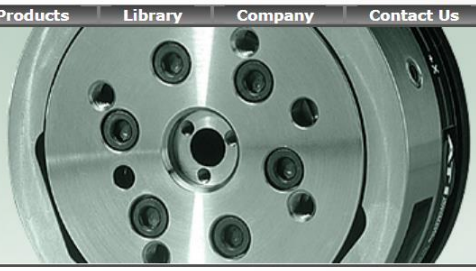
# F/T Sensor: Mini40





## Product Advantages

- The Mini40 has a compact, low-profile design with a through-hole for passage of cables.
- Extremely-High Strength: EDM wire-cut from high yield-strength stainless steel. Maximum allowable overload values are 4.2 to 18.9 times rated capacities.
- High Signal-to-Noise Ratio: Silicon strain gages provide a signal 75 times stronger than conventional foil gages. This signal is amplified, resulting in near-zero noise distortion.
- Industrial Strain Relief Version Available: E-exit version of this transducer is also available and offers resistance to a 10 lb cable pull force.
- IP65 and IP68 (10m) Versions Available: The IP65 version of the transducer is protected against water spray. The IP68 version is submergible in fresh water to a depth of 10 meters.

*Mini40-E Transducer*

## Typical Applications

- Telerobotics
- Robotic surgery
- Robotic-hand research
- Finger-force research

**Metric Calibrations (SI)**

| Calibration | Fx,Fy | Fz | Tx,Ty | Tz | Fx,Fy | Fz | Tx,Ty | Tz |
|---|---|---|---|---|---|---|---|---|
| SI-20-1 | 20 N | 60 N | 1 Nm | 1 Nm | 1/200 N | 1/100 N | 1/8000 Nm | 1/8000 Nm |
| SI-40-2 | 40 N | 120 N | 2 Nm | 2 Nm | 1/100 N | 1/50 N | 1/4000 Nm | 1/4000 Nm |
| SI-80-4 | 80 N | 240 N | 4 Nm | 4 Nm | 1/50 N | 1/25 N | 1/2000 Nm | 1/2000 Nm |
| | SENSING RANGES | | | | RESOLUTION | | | |

Ranges and Resolutions | Specifications | Drawings | Documents

○ US (Standard) ◉ SI (Metric)

| | |
|---|---|
| **Single-Axis Overload** | |
| Fxy | ±810 N |
| Fz | ±2400 N |
| Txy | ±19 Nm |
| Tz | ±20 Nm |
| **Stiffness (Calculated)** | |
| X-axis & Y-axis forces (Kx, Ky) | $1.1 \times 10^7$ N/m |
| Z-axis force (Kz) | $2.0 \times 10^7$ N/m |
| X-axis & Y-axis torque (Ktx, Kty) | $2.8 \times 10^3$ Nm/rad |
| Z-axis torque (Ktz) | $4.0 \times 10^3$ Nm/rad |
| **Resonant Frequency** | |
| Fx, Fy, Tz | 3200 Hz |
| Fz, Tx, Ty | 4900 Hz |
| **Physical Specifications** | |
| Weight* | 0.0499 kg |
| Diameter* | 40 mm |
| Height* | 12.2 mm |

** Specifications include standard interface plates.*