



## **Six-Axis Force/Torque Transducer System Calibration Accuracy Report**

We appreciate your recent order for an F/T Six-Axis Force/Torque sensing system.

As part of our commitment to quality, each ATI force/torque transducer undergoes rigorous accuracy testing. This process, which involves applying and verifying a rich set of loading cases designed to cover the transducer's entire six-axis calibrated range, is designed to ensure that your transducer meets the measurement uncertainties listed on your system's 9105-CAL-CERT Certificate of Calibration.

Our transducers often exceed our quality standards for accuracy. Often, transducers perform exceptionally well in certain loading situations. This report summarizes the performance of your ATI F/T transducer in our factory tests. It can be thought of as a 'best-case scenario' snapshot of your transducer's performance under laboratory conditions, in a variety of loading situations. You can expect the accuracy of your transducer measurements to fall somewhere between its performance during testing and the measurement uncertainties listed on its calibration certificate.

The report is divided into three sections. The Full-Scale Loads section lists the transducer's rated range for each axis. The second section, Applied Loads, lists the loads applied during calibration and testing. The final section, Full-Scale Error, shows the sensor system's measurement error as a percentage of full scale for each axis in each loading case.

*For best accuracy, be sure to use your transducer's precision location features, and mount your transducer to a stiff surface.* If an ongoing guarantee of sensor accuracy is important to you, we recommend that your sensor be tested annually. Contact your ATI Industrial Automation distributor to schedule recalibrations.

NOTE: If this is a recalibration of an older transducer that does not have precision locating features (such as dowel holes), there could be additional error in Tx and Ty due to inexact mounting location. Precision locating features are highly recommended for best accuracy and can be added by ATI.



**Calibration Accuracy Report**  
**Sensor System FT9904, Mini40 SI-80-4**  
**Force units: N; Torque units: N-m**

Full-Scale Loads					
Fx	Fy	Fz	Tx	Ty	Tz
80	80	240	4	4	4

	Applied Loads					
	Fx	Fy	Fz	Tx	Ty	Tz
1	0.000	33.362	0.000	-3.387	0.000	0.000
2	-33.362	0.000	0.000	0.000	-3.387	0.000
3	0.000	-33.362	0.000	3.387	0.000	0.000
4	33.362	0.000	0.000	0.000	3.387	0.000
5	0.000	71.172	0.000	-2.164	0.000	0.000
6	-71.172	0.000	0.000	0.000	-2.164	0.000
7	0.000	-71.172	0.000	2.164	0.000	0.000
8	71.172	0.000	0.000	0.000	2.164	0.000
9	0.000	28.913	0.000	-0.220	0.000	-3.305
10	0.000	28.913	0.000	-0.220	0.000	3.305
11	-28.913	0.000	0.000	0.000	-0.220	-3.306
12	-28.913	0.000	0.000	0.000	-0.220	3.307
13	0.000	-28.913	0.000	0.220	0.000	-3.305
14	0.000	-28.913	0.000	0.220	0.000	3.305
15	28.913	0.000	0.000	0.000	0.220	-3.307
16	28.913	0.000	0.000	0.000	0.220	3.306
17	0.000	0.000	44.482	-3.390	0.000	0.000
18	0.000	0.000	44.482	0.000	-3.390	0.000
19	0.000	0.000	44.482	3.390	0.000	0.000
20	0.000	0.000	44.482	0.000	3.390	0.000
21	0.000	0.000	177.929	0.000	0.000	0.000
22	0.000	0.000	-177.929	0.000	0.000	0.000
23	0.000	0.000	-44.482	3.390	0.000	0.000
24	0.000	0.000	-44.482	0.000	3.390	0.000
25	0.000	0.000	-44.482	-3.390	0.000	0.000
26	0.000	0.000	-44.482	0.000	-3.390	0.000

*Refer to page 1 for important information on regarding this report.*

Full-Scale Error						
	Fx	Fy	Fz	Tx	Ty	Tz
1	0.53%	0.06%	-0.02%	0.11%	-0.25%	-0.50%
2	-0.43%	-0.02%	-0.19%	0.19%	0.48%	-0.25%
3	0.40%	-0.17%	-0.03%	-0.25%	-0.44%	-0.09%
4	-0.20%	-0.03%	-0.08%	0.01%	0.23%	-0.18%



5	0.29%	0.22%	0.00%	-0.12%	-0.23%	0.12%
6	-0.57%	-0.01%	0.00%	0.02%	0.23%	-0.33%
7	0.33%	-0.43%	0.01%	0.03%	-0.15%	-0.12%
8	0.06%	-0.06%	-0.04%	0.03%	0.13%	-0.38%
9	-0.01%	-0.45%	-0.01%	0.19%	0.02%	-0.01%
10	0.00%	-0.69%	0.01%	-0.14%	-0.06%	0.01%
11	0.46%	-0.19%	-0.02%	0.01%	-0.20%	0.02%
12	0.44%	-0.05%	0.03%	-0.09%	-0.32%	-0.01%
13	0.00%	0.45%	0.00%	-0.12%	0.11%	0.05%
14	0.05%	0.33%	-0.02%	0.20%	-0.13%	0.07%
15	-0.48%	-0.16%	0.01%	0.01%	-0.18%	0.03%
16	-0.51%	0.06%	-0.04%	0.10%	0.26%	0.02%
17	0.38%	-0.05%	-0.15%	0.10%	-0.79%	0.01%
18	-0.11%	0.08%	-0.28%	-0.28%	0.47%	0.11%
19	0.36%	0.18%	-0.20%	-0.11%	-0.19%	-0.14%
20	-0.36%	0.09%	-0.27%	-0.42%	0.26%	-0.11%
21	0.06%	0.24%	0.07%	0.02%	0.23%	0.01%
22	0.05%	0.26%	-0.16%	-0.15%	0.23%	-0.01%
23	0.46%	0.22%	0.08%	0.16%	-0.64%	-0.06%
24	-0.35%	0.03%	-0.08%	0.19%	0.50%	0.07%
25	0.33%	-0.08%	0.03%	-0.30%	-0.17%	0.05%
26	-0.12%	0.01%	0.00%	-0.11%	0.05%	-0.10%

*Refer to page 1 for important information on regarding this report.*