3-axis Fingertip Pressure Sensor
Model: FTS3

Datasheet

The **FTS** line offers a range of pressure sensors from by Seed Robotics, providing high resolution and high integration with the Robot Hands produced by Seed Robotics.

The FTS3 sensor measures the magnitude of force applied on the X, Y and Z axis of the sensor, providing a wide range of measurement and high resolution.
The sensor measures the force applied (1 point) in all 3 axis, from perpendicular to 90º angle (shear force - parallel or tangent - to surface)

These sensors are recommended for applications where high resolution contact force measurement is necessary. The high resolution and low cost make it possible to build highly sensitive hands for next generation research in A.I., industrial robots and medical applications.

Key Benefits:

- High resolution
- High measurement range
- High overload tolerance
- Mechanical shock resistant
- Cost efficient
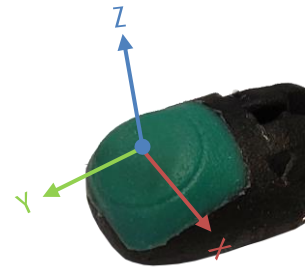
Sensor Type	3 axis contact pressure sensor	
Dimensions of Preferential contact area	Circular, 12mm diameter	Perpendicular to 90º from center of fingertip.
Nominal Capacity	Standard Range: 0-10N	Extended Range: 10N – 30N
Maximum Resolution	Standard Range Resolution: 10mN	Extended Range Resolution: 100mN
Non linearity	Standard Range: 2.5%	Extended Range: 6%
Overload capability	Up to 50N	
Hysteresis (typical)	< 2%	
Sampling Frequency	50Hz	
Working temperature range	10ºC – 35ºC (operation is possible outside this range but non-linearly may increase)	
Interface	UART over RS422 (Full Duplex)	
	Sensors are grouped in one single Acquisition Board for each hand.	
	One interface of RS422 provides data for all sensors in one hand.	
Power requirement	2mA per sensor	Power is supplied by the hand. No specialized power supply required

The FTS3 sensor, in addition to providing the vector (direction) and magnitude of the force applied, can also be used to detect shear force – parallel or tangent – to the fingertip.

The sensor is optimized for measuring in the 0-10N range, where it can provide its highest resolution and precision.
For measurement above 10N and up to 30N, an extended range model is used, providing the additional measurement range with lower resolution.

Remarks:

- Seed Robotics is a registered trademark by Seed Cognitiva, Robotics Innovation, Lda
- The information shown is accurate at the time of writing and may be subject to change without notice.