

Quick starting guide

TLI493D-W2BW Shield2Go

S2GO_3D_TLI493DW2BW-A0

Infineon Sense and Control
V1.0

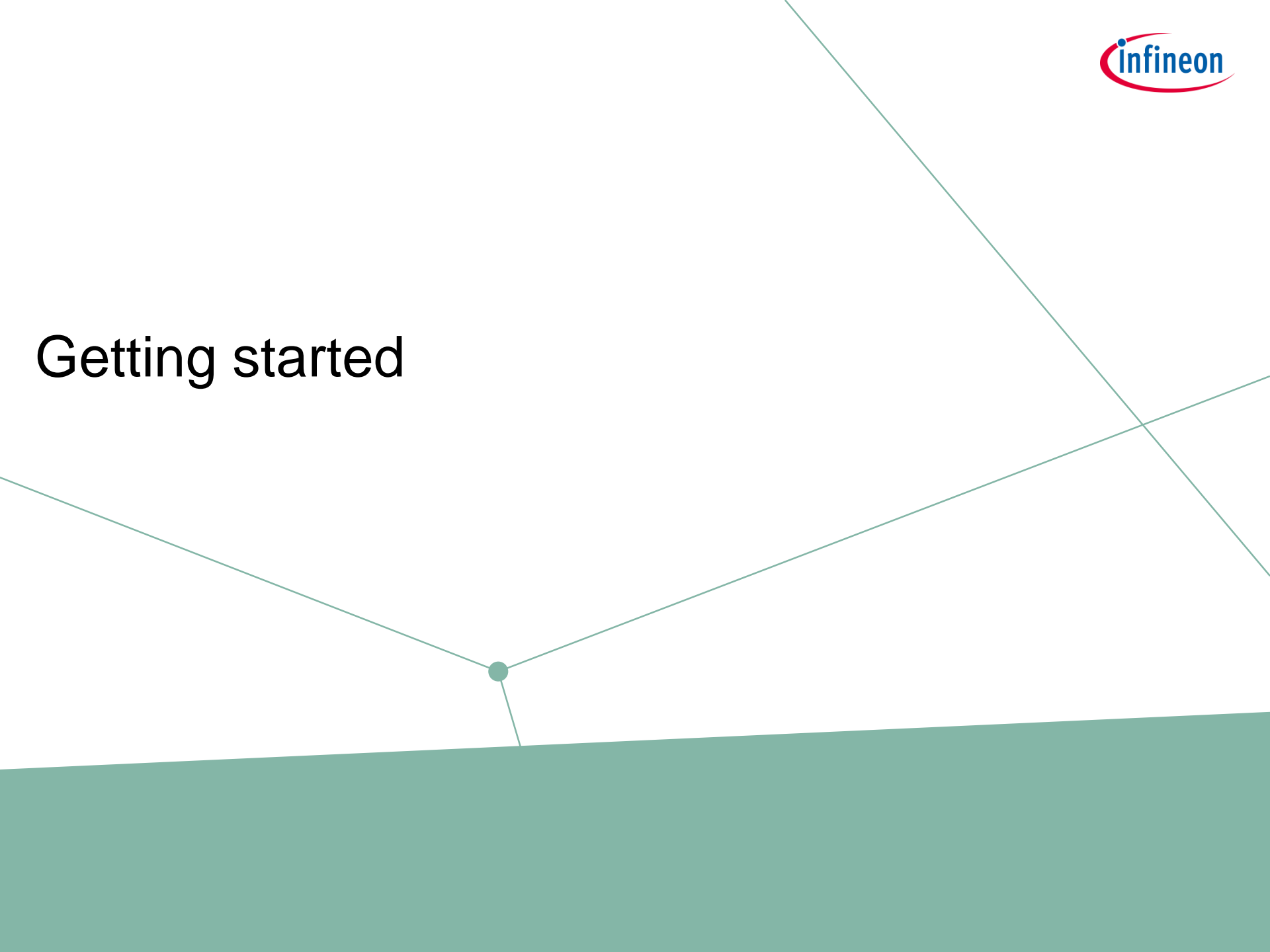


TLI493D-W2BW Shield2Go - Overview



- › The Shield2Go provides an easy to use evaluation board for the 3D magnetic sensor **TLI493D-W2BW**
- › Contents of the kit:
 - PCB with assembled sensor
 - Standalone ferrite magnet
 - Solderless pin headers
- › Intended to be used with a **XMC1100 2GO kit** for full compatibility and evaluation software support (OPN: KITXMC2GOXMC1100V1TOBO1)
- › A variety of available magnetic extensions allow to test the sensor directly on application level

Getting started

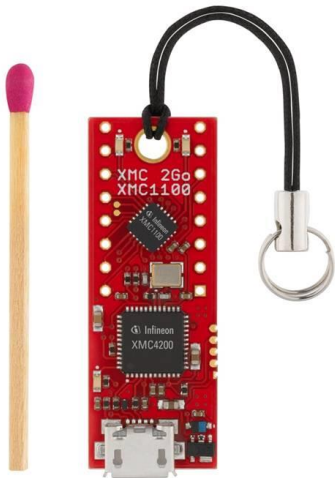


Getting started - Hardware

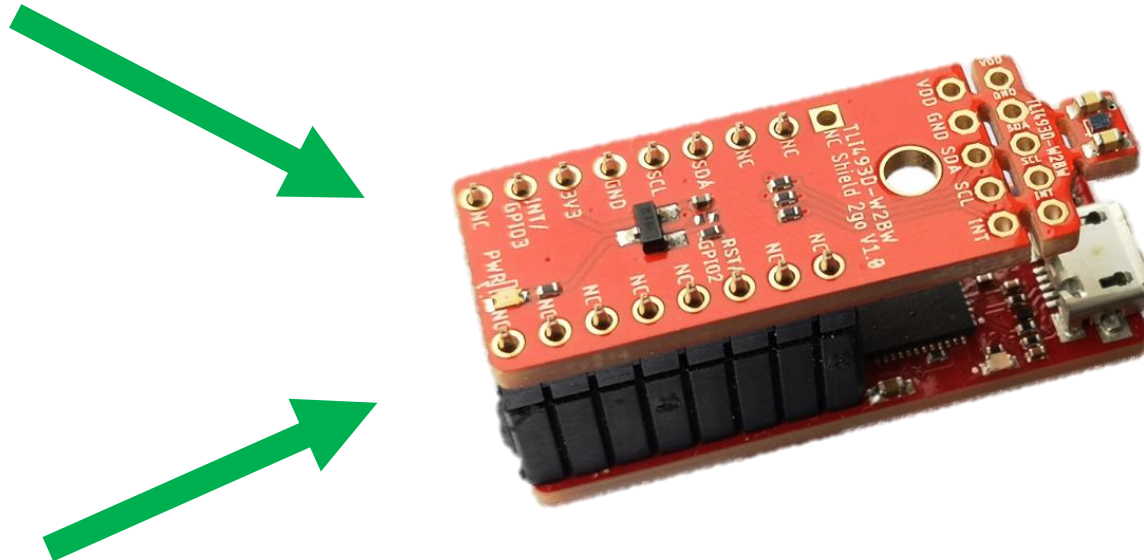
- 1) Stack the TLI493D-W2BW Shield2Go on an XMC1100 2Go (Sensor above the USB connector)
- 2) Connect the XMC1100 2Go via a micro USB cable to the PC



Shield2go



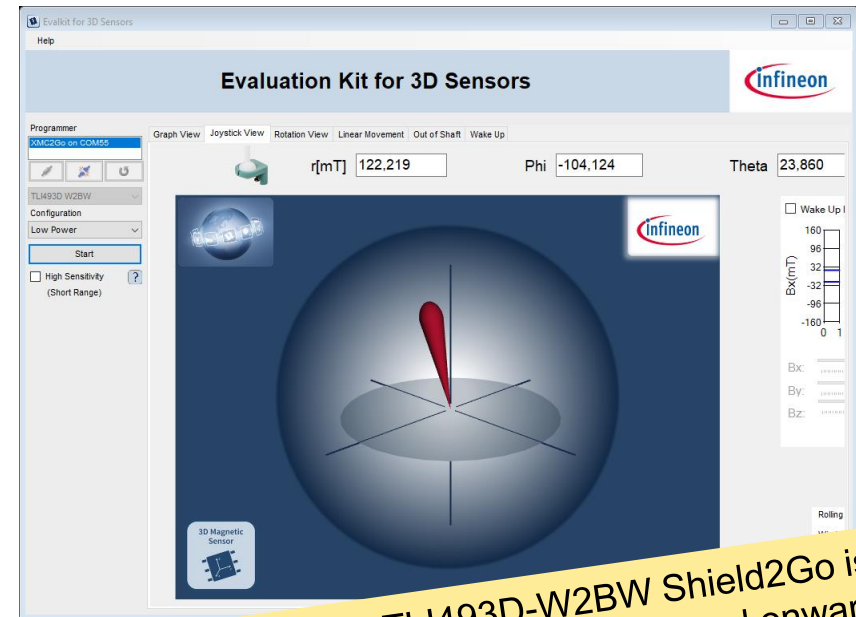
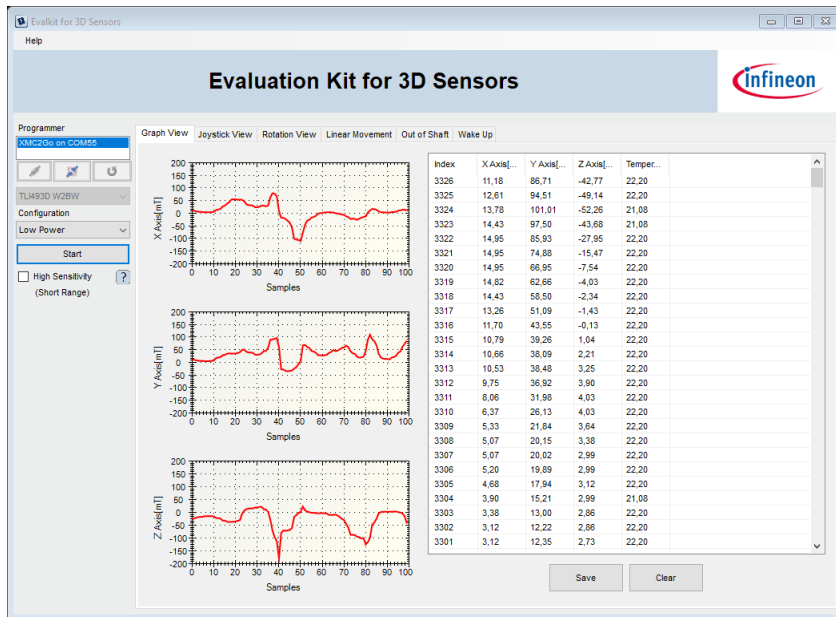
XMC 2GO



https://www.infineon.com/cms/de/product/evaluation-boards/kit_xmc_2go_xmc1100_v1/

Getting started - Software

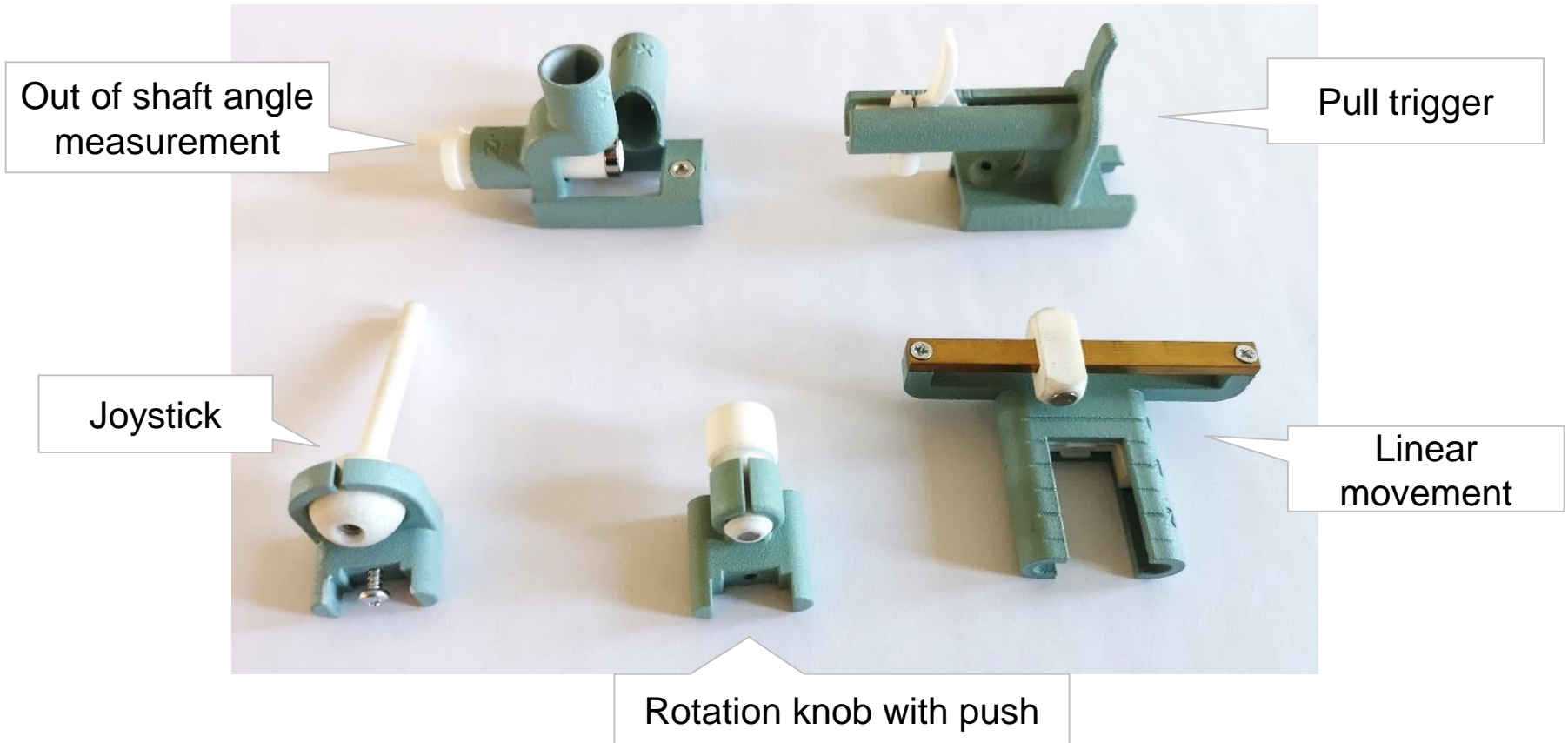
- 1) Download and install the **GUI for 3D Magnetic Sensor 2Go** from: <https://www.infineon.com/cms/de/product/sensor/magnetic-sensors/magnetic-position-sensors/3d-magnetics/#!tools>
- 2) Connect the board via USB, start the **3D 2GO** application, click on „Connect“ and „Start“
- 3) Use the provided magnet or additional magnetic extensions to evaluate!



Note: the TL1493D-W2BW Shield2Go is compatible with the GUI v5.1 and onwards

Getting started - Magnetic extensions

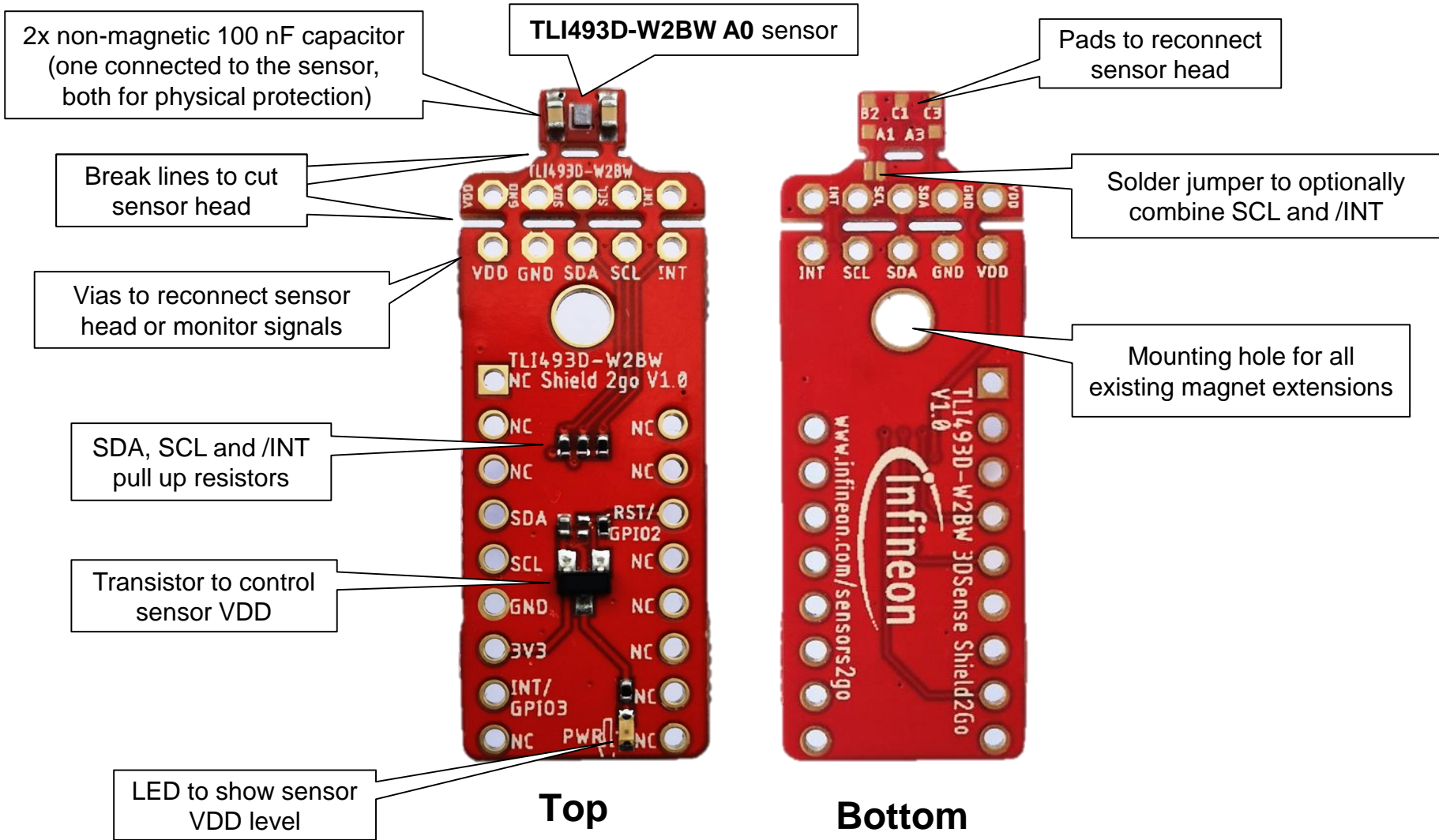
To test **typical 3D magnetic sensor applications** there are additional magnetic extension available that can be directly mounted to the Shield2Go. For example:



<https://www.infineon.com/cms/de/product/sensor/magnetic-sensors/magnetic-position-sensors/3d-magnetics/#!boards>

Detailed description





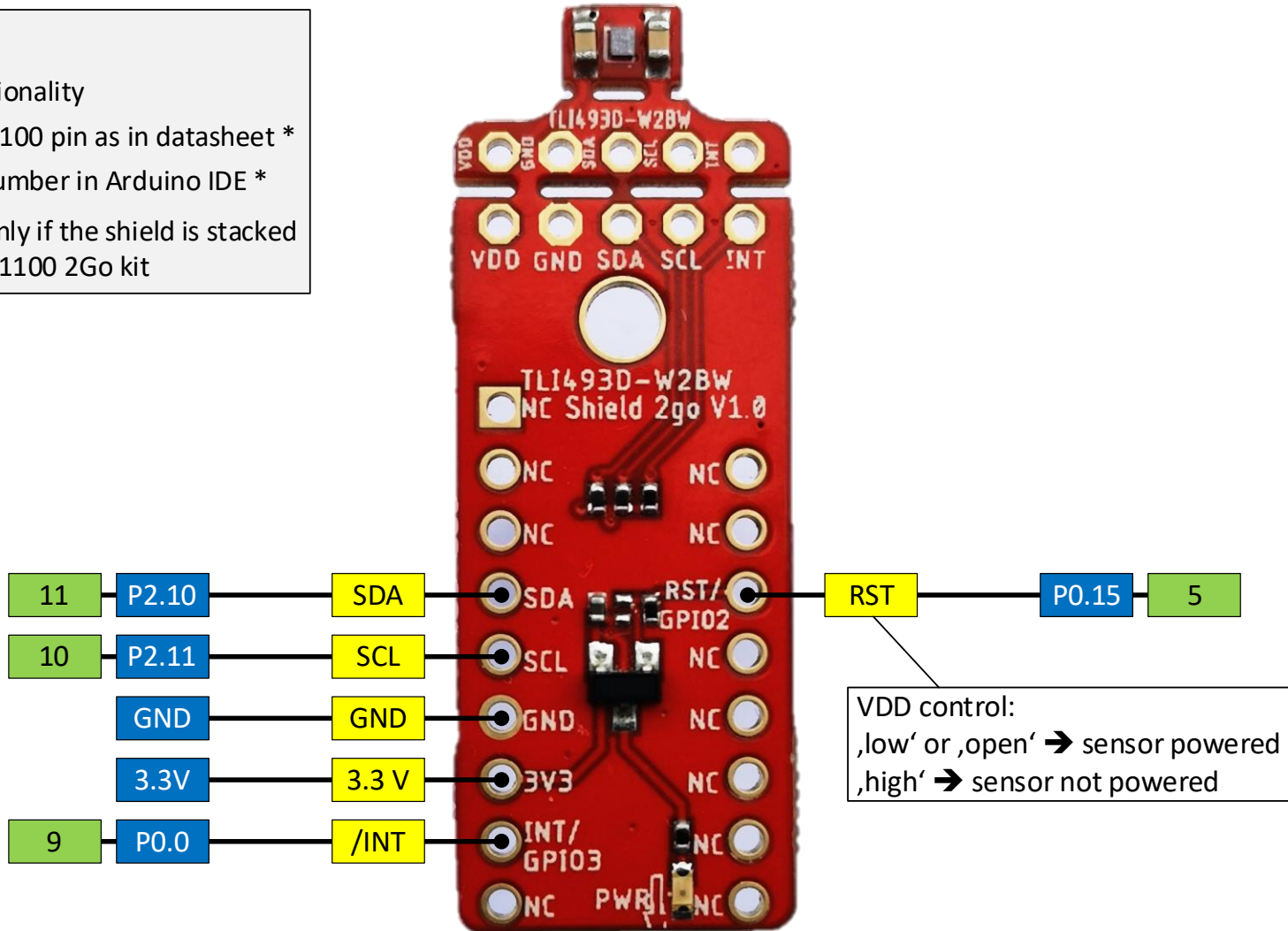
Pinout

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Legend

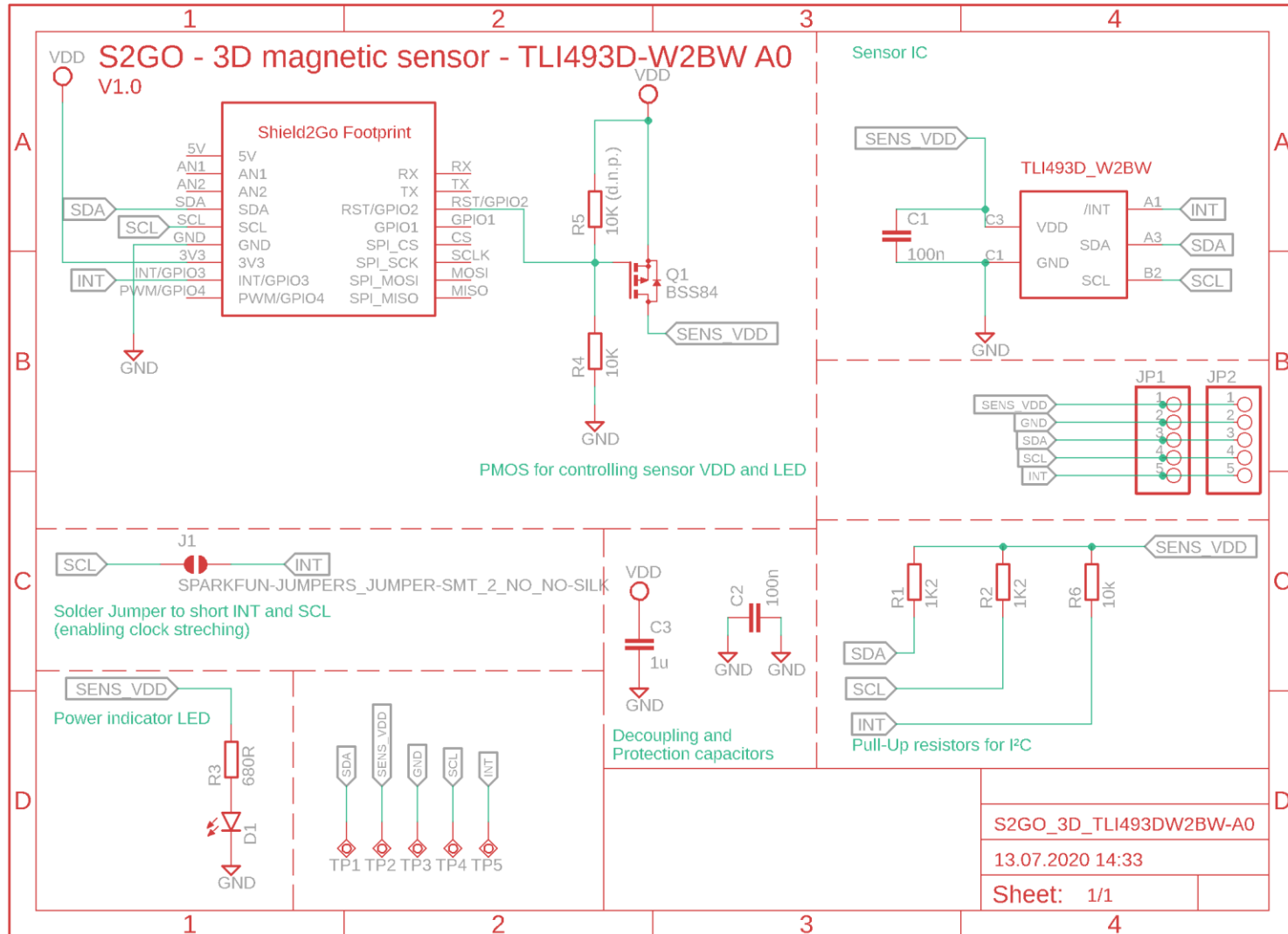
- Functionality
- XMC1100 pin as in datasheet *
- Pin number in Arduino IDE *

* Applies only if the shield is stacked on a XMC1100 2Go kit



Schematic

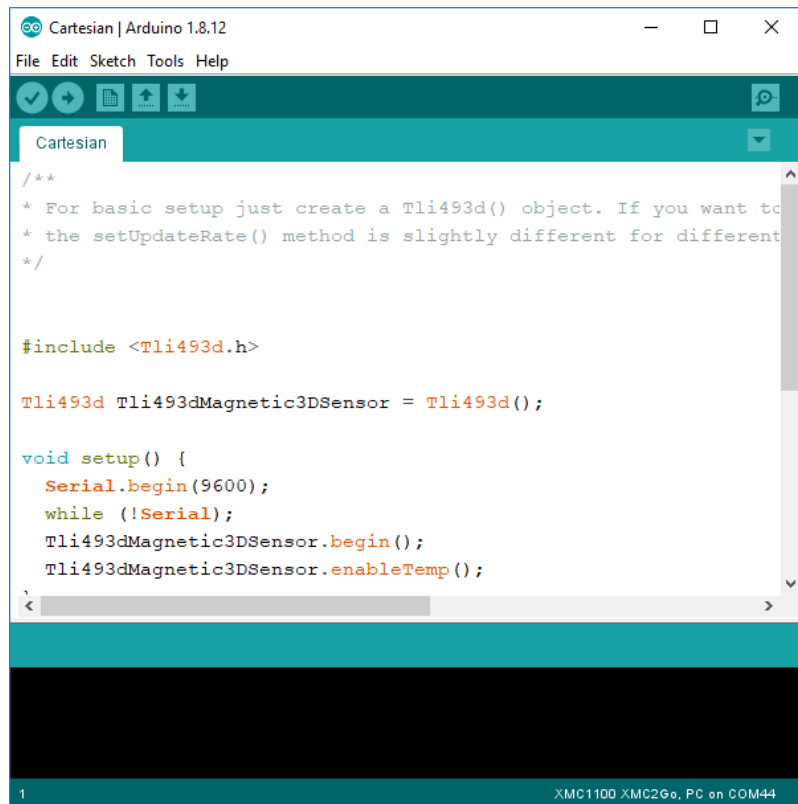
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Advanced software support

Arduino library

➔ Simple start to your own firmware



```

Cartesian | Arduino 1.8.12
File Edit Sketch Tools Help
Cartesian
/**
 * For basic setup just create a Tli493d() object. If you want to
 * the setUpdateRate() method is slightly different for different
 */

#include <Tli493d.h>

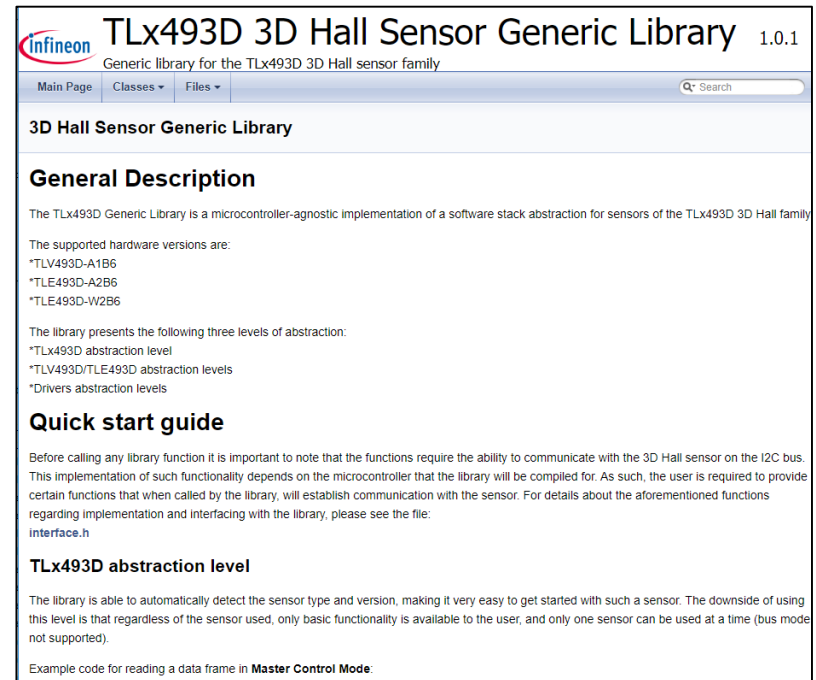
Tli493d Tli493dMagnetic3DSensor = Tli493d();

void setup() {
  Serial.begin(9600);
  while (!Serial);
  Tli493dMagnetic3DSensor.begin();
  Tli493dMagnetic3DSensor.enableTemp();
}
  
```

<https://github.com/Infineon/Tli493D-W2BW>

Generic C code library

➔ To use full sensor capabilities



TLx493D 3D Hall Sensor Generic Library 1.0.1
Generic library for the TLx493D 3D Hall sensor family

3D Hall Sensor Generic Library

General Description

The TLx493D Generic Library is a microcontroller-agnostic implementation of a software stack abstraction for sensors of the TLx493D 3D Hall family

The supported hardware versions are:

- *TLV493D-A1B6
- *TLE493D-A2B6
- *TLE493D-W2B6

The library presents the following three levels of abstraction:

- *TLx493D abstraction level
- *TLV493D/TLE493D abstraction levels
- *Drivers abstraction levels

Quick start guide

Before calling any library function it is important to note that the functions require the ability to communicate with the 3D Hall sensor on the I2C bus. This implementation of such functionality depends on the microcontroller that the library will be compiled for. As such, the user is required to provide certain functions that when called by the library, will establish communication with the sensor. For details about the aforementioned functions regarding implementation and interfacing with the library, please see the file: [interface.h](#)

TLx493D abstraction level

The library is able to automatically detect the sensor type and version, making it very easy to get started with such a sensor. The downside of using this level is that regardless of the sensor used, only basic functionality is available to the user, and only one sensor can be used at a time (bus mode not supported).

Example code for reading a data frame in **Master Control Mode**:

<https://www.infineon.com/cms/de/product/sensor/magnetic-sensors/magnetic-position-sensors/3d-magnetics/#!/tools>



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