**Table 1.** Sensor types supported by the Android platform.

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| --- | --- | --- | --- |
| **Sensor** | **Type** | **Description** | **Common Uses** |
| [TYPE\_ACCELEROMETER](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_ACCELEROMETER) | Hardware | Measures the acceleration force in m/s2 that is applied to a device on all three physical axes (x, y, and z), including the force of gravity. | Motion detection (shake, tilt, etc.). |
| [TYPE\_AMBIENT\_TEMPERATURE](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_AMBIENT_TEMPERATURE) | Hardware | Measures the ambient room temperature in degrees Celsius (°C). See note below. | Monitoring air temperatures. |
| [TYPE\_GRAVITY](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_GRAVITY) | Software or Hardware | Measures the force of gravity in m/s2 that is applied to a device on all three physical axes (x, y, z). | Motion detection (shake, tilt, etc.). |
| [TYPE\_GYROSCOPE](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_GYROSCOPE) | Hardware | Measures a device's rate of rotation in rad/s around each of the three physical axes (x, y, and z). | Rotation detection (spin, turn, etc.). |
| [TYPE\_LIGHT](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_LIGHT) | Hardware | Measures the ambient light level (illumination) in lx. | Controlling screen brightness. |
| [TYPE\_LINEAR\_ACCELERATION](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_LINEAR_ACCELERATION) | Software or Hardware | Measures the acceleration force in m/s2 that is applied to a device on all three physical axes (x, y, and z), excluding the force of gravity. | Monitoring acceleration along a single axis. |
| [TYPE\_MAGNETIC\_FIELD](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_MAGNETIC_FIELD) | Hardware | Measures the ambient geomagnetic field for all three physical axes (x, y, z) in μT. | Creating a compass. |
| [TYPE\_ORIENTATION](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_ORIENTATION) | Software | Measures degrees of rotation that a device makes around all three physical axes (x, y, z). As of API level 3 you can obtain the inclination matrix and rotation matrix for a device by using the gravity sensor and the geomagnetic field sensor in conjunction with the [getRotationMatrix()](http://developer.android.com/reference/android/hardware/SensorManager.html#getRotationMatrix%28float[],%20float[],%20float[],%20float[]%29) method. | Determining device position. |
| [TYPE\_PRESSURE](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_PRESSURE) | Hardware | Measures the ambient air pressure in hPa or mbar. | Monitoring air pressure changes. |
| [TYPE\_PROXIMITY](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_PROXIMITY) | Hardware | Measures the proximity of an object in cm relative to the view screen of a device. This sensor is typically used to determine whether a handset is being held up to a person's ear. | Phone position during a call. |
| [TYPE\_RELATIVE\_HUMIDITY](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_RELATIVE_HUMIDITY) | Hardware | Measures the relative ambient humidity in percent (%). | Monitoring dewpoint, absolute, and relative humidity. |
| [TYPE\_ROTATION\_VECTOR](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_ROTATION_VECTOR) | Software or Hardware | Measures the orientation of a device by providing the three elements of the device's rotation vector. | Motion detection and rotation detection. |
| [TYPE\_TEMPERATURE](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_TEMPERATURE) | Hardware | Measures the temperature of the device in degrees Celsius (°C). This sensor implementation varies across devices and this sensor was replaced with the [TYPE\_AMBIENT\_TEMPERATURE](http://developer.android.com/reference/android/hardware/Sensor.html#TYPE_AMBIENT_TEMPERATURE) sensor in API Level 14 | Monitoring temperatures. |