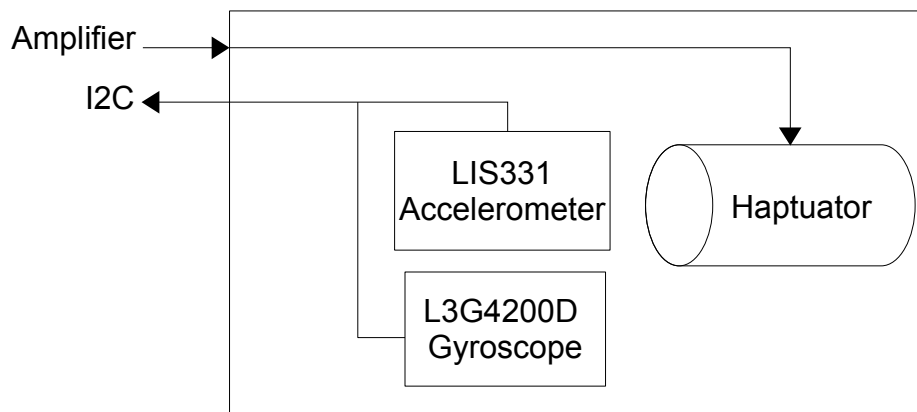


Tactile Handle

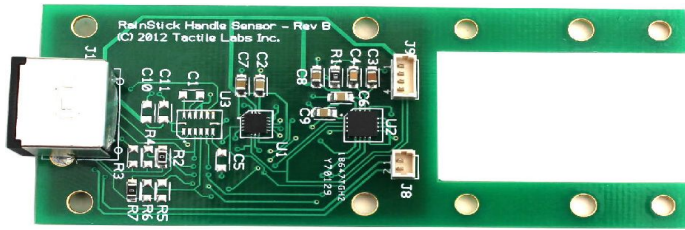


The Tactile Handle unit provides an all-in-one package for vibrotactile haptic sensing and display. It provides both the input sensors and the output actuator that are suitable for vibrotactile signals ranging from 50 to 500Hz.

1 Block Diagram



2 Components inside the handle



Sensor PCB



Haptuator

3 Connecting to the Tactile Amplifier Shield

The Tactile Handle is designed to work with the *Tactile Amplifier Shield* module.

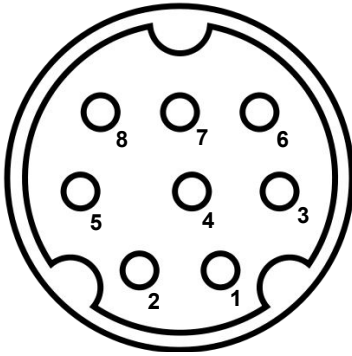
CAUTION:

The handle must be connected before the power on the amplifier shield is turned on, or it may not work or even damage the sensors.

4 Driving the haptuator without the Amplifier Shield

The connectors used are 8-pin mini-din. The haptuator must be driven with AC-coupled, differential pair signals up to 3V to prevent over-heating. Please refer to the haptuator's specification for more details. The wires leading to the haptuator, pin 6 and 7 in the diagram below, must be twisted and preferably away from the rest of the wires, such that it does not interfere with the I2C communication from the sensors.

5 Connector Pinout



pin	Connection
1	Ground
2	SCL (I2C)
3	CON_PIN3*
4	CON_PIN4**
5	SDA (I2C)
6	Haptuator 1
7	Haptuator 2
8	+3.3V

*CON_PIN3 is by default connected to the interrupt pin of the accelerometer ACC_INT1. By mean of simple hardware modification, it can be optionally made to connect to the data_ready pin of the accelerometer ACC_DRDY or of the gyroscope GYRO_DRDY instead.

** CON_PIN4 is by default connected to the data_ready pin of the gyroscope GYRO_DRDY. By mean of simple hardware modification, it can be optionally made to connect to the interrupt pin of gyroscope GYRO_INT1 or the interrupt of the accelerometer ACC_INT2 instead.