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| Sensor | Description | Compatibility | References |
| Capacitive Touch | As a conductive object moves closer to a charge plate the capacitance increases | As water is conductive, this type of sensor cannot tell the difference between human contact and water. Techniques can be used to prevent false readings with water droplets but submersion causes this sensor to fail. Therefore, this is not a viable sensor to use. | <http://www.embedded.com/design/mcus-processors-and-socs/4218369/Making-capacitive-touch-sensors-water-tolerant>  <http://www.ti.com/lit/an/slaa576/slaa576.pdf> |
| Resistive Foam | When pressure is applied to conductive foam it will be compressed leading to a reduced resistance | Will be flexible and cheap. However, it is unlikely the foam will return to its existing shape meaning the properties will change leading to miss-calibration. | <http://www.instructables.com/id/DIY-Force-Sensitive-Resistor-FSR/> |
| Membrane Potentiometer | Contacts are separated using spacers. Under pressure the space is removed and a contact between the two layers are made. Depending on where this contact is made the resistance will change value according | Very thin and adaptable. Goes beyond specification of simply sensing touch by enabling positional sensing. Ideal sensor for controls. | <http://www.farnell.com/datasheets/1525285.pdf>  https://www.sparkfun.com/products/8680 |
| Ultrasonic | High frequency sound is transmitted, bounced back an object and then received with a delay. Using the delay and the speed of sound a distance to the object can be calculated. | Able to sense objects in front, however factors such as water on the sensor have unknown effects. Temperature change leads to a change in the speed of sound.  Issues also with wind. | <http://onecall.farnell.com/murata/ma40s4s/sensor-ultrasonic-0-2-4m-tx/dp/1777667>  <http://www.greyline.com/howitwk.htm>  http://forums.parallax.com/showthread.php/138310-Ping-Ultrasonic-Sensor-wind-interference-please-help!!! |
| Angular Sensor (Potentiometer) | As the angle changes the resistance will vary accordingly as long as the pot is linear. | Very cheap option, however different pots will lead to different properties. Can wear out easily. | <http://electronics.stackexchange.com/questions/21297/is-it-a-good-idea-to-use-potentiometer-to-measure-angle> |
| Optical Encoder | This device is attached to the throttle, which causes a disc with holes in to pass through a LED with a sensor. Using two LEDs out of phase it allows positional sensing via tracking of this phase. An initial calibration would need to be made (no throttle). | Very practical, although more expensive than using a potentiometer. Won’t wear out over time. | http://uk.rs-online.com/web/c/passive-components/rotary-encoders/optical-rotary-encoders/#esid=cl\_4294967294,cl\_4294956832,cl\_4294958966,cl\_4294958965,cl\_4294956284,cl\_4294956528 |