

Product Advantages

Extremely High Strength:

- EDM wire-cut from high yield-strength stainless steel.
- Maximum allowable overload values are 4.9 to 21 times rated capacities.
- Through-hole to allow passage of linkages or cables

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.

Typical Applications

- Telerobotics
- Robotic surgery
- Wind tunnel testing



The Mini58 F/T transducer

The transducer is made of hardened stainless steel.

ENGLISH CALIBRATIONS	SENSING RANGES	Calibrations					
	Axes	US-150-250		US-300-500		US-600-1000	
	Fx, Fy (±lbf)	150		300		600	
	Fz (±lbf)	375		750		1500	
	Tx, Ty (±lbf-in)	250		500		1000	
	Tz (±lbf-in)	250		500		1000	
	RESOLUTION	System Type*					
	Axes	CTL	Net/DAQ	CTL	Net/DAQ	CTL	Net/DAQ
	Fx, Fy (lbf)	1/14	1/28	1/7	1/14	2/7	1/7
	Fz (lbf)	3/28	3/56	3/14	3/28	3/7	3/14
Tx, Ty (lbf-in)	1/12	1/24	1/6	1/12	1/3	1/6	
Tz (lbf-in)	1/20	1/40	1/10	1/20	1/5	1/10	

METRIC CALIBRATIONS	SENSING RANGES	Calibrations					
	Axes	SI-700-30		SI-1400-60		SI-2800-120	
	Fx, Fy (±N)	700		1400		2800	
	Fz (±N)	1700		3400		6800	
	Tx, Ty (±Nm)	30		60		120	
	Tz (±Nm)	30		60		120	
	RESOLUTION	System Type*					
	Axes	CTL	Net/DAQ	CTL	Net/DAQ	CTL	Net/DAQ
	Fx, Fy (N)	1/3	1/6	2/3	1/3	1 1/2	3/4
	Fz (N)	1/2	1/4	1	1/2	2	1
Tx, Ty (Nm)	1/100	1/200	1/50	1/100	1/25	1/50	
Tz (Nm)	1/160	1/320	1/80	1/160	1/40	1/80	

*CTL: Controller F/T System; Net: Net F/T System; DAQ: 16-bit DAQ F/T System. The resolution is typical for most applications and can be improved with filtering. Resolutions quoted are the effective resolution after dropping four counts of noise (Net/DAQ) or eight counts of noise (CTL). All sensors calibrated by ATI.

Applied loads must be within range in each of the six axes for the F/T sensor to measure correctly (refer to the transducer manual for complex loading information).

Single-Axis Overload	English	Metric
F _{xy}	±4800 lbf	±21000 N
F _z	±11000 lbf	±48000 N
T _{xy}	±5300 lbf-in	±590 Nm
T _z	±7100 lbf-in	±800 Nm
Stiffness (Calculated)	English	Metric
X-axis & Y-axis force (K _x , K _y)	1.4x10 ⁶ lb/in	2.5x10 ⁶ N/m
Z-axis force (K _z)	2.1x10 ⁶ lb/in	3.7x10 ⁶ N/m
X-axis & Y-axis torque (K _{tx} , K _{ty})	9.3x10 ⁵ lbf-in/rad	1.1x10 ⁵ Nm/rad
Z-axis torque (K _{tz})	1.8x10 ⁶ lbf-in/rad	2.0x10 ⁵ Nm/rad
Resonant Frequency (Measured)		
F _x , F _y , T _z	3000 Hz	
F _z , T _x , T _y	5700 Hz	
Physical Specifications	English	Metric
Weight*	1.1 lb	0.50 kg
Diameter (OD,ID)*	2.3 in	58 mm
Height*	1.2 in	30 mm

*Specifications include standard interface plates. Diameter excludes any connector block.

