

LEGO® Education SPIKE™ Prime Technical Specifications

Technic™ Force Sensor



Hardware name	Technic™ Force Sensor
Description	The sensor can detect simple touch and measure force.
Key features	<ul style="list-style-type: none">• Touch sensing• Tap sensing• Force sensing• The sensor has a Technic build geometry that allows for versatile building and easy integration into models
Connector type	LEGO® Power Functions 2.0 (LPF2) for connection to LEGO Smarthubs
Wire length	250 mm (fixed to sensor)
Sensor sample rate	100 Hz
Sensor input	<p>Touch sensing:</p> <ul style="list-style-type: none">• Activation zone: 0-2 mm<ul style="list-style-type: none">• Threshold point is defined in firmware 1 mm +/- 0.5 mm• Activation force: 0.5-1.0 newton +/- 10%• Sensor output is binary (1=activated or 0=not activated) <p>Tap sensing:</p> <ul style="list-style-type: none">• Activation zone: 0-2 mm<ul style="list-style-type: none">• Threshold point is defined in firmware 1 mm +/- 0.5 mm• Activation force: 0.5-1.0 newton +/- 10%• Sensor data output: 0-3• Applicable to the following:<ul style="list-style-type: none">• Single tap• Quick tap• Press and hold <p>Force sensing:</p> <ul style="list-style-type: none">• Activation zone: 2-8 mm• Activation force: 2.5-10 newtons• Sensor output resolution: 0.1 newton steps<ul style="list-style-type: none">• Sensor output is limited to a fixed max output value: 10 newtons• Sensor output accuracy: +/- 0.65 newton <p>Force-filter sensing (high speed “peak” sensing):</p> <ul style="list-style-type: none">• Like the force sensing mode• Internal sensor sample rate: 1kHz• Keeps the maximum value until reset by the Hub firmware or powered down

The LEGO® Education SPIKE™ app may not support all hardware features and functionalities.

