

Technical Specification of 6 DoF Force/Torque Sensors

Type 2

Measurement Range

F_x, F_y Max. Measurement Capacity : ≥ 1200 N

F_z , Max. Measurement Capacity : ≥ 2000 N

T_x, T_y and T_z , Max. Measurement Capacity : ≥ 50 Nm

Measurement Resolution

F_x, F_y Resolution for Full range : ≤ 0.5 N

F_z Resolution for Full range : ≤ 0.5 N

T_x, T_y and T_z Resolution for Full range : ≤ 0.015 Nm

Maximum Overload Permitted for the sensor

F_x, F_y (approx.) : ≥ 6000 N

F_z (approx.) : ≥ 10000 N

T_x, T_y and T_z (approx.) : ≥ 210 Nm

Stiffness

X-axis & Y-axis force (K_x, K_y) : $\geq 2 \times 10^7$ N/m

Z-axis force (K_z) : $\geq 4 \times 10^7$ N/m

X-axis & Y-axis torque (K_{tx}, K_{ty}) : $\geq 2 \times 10^4$ Nm/rad

Z-axis torque (K_{tz}) : $\geq 4 \times 10^4$ Nm/rad

Resonant Frequency

F_x, F_y & T_z : ≥ 2200 Hz

F_z, T_x & T_y : ≥ 2200 Hz

Physical Specifications

Weight : ≤ 700 gm

Diameter : ≤ 85 mm

Height : ≤ 65 mm

Data acquisition Interface : DAQ/ EtherNet CAT/ EtherNet IP

Deliverables:

1. Force/Torque sensor.
2. All the interface cables (as per data interface) such as serial port output cable, Ethernet cable, analog output cable etc.
3. Data acquisition system (if any) and the software (Compatible with Windows 7 and above) for PC installation.
4. Calibration and test certificates.
5. Mechanical Interface drawings and Operating manuals.
6. Method of calibration along with required calibration items such as fixtures, adaptor plate and standard weights for future calibrations.
7. Installation and demonstration of the future calibration method at the URSC.

Note:

1. Quotation should clearly specify the standard accessories/parts/software provided with the sensors and any optional accessories/parts/software and their prices separately.
2. Data transfer and analysis program / software for the sensor.
3. Minimum One year warranty certificate for all the instruments.
4. Enclose relevant catalogues at the time of quotation.
5. In case of marketing agents/resellers/import house quoting; need to furnish a authorization letter/consent letter from original manufacturer confirming all specifications, terms and conditions and assurance of supply.