

The Yocto-3D is a USB 3-axis accelerometer, gyroscope and compass. If you need to detect an orientation, a movement or a magnetic field, the Yocto-3D is what you need. This USB device provides a 3D accelerometer, a 3D magnetometer, a 3D gyroscope to measure angular velocity, a 2D inclinometer (tilt sensor), a tilt compensated compass and an inertial estimation of the orientation based on the 3D gyroscope.

All maths required to use this kind of sensors are handled directly by the device. You can mount it in any position, as the reference frame can be configured and taken into account internally by the Yocto-3D. The device automatically computes tilt angles and the estimated device attitude (using a quaternion, with an optional conversion to Tait-Bryan angles in the API).

No additional computation is required in the application to determine the device orientation.

You can move away the sensor part as required, in particular if you want to avoid electromagnetic interference from other devices. Note that contrarily to the newer Yocto-3D-V2, this product CANNOT be calibrated to compensate for magnetic interference.

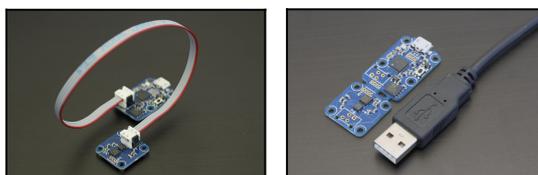
Caution: if you intend to use the compass function, you should not use classical Yoctopuce enclosures, as they include steel screws and magnets. Instead, use the YoctoBox-3D-Black/Transp enclosures, which have screws and bolts in aluminum and brass and which do not include magnets.

To Pokemon GO users: Yoctopuce products work only with applications specifically designed to use them. On an Android phone, the Yocto-3D does not appear as a generic embedded gyroscope. If your Android phone doesn't feature any embedded gyroscope, the Yocto-3D can't help you to play with Pokemon GO.

Specifications

Product ID	Y3DMK001
USB connector	micro-B
Width	20 mm
Length	51 mm
Weight	4 g
Sensor	LSM303D + L3GD20
Gyroscopic attitude estimation	95 Hz
Static measures	7 Hz
Measuring range (Accel.)	16 g
Measuring range (Gyro)	2000 °/s
Measuring range (Magn.)	2 gauss
Sensitivity	0.1 °
Sensitivity (Accel.)	0.001 g
Sensitivity (Gyro)	0.1 °/s
Sensitivity (Magn.)	0.001 gauss
IEC protection class	class III
Normal operating temperature	5...40 °C
Extended operating temperature [‡]	-30...85 °C
RoHS compliance	RoHS II (2011/65/UE)
USB Vendor ID	0x24E0
USB Device ID	0x003B
Suggested enclosure	YoctoBox-3D-Black
Harmonized tariff code	8542.3190
Made in	Switzerland

[‡] The extended temperature range is defined based on components specifications and has been tested during a limited duration (1h). When using the device in harsh environments for a long period of time, we strongly advise to run extensive tests before going to production.



For more information: www.yoctopuce.com/EN/products/yocto-3d