Sensor Board Guide for VCNL36821S-SB

INTRODUCTION

The VCNL36821S sensor board is intended to be used in conjunction with Vishay's SensorXplorer demonstration kit, or as a standalone unit, to evaluate the capabilities of the VCNL36821S proximity sensor.

SensorXplorer™

The SensorXplorer (Fig. 1) is a demonstration kit designed to help evaluate Vishay's digital sensors featured on Vishay's sensor boards. These boards, along with their respective software modules, can be used to demonstrate and test each sensor's functionalities, allowing the user to quickly understand how various settings affect the sensor's results. The SensorXplorer board includes an USB to I^{2}C interface chip, a 3.3 V regulator, several indicator LEDs, as well as multiple GPIOs to control the functionality of each board and allow data to be read and displayed on a PC. To get an overview of available sensor boards, as well as to download the software modules and board design files, please visit: www.vishay.com/optoelectronics/SensorXplorer. Here you will also find a link next to each board showing its availability at each of our distributors.

Complete information about the SensorXplorer kit as well as all available sensor boards is available at www.vishay.com/optoelectronics/SensorXplorer. The same page also allows you to check inventory of SensorXplorer kits and Vishay sensor boards at our distributors.

The SensorXplorer installation guide is available for download from the following link: www.vishay.com/doc?84922
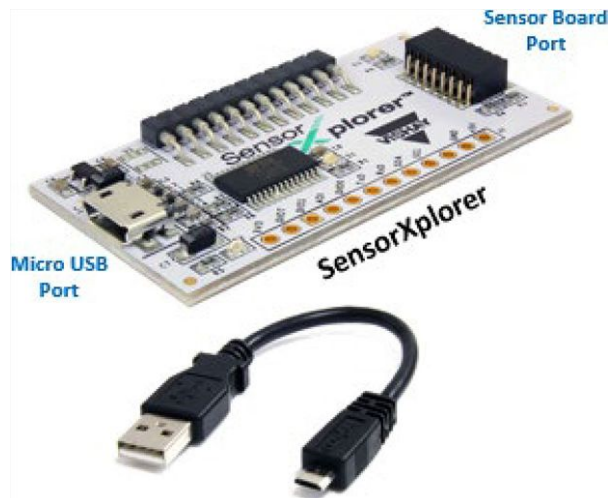

Fig. 1 - SensorXplorer

USING THE SENSOR BOARD WITH THE SensorXplorer

Following the instructions in the SensorXplorer installation guide, install the SensorXplorer software on your PC, then connect the SensorXplorer evaluation board to your PC and the Vishay sensor board.

The respective demo board software module can then be downloaded from: www.vishay.com/landingpage/SensorXplorer/

Once the module is unzipped the software can be run without the need for further installation.

You are now ready to explore the sensor and its different settings to see how they will work in your application.

HOW TO USE THE DEMOSOFTWARE

Tabs to switch between the various functions of the software module

Graph plots the results of the active measurement

Control panal to do the proximity settings

Here you can do a cancellation of a offset count value

Measurement results

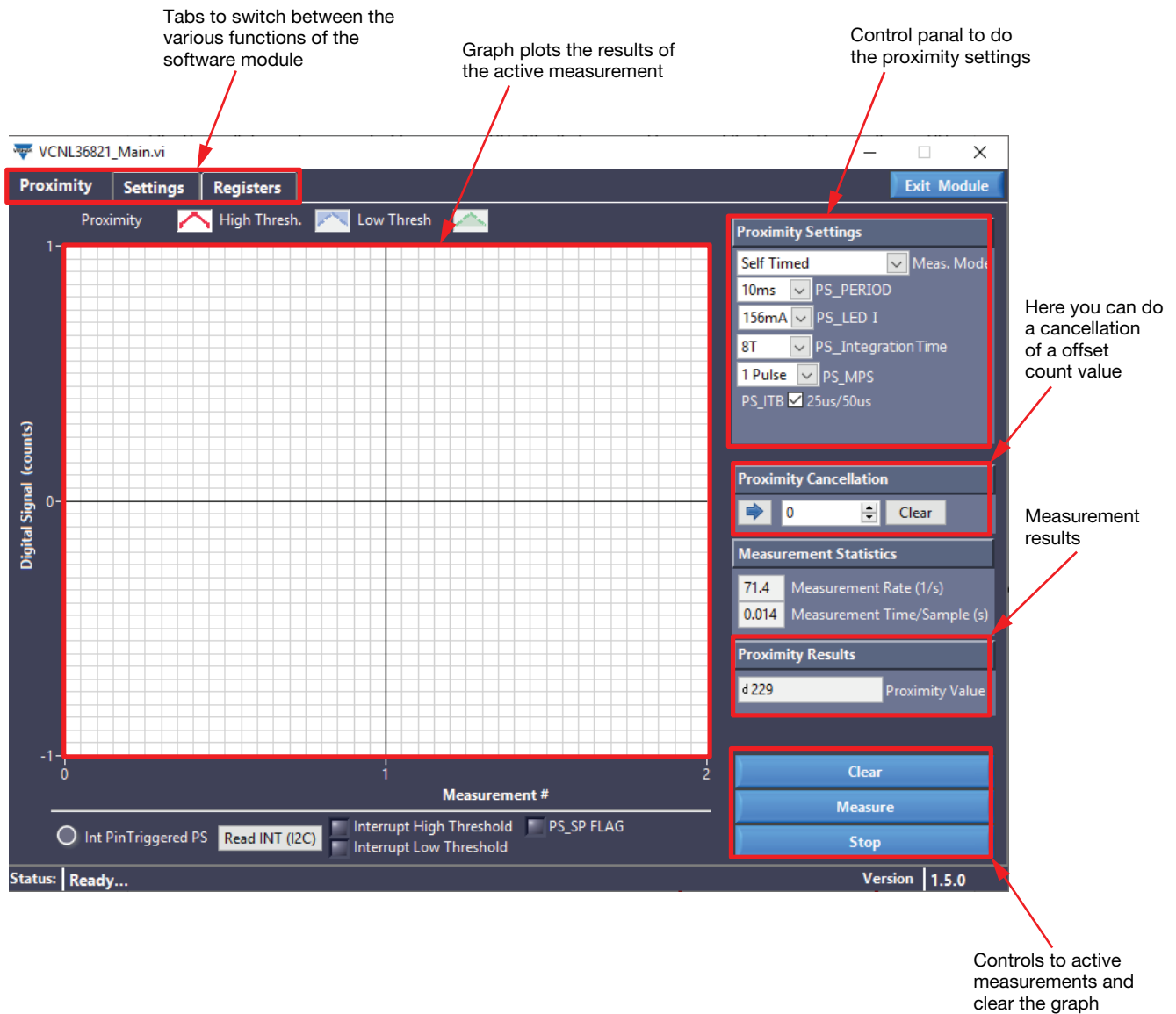Controls to active measurements and clear the graph

Fig. 2 - Demosoftware GUI

USING THE SENSOR BOARD AS A STANDALONE UNIT

If you want to use the sensor board within your own application and with your own I^{2}C master, simply connect the board to a power supply (3.3 V, GND) and the I^{2}C lines (SDA, SCL) as shown in Fig. 3.
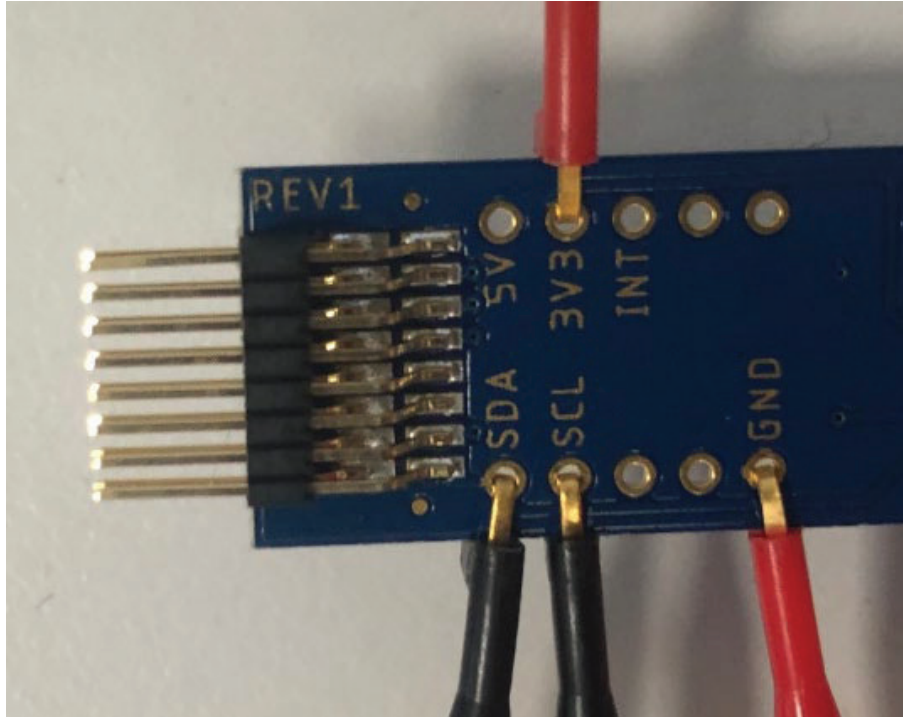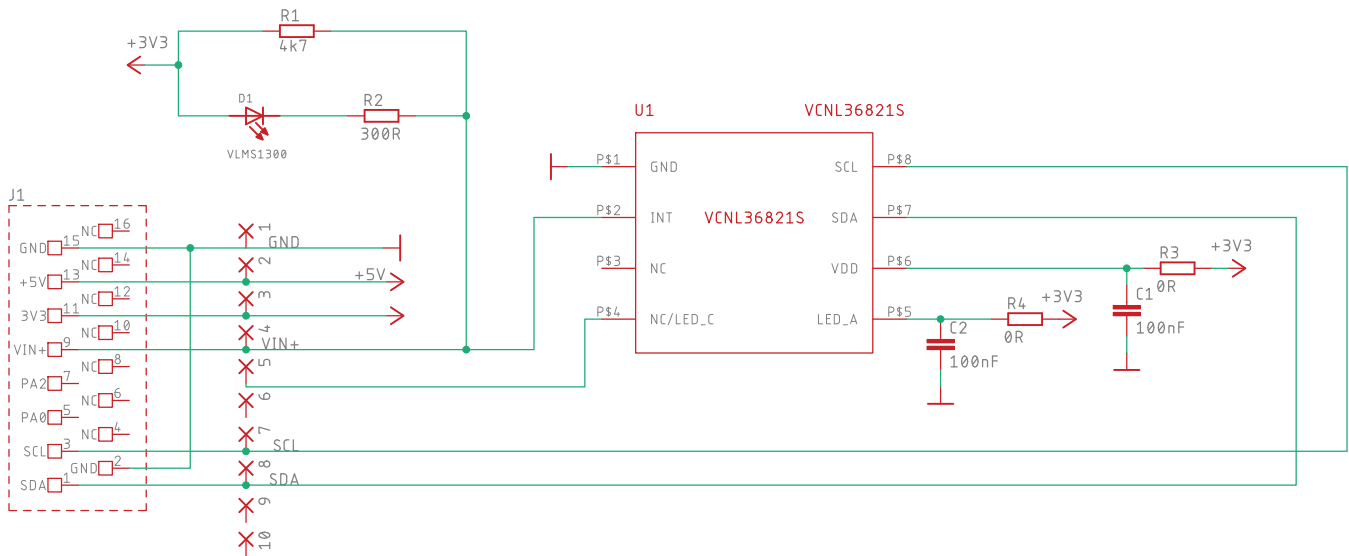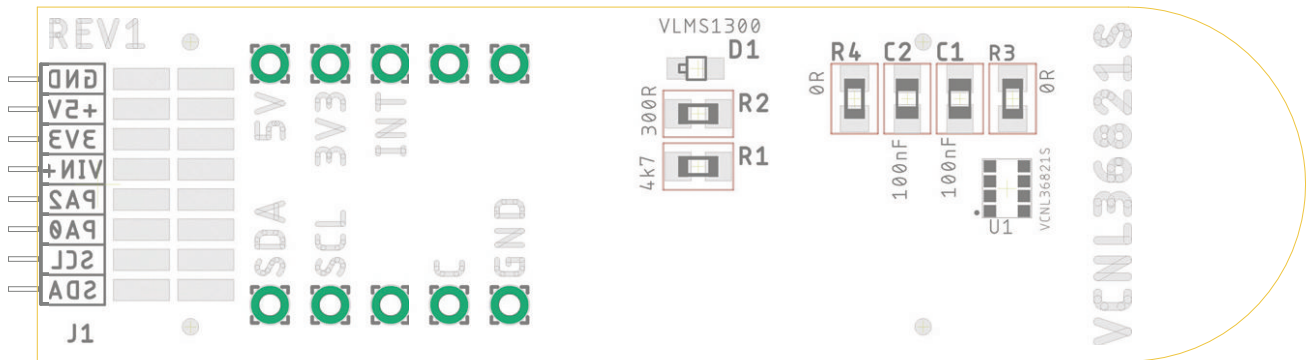

Fig. 3 - Connection of the Sensorboard (power supply and I^{2}C lines)

SCHEMATIC OF THE VCNL36821S SENSOR BOARD

VCNL36821S sensor board, rev. 1.0

ASSEMBLY OF THE VCNL36821S SENSOR BOARD

Assembly top

BILL OF MATERIALS					
ITEM	QUANTITY	REFERENCE	COMPONENT CLASS	VALUE	PACKAGE
1	1	C1	Capacitor	100 nF	C0603
2	1	C2	Capacitor	100 nF	C0603
3	1	D1	LED	VLMS1300	VLMS1300
4	1	J1	Edge connector	2 x 8 pos.	SMD header strip
5	1	R1	Resistor	4.7 kΩ	R0603
6	1	R2	Resistor	300 Ω	R0603
7	1	R3	Resistor	0 Ω	R0603
8	1	R4	Resistor	0 Ω	R0603
9	1	U1	Sensor	VCNL36821S	SMD

For technical questions, contact: sensorstechsupport@vishay.com