661.20 Force Transducer

MTS 661.20 Force Transducers are compact, fatigue-rated devices designed for measuring through-zero tension and compression forces of 5,500 to 22,000 lb (25 to 100 kN) maximum capacity.

These force transducers feature low deflection and high stiffness to give you better dynamic performance. They also feature a high degree of component concentricity and parallelism to give you greater accuracy during your test setup. Accuracy is also enhanced by a shear-web design that features radially-oriented strain measurement beams. These beams compensate for off-axis loads and moments.

These units are easily mounted on, or interchanged with, existing force transducers on actuators, crossheads, platens or other test fixtures. They are manufactured for long, accurate service life using aircraft-quality steels, specially heat-treated to minimize distortion and ensure uniform hardness. There are no brazed or welded joints to fatigue.

MTS uses a proprietary wiring technique to reduce electrical noise, then temperature compensates each unit to ensure stability.

You get excellent resolution and reading accuracy from these units because of high output which is symmetrical between tension and compression for accurate through-zero testing.

In addition to single bridge models, Series 661.20 Force Transducers are available with dual bridges to give you the capability to continue testing should you experience any failure during testing.
### 661.20 Force Transducer

**SPECIFICATIONS**

**Static Overload Capacity**
- 150% of rated force capacity

**Temperature Effect On Zero**
- 0.001% of full scale/°F
- 0.002% of full scale/°C

**Temperature Effect On Sensitivity**
- 0.001% of reading/°F
- 0.002% of reading/°C

**Compensated Temperature Range**
- 0°F (–18°C) to +150°F (+66°C)

**Useable Temperature Range**
- –65°F (–54°C) to +200°F (+93°C)

**Bridge Resistance**
- 350 Ω

**Maximum Excitation Voltage**
- 20 Vdc

**Non-linearity**
- 0.08% of full scale

**Hysteresis**
- 0.05% of full scale

**Repeatability**
- 0.03% of full scale

**Output**
- 2 mV per V

**Deflection At Rated Force Capacity**
- 0.002 inch (0.05 mm)

**Weight (approximate)**
- 22 lb (10 kg)

**Calibration**
- Each force transducer ordered may be calibrated by MTS using our automated calibration system at our factory or on-site by MTS Field Service. In addition, the force transducer and associated conditioning electronics may be returned to MTS for repair and recalibration.

**Connector**
- Receptacle PT02E-10-6P
- Depth 1.25 in. (31.8 mm) (both sides)

<table>
<thead>
<tr>
<th>Model</th>
<th>Force Capacity</th>
<th>Thread Size</th>
<th>E Diameter</th>
<th>Number Of Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>661.20E-01</td>
<td>5500 lb</td>
<td>1-14 UNS-3B</td>
<td>2.41 in</td>
<td>Single</td>
</tr>
<tr>
<td>661.20E-02</td>
<td>11000 lb</td>
<td>1-14 UNS-3B</td>
<td>2.41 in</td>
<td>Single</td>
</tr>
<tr>
<td>661.20E-03</td>
<td>22000 lb</td>
<td>1-14 UNS-3B</td>
<td>2.65 in</td>
<td>Single</td>
</tr>
<tr>
<td>661.20E-04</td>
<td>5500 lb</td>
<td>1-14 UNS-3B</td>
<td>2.41 in</td>
<td>Dual</td>
</tr>
<tr>
<td>661.20E-05</td>
<td>11000 lb</td>
<td>1-14 UNS-3B</td>
<td>2.41 in</td>
<td>Dual</td>
</tr>
<tr>
<td>661.20E-06</td>
<td>22000 lb</td>
<td>1-14 UNS-3B</td>
<td>2.65 in</td>
<td>Dual</td>
</tr>
<tr>
<td>661.20F-01</td>
<td>25 kN</td>
<td>M27 x 2 mm-6H</td>
<td>61.2 mm</td>
<td>Single</td>
</tr>
<tr>
<td>661.20F-02</td>
<td>50 kN</td>
<td>M27 x 2 mm-6H</td>
<td>61.2 mm</td>
<td>Single</td>
</tr>
<tr>
<td>661.20F-03</td>
<td>100 kN</td>
<td>M27 x 2 mm-6H</td>
<td>67.3 mm</td>
<td>Single</td>
</tr>
<tr>
<td>661.20F-04</td>
<td>25 kN</td>
<td>M27 x 2 mm-6H</td>
<td>61.2 mm</td>
<td>Dual</td>
</tr>
<tr>
<td>661.20F-05</td>
<td>50 kN</td>
<td>M27 x 2 mm-6H</td>
<td>61.2 mm</td>
<td>Dual</td>
</tr>
<tr>
<td>661.20F-06</td>
<td>100 kN</td>
<td>M27 x 2 mm-6H</td>
<td>67.3 mm</td>
<td>Dual</td>
</tr>
</tbody>
</table>