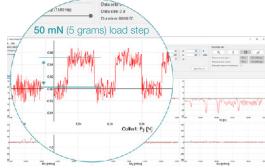**Resense 6-axis force torque sensors** measure forces and torques in the 3 spatial directions (6 degrees of freedom) using foil strain gauges. The main advantages are their **compact size** and the **hollow shaft option**, which are enabled by the sensor's multi part deformation body.

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

50 mN (5 grams) load step

Sensor	
Ordering Code	HEX210S-060S-1R1-1
Dimensions	
Diameter [a]	21.0 mm
Height	10.9 mm
Weight	9.9 g
Nominal measurement range	
F_x, F_y, F_z	± 50 N
M_x, M_y, M_z	± 0.5 Nm
Technical specifications	
Accuracy [b]	1 %
Crosstalk	3 %
Overload capacity	300 %
Product features	
Material	Titanium grade 5
Protection class	IP20
Temperature range	0 - 50 °C
Technology	Foil strain gauges
Cable	Round cable with radial cable outlet and Sub-D-HD connector

Small and light-weight 6-axis F/T sensors

The **HEX 21** is a small and light weight 6-axis force torque sensor made for applications where space is extremely limited.
Target applications mainly cover the following areas:
• Industrial handling and gripping
• Industrial micro assembly
• Robotic hand research
• Haptic research

The sensor kit not only includes our **sensor** but also our **electronics box** and an **application software**. The microcontroller digitizes the analog output signals of the sensor. A calibration matrix is used to calculate the forces and torques in all 6 dimensions, before the values are transmitted to the connected PC via UART or USB. The F/T Explorer application software offers features for real-time visualization and storage of the sensor readings.

Electronics board	
Ordering code	EVAL 040S-06-1
Product features	
Dimensions	54 x 25 x 12.6 mm
Supply voltage	5 V
Interface	USB, UART
Sample rate	100 Hz, 500 Hz, 1kHz
Resolution (ADC)	24 bit

a) The diameter 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 perc ent refers to the full scale value of the sensor.