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| MIXED REALITY ROBOTICS |  Touch Sensors  |

SENSOR\_BACK



SENSOR\_ARSE

SENSOR\_HEAD

SENSOR\_CHIN

SENSOR\_LEFT\_LEG

SENSOR\_RIGHT\_LEG

SENSOR\_LEFT\_ARM

SENSOR\_RIGHT\_ARM

The Pleo comes equipped with eight capacitive touch sensors that seamlessly work together with the skin so it doesn’t feel like you’re pressing a button, but rather just interacting with the robot. They look like thin, metal strips and are located on the robots back, legs, shoulder, head, and chin.

These sensors detect proximity of objects (not touch or pressure), and give the robot a sense of their outside environment, in what way they are being handled and how they should send signals to the motors to move in reaction to the detected input. Ground touch sensors on the bottom of the feet let the Pleo know if it has been picked up, or if it is standing on a solid surface.

A little more technically speaking, the Pleo’s touch sensors are made of foil patches that measure the charge accumulation upon detecting proximity. The transfer of charge between the circuit and the ground plane can then trigger a signal to the Pleo’s microcontroller.

**Terminal Command**: to gain access to and change touch sensor values…

***sensor help***

**Relevant Senor**: SENSOR\_HEAD
This sensor reflects the state of touch the touch sensor under the Pleo’s head. Sensor feedback states “1” if there is currently something within the proximity of the head (the head is being touched) and “0” if there is nothing near it. In the example below, SENSOR\_HEAD shows a reading of “0”, so the Pleo’s head is not currently being touched.



**Relevant Senor**: SENSOR\_CHIN
This sensor reflects the state of the touch sensor under the skin on the Pleo’s chin. Sensor feedback states “1” if there is currently something within the proximity of the chin (the chin is being touched) and “0” if there is nothing near it.

**Relevant Senor**: SENSOR\_BACK
This sensor reflects the state of the touch sensor under the skin on the Pleo’s upper back, near the neck. Sensor feedback states “1” if there is currently something within the proximity of the back (the back is being touched) and “0” if there is nothing near it. Generally, the back touch sensors will be activated without physical contact by the mere movement of something near the sensor.

**Relevant Senor**: SENSOR\_ARSE
This sensor reflects the state of the touch sensor under the skin on the Pleo’s arse. Sensor feedback states “1” if there is currently something within the proximity of the arse (the arse is being touched) and “0” if there is nothing near it. The arse sensor does not necessarily require a heavy touch to be activated, but mere proximity is usually not enough.

**Relevant Senor**: SENSOR\_LEFT\_LEG
This sensor reflects the state of the touch sensor under the skin on the Pleo’s upper left leg. Sensor feedback states “1” if there is currently something within the proximity of the left leg (the leg is being touched) and “0” if there is nothing near it.

**Relevant Senor**: SENSOR\_RIGHT\_LEG
This sensor reflects the state of the touch sensor under the skin on the Pleo’s upper right leg. Sensor feedback states “1” if there is currently something within the proximity of the right leg (the leg is being touched) and “0” if there is nothing near it.

**Relevant Senor**: SENSOR\_LEFT\_ARM
This sensor reflects the state of the touch sensor under the skin on the Pleo’s upper left arm. Sensor feedback states “1” if there is currently something within the proximity of the left arm (the arm is being touched) and “0” if there is nothing near it.

**Relevant Senor**: SENSOR\_RIGHT\_ARM
This sensor reflects the state of the touch sensor under the skin on the Pleo’s upper right arm. Sensor feedback states “1” if there is currently something within the proximity of the right arm (the arm is being touched) and “0” if there is nothing near it.

**Relevant (Ground) Sensors**: SENSOR\_FRONT\_LEFT, SENSOR\_FRONT\_RIGHT, SENSOR\_BACK\_LEFT, SENSOR\_BACK\_RIGHT
These ground sensors are located on the bottom of Pleo’s feet. They are in an activated state of value “1”, when the foot is standing on a surface. The value of the sensor will be “0” if Pleo’s foot is in the air. For example, the sensor reading below shows that the value of SENSOR\_BACK\_RIGHT is “1”, meaning that the back right foot is touching the ground.

