VBCore BNO055 IMU USB bridge

VBCores
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Electronics for robotics
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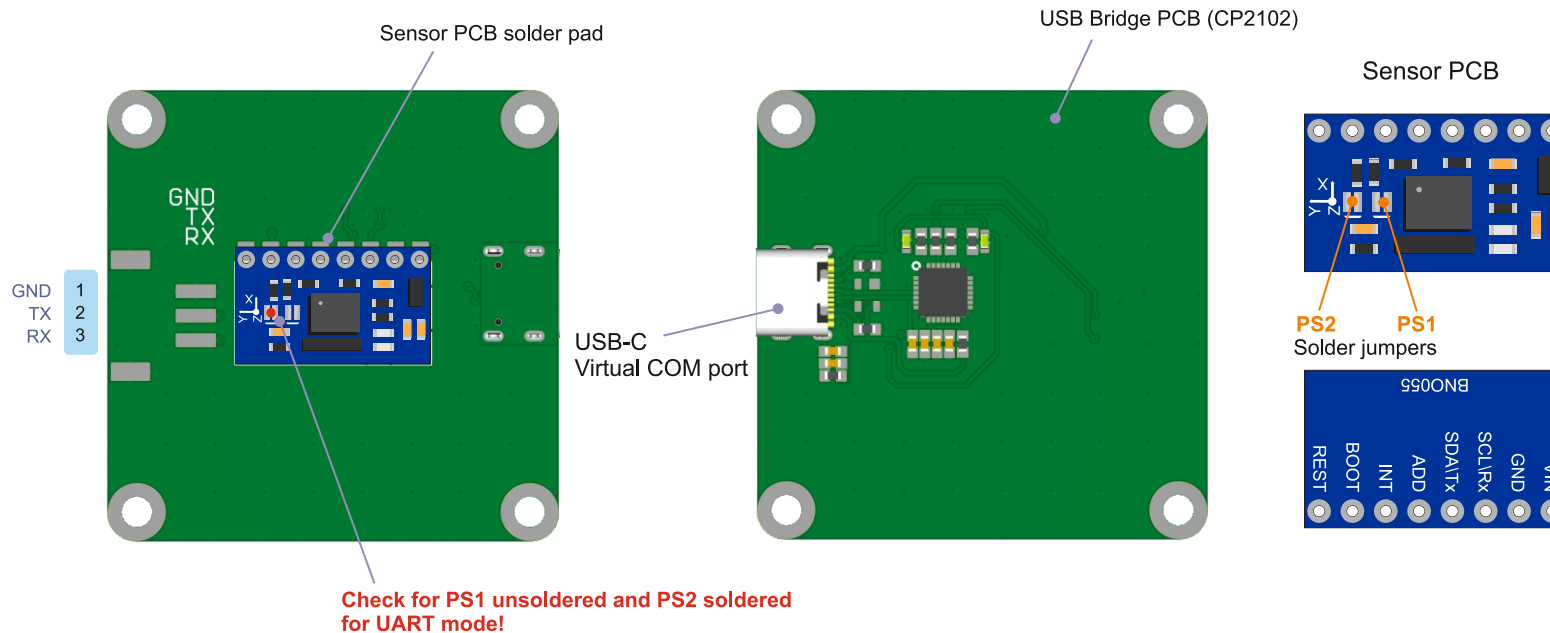
BNO055 - Inertial Measurement Unit designed for robotics and automation applications. VBCore USB-UART bridge for OEM BNO055 sensor - easy way connect sensor to PC.

Sensor PCB solder pad

USB Bridge PCB (CP2102)

Sensor PCB

GND
TX
RX

GND
TX
RX

1
2
3

USB-C
Virtual COM port

PS2   PS1
Solder jumpers

BNO055

REST BOOT INT ADD SDAITx SCLIRx GND VIN

Check for PS1 unsoldered and PS2 soldered for UART mode!

PS1	PS2	Mode
0	0	I2C interface
0	1	HID over I2C
1	0	UART interface
1	1	Reserved

*SOLDERED = 0

VBCore BNO055 IMU USB Bridge

USB-C: VCP
USB-UART bridge IC: CP2102
UART: Optional
Dimensions: 46x46mm
Mount holes: 40x40mm D2.5 mm

IMU Sensor: BNO055 (OEM)

NOTES:

The VBcores BNO055 IMU Converter device consists of two parts: a BNO055 sensor and a USB adapter board
- **please note that the BNO055 (OEM) sensor module is sold separately.**

The converter based on CP2102 IC, which provides a USB to UART bridge and creating a virtual COM port on the host computer.
The required drivers are available on the manufacturer's website at https://www.silabs.com/software-and-tools/usb-to-uart-bridge-vcp-drivers.

For the device to function correctly, the BNO055 sensor must be soldered to the adapter board and configured for UART communication
by ensuring the boot configuration solder jumps are set: PS1 > Open and PS2 > Closed.

The Linux driver and ROS packages are available on documentation pages at www.vbcores.com or www.vbcores.ru.

The BNO055 is a System in Package (SiP), integrating a triaxial 14-bit accelerometer, a triaxial 16-bit gyroscope with a range of ±2000 degrees per second, a triaxial geomagnetic sensor and a 32-bit cortex M0+ microcontroller running Bosch Sensortec sensor fusion software, in a single package. For comprehensive details, please read the official manufacturer documentation.