EV3 Sensors

Colour sensor (colour, light)

The colour (or color) sensor can detect either the colour or intensity of light.

The colour sensor has three different modes: colour, reflected light intensity, and ambient light intensity.

Gyro sensor (rotation/orientation)

The gyro sensor detects rotational motion in the plane indicated by the arrows on the top of the sensor housing. The sensor measures the rate of rotation in degrees per second and keeps track of the total angle of rotation in degrees.

Infrared sensor (distance)

The infrared sensor can measure distance or detect signals that are sent from the infrared beacon (see below).

The infrared sensor can be used in three different modes: proximity, beacon, and remote.

Touch sensor

The touch sensor gives your robot a sense of touch. The touch sensor detects when it is being pressed or released. It can even be programmed to wait until it is both pressed and released (we call this bumped).

Ultrasonic sensor (distance)

The ultrasonic sensor measures distance to an object up to a maximum of 255cm (or 100 inches) away. It does this by sending out high frequency sound waves that bounce off any object in range, and measuring how long it takes the sound to return to the sensor. In the software, you can select whether the distance is given in centimetres or inches.

The ultrasonic sensor also has a“listen only” mode that can detect whether another robot is using an ultrasonic sensor nearby. In this mode, the sensor listens for signals but does not send them.