Portfolio

Miniature Force/Torque Sensor Kits

Resense
A Sense of Touch

Resense **6-axis force torque sensors** measure forces and torques in the 3 spatial directions (6 degrees of freedom) using silicon strain gauges.

The main advantages are **compactness and precision**. The unique hollow shaft is enabled by the sensor's multi-part deformation body. The sensors feature active compensation for zero-level shifts caused by internal and external temperature influences.

Low Noise Level

Compact silicon strain gauges enable 4 x lower noise levels compared to other F/T sensors.

High Overload Capacity

Designed to withstand up to 300% overload, allowing safe operation under high load conditions.

Useful Hollow Shaft

Up to 14 mm hollow shaft provides space for your cables and tubes.

The 6-axis F/T sensor kit includes the **F/T sensor**, the evaluation **eletronics box** and the **application software** to visualize the measurement values.

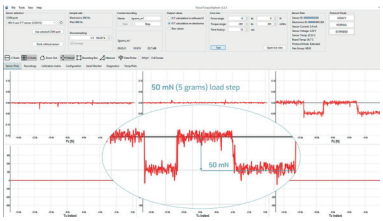
Force/Torque Sensors

	HEX8	HEX8 High Force	HEX12	HEX21	HEX32
Dimensions					
Diameter [a] in mm	8.4	8.8	12.5	21.0	32.0
Height in mm	10.9	11	10.9	10.9	11.1
Weight in g	1.4	0.9	3.3	9.9	50.0
Nominal measurement range					
F_x, F_y in N	± 25	± 70	± 25	± 50	± 125
F_z in N	± 25	± 250	± 25	± 50	± 125
M_x, M_y in Nm	± 0.100	± 0.500	± 0.125	± 0.500	± 2.250
M_z in Nm	± 0.100	± 0.400	± 0.125	± 0.500	± 2.250
Technical specifications					
Resolution	± 10 bit (true), 3 σ				
Accuracy [b]	1%				
Crosstalk [c]	3%				
Overload capacity	300 %				

Miniature Electronics Box

Dimensions	54 x 25 x 12.6 mm
Supply voltage	5 V
Interfaces	USB, UART
Sample rate	100 Hz, 500 Hz, 1 kHz
Resolution (ADC)	24 bit
Temperature range	0 – 50 °C

F/T Explorer Application Software



a) The diameter refers to the outer diameter and excludes any connector or cable features.
b) The accuracy is the difference between the applied and the actually measured load. The maximum measurement accuracy in percent refers to the full scale value of the sensor.
c) Crosstalk is the undesired influence of a load applied in one axis on the measured output of another axis.

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Resense – A Sense of Touch
www.resense.io

Resense GmbH
Alexander-Wiegand-Str. 30
D – 63911 Klingenberg (Germany)