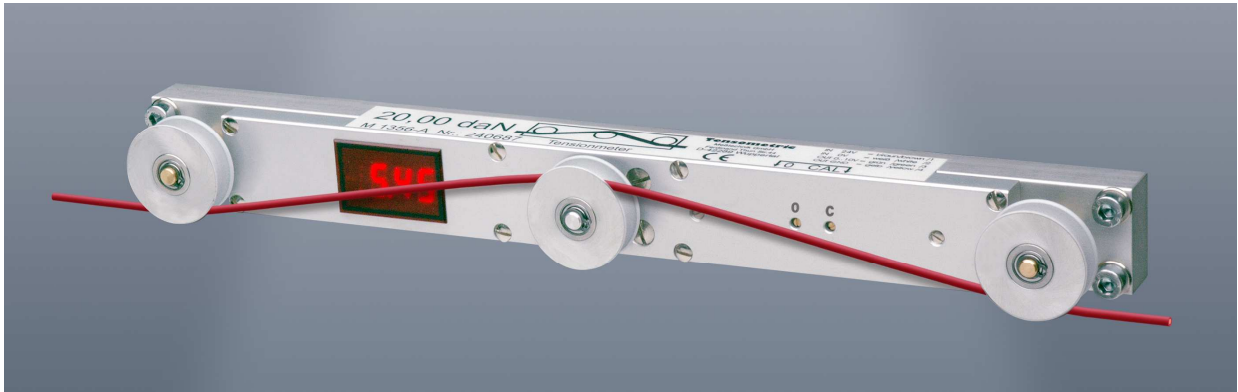


Tensile Force Measuring Heads Series M 1356- A, M 1356, M 1156



Series M 1356 - A

M 1356 - A is a compact sensor for measuring tensile forces on running material. It contains all necessary components for measuring tensile forces in a very flat housing.

- Measuring-system including measuring- and guiderollers
- Amplifier with analogue - output
- Adjustment for zero (tare) and amplifying (calibration)
- Indication of the measured values

It is easy to fix it into the production-line and it is ready for operation immediately. Fixing the sensor is optional, several sensors can be stacked to one block.

Sensor M 1356 - A is available for service-voltages of: 5 V, 12 V or 24 V . Therewith it is compatible to most of the existing sources of tension.

The analog-output supplies a tension of 0 ... 10 V, which is proportional to the measuring results. This signal can be used as actual value for controlling. This tensile-force sensor is as well available without digital indication as without amplifier.

Application Measuring tensile forces on: wires, cables, optical fibres, glass-fibres, tire-cord, threads and all other flexible material

Rollers Ø 18,5 mm material: aluminium-rollers running in double-ball-bearings,
 Option aluminium-rollers running in double-ball-bearings, ceramic coated
 Option steel- rollers running in double-ball-bearings,

for material, which require a specific bending-radius for running without damage, the sensor can be equipped with rollers having a bigger diameter :

Ø 50 mm material:alu - alloy suited for optical-fibre
 Ø 100 mm material:Gesadur suited for optical fibre, tire-cord etc.

Attention : The rollers Ø 100 mm should not be used for sensor M 1356 - A , they will cover the built-in display.

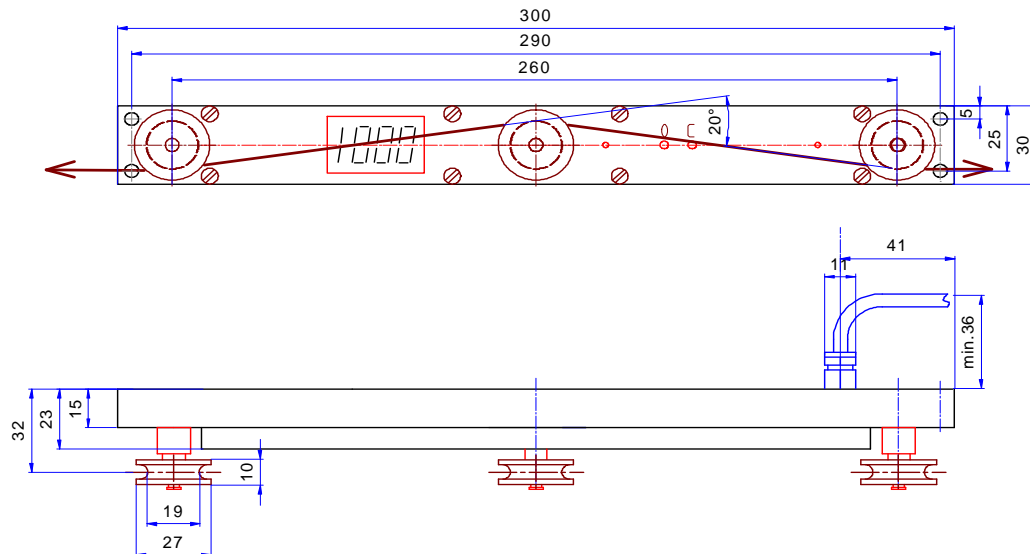
Types M 1356 - A Sensor with built-in amplifier, digital display and analog-output
 M 1356 same as M 1356 - A, but without digital display
 M 1156 same as M 1356 - A, but without amplifier and digital display

Acc. available custom-made measuring-roller
 amplifier KMV 10 or digital indication instrument SA DMS 610 or SA 310 DMS
 (only necessary for connection the sensor series M 1156 and M 1356).

Technical Data:

Tensile Force Measuring Head Series M 1156, M 1356, M 1356 - A

Dimensions:



Housing Alu - alloy
Weight approx. 600 g
Volume of delivery Sensor, instruction manual

| Nominal loads | Roller-diameter | Angle of contact |
|--------------------------------|-----------------|------------------|
| 10 N, 20 N, 50 N, 100 N, 200 N | 18,5 mm | 20° |
| 5 N, 10 N, 20 N, 50 N, 80 N | 50,0 mm | 47° |
| 2 N, 5 N, 10 N, 20 N, 40 N | 100,0 mm | 100° |

M 1156

| | | | |
|----------------------|-----------------|------------------------|--------------------------|
| Resistant - input | 350 Ohm | Error in meas., system | < 0,5 % |
| Resistant - output | 350 Ohm | Measuring principle | strain-gage, full-bridge |
| Charact. temp. range | + 5°C ...+ 60°C | Self - frequency | 300 Hz --- 500 Hz |
| Coef. of temp. | < +- 0,01 %/°C | Charact. value | 1,5 m V / V |
| Overload-protection | 4 - 10 times | Max. bridge-excitation | 10 V |
| Protection | IP 50 | Cable, fixed | 3 m |

M 1356

| | | | |
|-------------------|---|------------------------|------------------------|
| Service - voltage | 5 V / < 140 mA 12 V / < 100 mA 24 V / < 35 mA | Analog-output | 0 ... + 10 V max. 2 mA |
| | | option: Output current | 4 – 20 mA |

M 1356 - A

| | | | |
|------------------------|---|-----------------|----------------------|
| Service - voltage | 5 V / < 140 mA 12 V / < 100 mA 24 V / < 35 mA | max. indication | 3 ½ - digits 1999 |
| Analog-output | 0 ... + 10 V max. 2 mA | | |
| option: Output current | 4 – 20 mA | | |
| Display | 9,4 mm high, red LED | | |

Tensometric Meßtechnik GmbH
Derken 7
D - 42327Wuppertal

Tel. ++49 (0) 202 7052149-00
Fax. ++49 (0) 202 7052149-90
Email: Info@tensometric.com
Web: http://www.tensometric.com M1356-E