



# 661.18 Force Transducer

MTS 661.18 Force Transducers are compact, fatigue-rated devices designed for measuring through-zero tension and compression loads of 220 to 550 lb (1.0 to 2.5 kN) maximum capacity.

These force transducers feature low deflection and a high degree of 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 specially heat-treated aluminum. There are no welded joints to fatigue.

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

## FEATURES

### Dynamic Performance

- ▶ Low deflection and high stiffness give you better dynamic performance

### High Output

- ▶ Provides you with excellent resolution and reading accuracy.

### Radially Oriented Beams

- ▶ Lets unit resist off-axis loads and moments for greater accuracy.

### High Degree Of Component Concentricity And Parallelism

- ▶ This feature gives you greater accuracy during your test setup.





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## SPECIFICATIONS

### Temperature Effect On Zero

- ▶ 0.0015% of full scale/°F
- ▶ 0.0027% of full scale/°C

### Temperature Effect On Sensitivity

- ▶ 0.0015% of reading/°F
- ▶ 0.0027% of reading/°C

### Compensated Temperature Range

- ▶ +15°F (-9°C) to +115°F (+46°C)

### Useable Temperature Range

- ▶ -65°F (-54°C) to +200°F (+93°C)

### Bridge Resistance

- ▶ 350 Ω

### Maximum Excitation Voltage

- ▶ 20 Vdc

### Repeatability

- ▶ 0.03% of full scale

### Output

- ▶ 1 mV per V

### Deflection At Rated Force Capacity

- ▶ 0.003 inch (0.08 mm)

### Weight (approximate)

- ▶ 2.6 lb (1.2 kg)

### Number Of Bridges

- ▶ Single (Dual Optional)

### Hysteresis

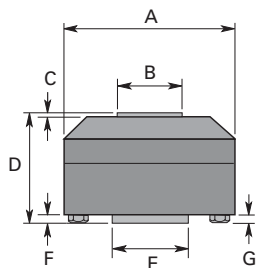
- ▶ 0.08% of full scale

### Non-linearity

- ▶ 0.08% of full scale

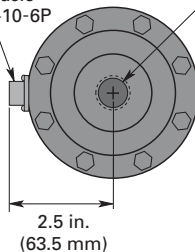
### Calibration

- ▶ 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.



Depth  
Near Side:  
1.00 in.  
(25.4 mm)  
Far Side:  
0.80 in.  
(20.3 mm)

Connector  
Receptacle  
PT02E-10-6P



| A                           | B                          | C                         | D                     | E                     | F                         | G                         |
|-----------------------------|----------------------------|---------------------------|-----------------------|-----------------------|---------------------------|---------------------------|
| 4.12 in. dia.<br>(104.6 mm) | 1.25 in. dia.<br>(31.8 mm) | 0.03 in.<br>(0.8 mm) typ. | 2.62 in.<br>(66.5 mm) | 1.27 in.<br>(32.3 mm) | 0.25 in.<br>(6.4 mm) typ. | 0.20 in. max.<br>(5.1 mm) |

| Model      | Force Capacity | Thread Size   |
|------------|----------------|---------------|
| 661.18E-01 | 220 lb         | 1/2-20 UNF-3B |
| 661.18E-02 | 550 lb         | 1/2-20 UNF-3B |
| 661.18F-01 | 1.0 kN         | M12 x 1.25 mm |
| 661.18F-02 | 2.5 kN         | M12 x 1.25 mm |