F 202 Series Force Measuring Sensor

**Ultra Slim Design**
Adaptable in machines with difficult space conditions

**20:1 Force Measuring Range**
Accurate measurements also at low loads

**Accuracy Class 0.5%**
Highly linear measuring characteristic

**Nominal Forces 50, 125, 250 and 500 N**
Covers low and medium application range

**Sensor body of stainless steel**
Corrosion resistant, ultra durable

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- **F 202 Series**
  The F 202 Series Force Measuring Sensor is for use in live shaft roller applications where limited space is available. Their slim design provides a new option for accurate web tension measurement on machines where wider sensor designs simply did not fit. The high-performance F 202 Force Measuring Sensor ensures that even with low material wrap angles and high roller weights, tension will still be measured accurately. Their durability and operational reliability is excellent. The sensor is easily mounted to the machine side frame with two shoulder bolts. The red point located on the body of the sensor indicates the positive force measuring direction.

- **Functional Description**
  The sensor utilizes foil type strain gauges mounted in a full Wheatstone Bridge configuration to provide extremely accurate tension measurement. The dual flexion beam design and built-in mechanical hard-stop eliminates angular deflection while reducing the possibility of recalibration or damage due to an overload condition. The connector on the sensor provides for faster wiring and installation, while the recommended self-aligning bearing accommodates limited roller misalignment. The F 202 Force Measuring Sensor is compatible with the full line of FMS Tension Measuring Amplifiers and Tension Controllers.

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The Point is Technology

FMS Data sheet • F 202 Series

F 202 Series Technical Data

Sensitivity
1.8 mV / V ± 2 %

Accuracy Class
± 0.5 % (F nominal)

Temperature Coefficient
± 0.1 % / 10 K

Temperature Range
– 10...+ 60 °C [14...140 °F ]

Input Resistance
350 Ω

Supply Voltage
1...12 VDC

Maximum Overload
10-times rated nominal force

Sensor Material
Stainless steel

F 202 Series Specifications

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Nominal Force N</th>
<th>Weight kg</th>
<th>lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 202.50</td>
<td>50</td>
<td>0.64</td>
<td>1.4</td>
</tr>
<tr>
<td>F 202.125</td>
<td>125</td>
<td>0.64</td>
<td>1.4</td>
</tr>
<tr>
<td>F 202.250</td>
<td>250</td>
<td>0.64</td>
<td>1.4</td>
</tr>
<tr>
<td>F 202.500</td>
<td>500</td>
<td>0.64</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Order Code (example):

Sensor Series • Nominal Force Rating

Scope of delivery:
1 Sensor, 1 Snap Ring, Operation Manual.

Not Included:
Mounting Screws, Washers, Cable, Connector, or Bearing.

Accessories F 202 Ordering Code

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Shoulder bolt Ø 6 x 30 / M5</td>
<td>50001930</td>
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<tr>
<td>Dowel pin d6 h6 x 20</td>
<td>50000558</td>
</tr>
<tr>
<td>Sensor cable with connector</td>
<td>50002226 (2 m)</td>
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<tr>
<td></td>
<td>50002227 (10 m)</td>
</tr>
</tbody>
</table>

Bearing 1202 TV and 2202 TV are for rollers with 15 mm journal diameter.

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