



Eval Kit Manual

ENS210

Standard Board

ENS210-QF_EK_ST

Content Guide

1	Introduction	3
2	ENS210 Sensor Board General Description	3
3	Sensor Board Interface	3
4	ENS210 Connection.....	5
5	Sensor Board Layout	5
6	Summary.....	5
7	Ordering & Contact Information	6
8	Copyrights & Disclaimer.....	7
9	Revision Information	8

1 Introduction

The document provides an overview of the ENS210 sensor board and covers the following topics: board general description, sensor board interface and ENS210 connection.

2 ENS210 Sensor Board General Description

The ENS210 sensor board, as shown in Figure 1, is an evaluation platform for the ENS210 device. It contains an ENS210 and has I²C/power interface which is compatible with the USB-I2C dongle. Therefore, the sensor board is also called a dongle shield.

Figure 1 ENS210 Sensor Board



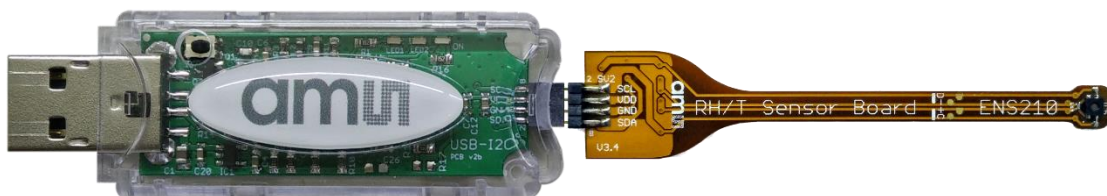
The sensor board has the following key features:

- Flex foil as carrier with small dimension (61 mm length × 12.5 mm width).
- Board interface with power (VDD, GND) and I²C Signal (SCL, SDA).
- Sensor chip supports Standard I²C mode (100 kHz), Fast I²C mode (400 kHz) and clock stretching.
- Sensor board supports 1.71 V to 3.6 V power supply range.
- Test points on board (D, -, +, C) for power and I²C Signal.

Also note:

- By plugging the board interface into the USB-I2C dongle as shown in Figure 2, I²C commands can be given via the serial port. Most notably, sensor measurement values can be read.

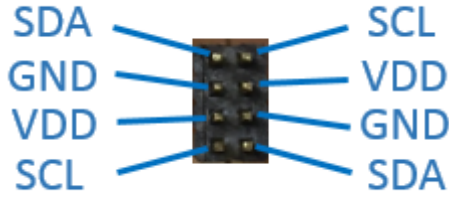
Figure 2 ENS210 Sensor Board with USB-I2C Dongle



3 Sensor Board Interface

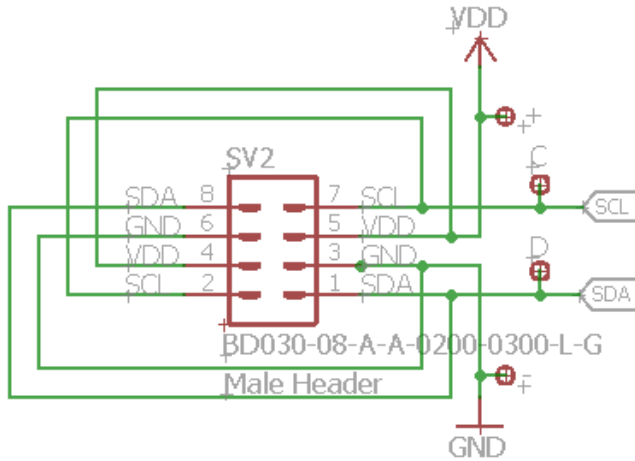
The signal labels and pin designators for the board interface are illustrated in Figure 3.

Figure 3 Interface Pinout – Sensor Board View



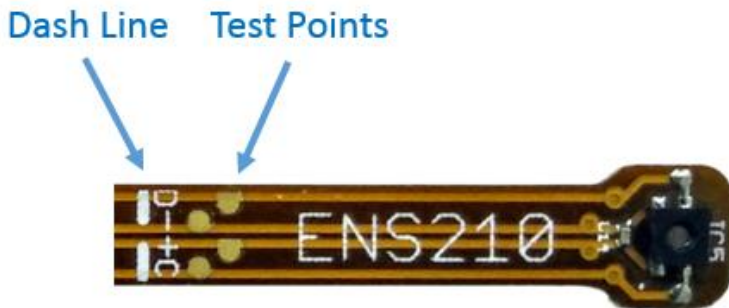
The sensor board interface, SV2 in the silk print, carries four lines: VDD/GND (power) and SCL/SDA (I²C). For mechanical stability, the interface has a double amount of pins: 8 instead of 4. Each line is connected to two pins. The wiring has rotational symmetry. This has the advantage that the sensor board can be inserted top up or bottom up, both are electrically equivalent. The schematic of the connector is shown in Figure 4.

Figure 4 Interface Connection



There are four test points which are physically located in the middle of the sensor board as shown in Figure 5. “D” for SDA; “-” for GND; “+” for VDD; “C” for SCL. For a quick integration, cut the board from the dash line, and solder wires from test points to the target device.

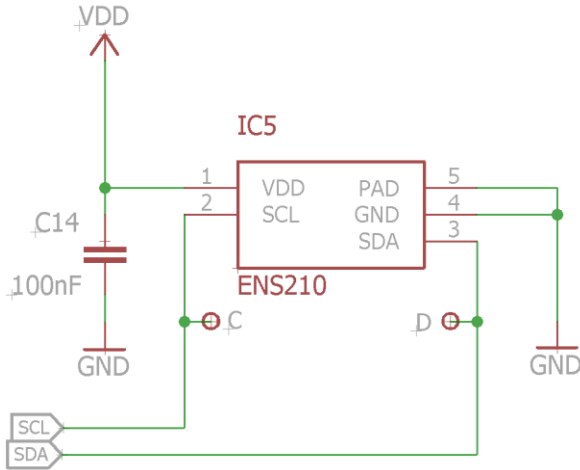
Figure 5 Sensor Board Test Points



4 ENS210 Connection

Figure 6 shows how the ENS210 is connected. The decoupling capacitor C14 (100 nF) is placed as close as possible to ENS210 (IC5). The middle pad (pin 5 of ENS210) is connected to GND.

Figure 6 ENS210 Connection



5 Sensor Board Layout

ENS210 sensor board layout is as shown in Figure 7 and Figure 8.

Figure 7 Layout Top Layer

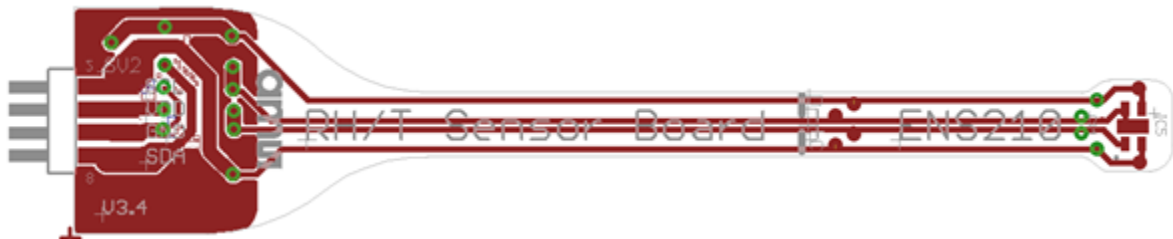


Figure 8 Layout Bottom Layer



6 Summary

This document describes the ENS210 sensor board about what it is and how to use it from the user point of view.

7 Ordering & Contact Information

Ordering Code	Description
ENS210-QF_EK_ST	ENS210 Eval Kit Standard Board

Buy our products or get free samples online at:

www.ams.com/ICdirect

Technical Support is available at:

www.ams.com/Technical-Support

Provide feedback about this document at:

www.ams.com/Document-Feedback

For further information and requests, e-mail us at:

ams_sales@ams.com

For sales offices, distributors and representatives, please visit:

www.ams.com/contact

Headquarters

ams AG
Tobelbaderstrasse 30
8141 Premstaetten
Austria, Europe

Tel: +43 (0) 3136 500 0

Website: www.ams.com

8 Copyrights & Disclaimer

Copyright ams AG, Tobelbader Strasse 30, 8141 Premstaetten, Austria-Europe. Trademarks Registered. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

Demo Kits, Evaluation Kits and Reference Designs are provided to recipient on an “as is” basis for demonstration and evaluation purposes only and are not considered to be finished end-products intended and fit for general consumer use, commercial applications and applications with special requirements such as but not limited to medical equipment or automotive applications. Demo Kits, Evaluation Kits and Reference Designs have not been tested for compliance with electromagnetic compatibility (EMC) standards and directives, unless otherwise specified. Demo Kits, Evaluation Kits and Reference Designs shall be used by qualified personnel only.

ams AG reserves the right to change functionality and price of Demo Kits, Evaluation Kits and Reference Designs at any time and without notice.

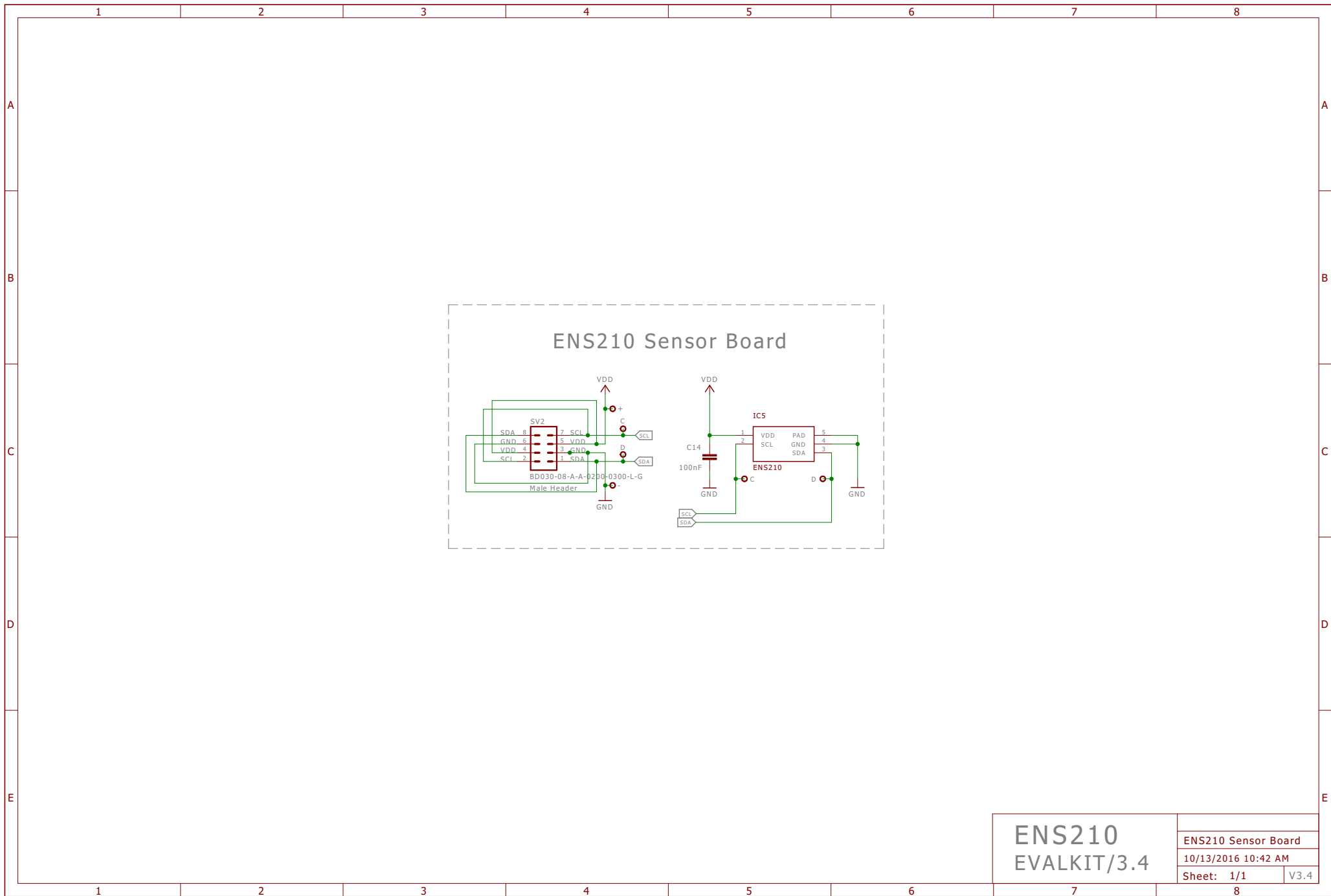
Any express or implied warranties, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose are disclaimed. Any claims and demands and any direct, indirect, incidental, special, exemplary or consequential damages arising from the inadequacy of the provided Demo Kits, Evaluation Kits and Reference Designs or incurred losses of any kind (e.g. loss of use, data or profits or business interruption however caused) as a consequence of their use are excluded.

ams AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of ams AG rendering of technical or other services.

9 Revision Information

Changes from previous version to current revision 1-00 (2016-Oct-13)	Page
Initial version 1-00	

Note: Page numbers for the previous version may differ from page numbers in the current revision.
Correction of typographical errors is not explicitly mentioned.



ENS210 EVALKIT/3.4		ENS210 Sensor Board	
		10/13/2016 10:42 AM	
Sheet: 1/1		V3.4	