AS5172

User Guide

PSI5 programming board

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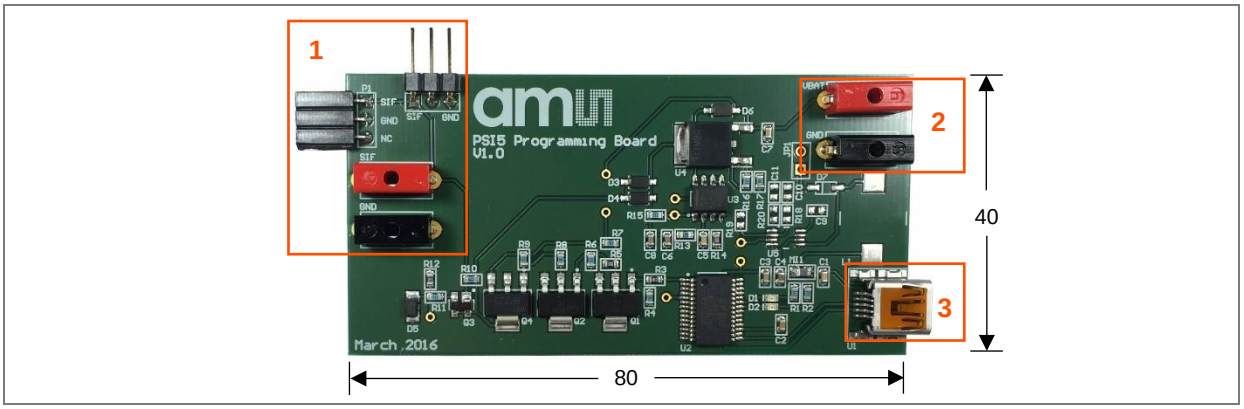
1 General description

This user guide describes more in detail the usage of the AS5172 PSI5 programming board.

The PCB has basically two main functions:

1. For the TX (Transmitter) function, the PCB modulates the UART signal from the computer on the VDD. The base supply is 7V (low level) and the peak supply around 11V (high level). More information about this mode can be found in the datasheet.
2. The second function is the RX (Receiver) part. After receiving the shifted and modulated signal on the VDD line, the sensor will answer in an “UART-over-PSI5” mode. This means the UART frame is sent modulated in a current signal. The PCB will translate this current signal using a current mirror, shunt resistor and a comparator into a normal voltage signal. This signal is transmitted to the computer using a FTDI USB-to-UART chip.

Figure 1: AS5172 PSI5 programming board with connector description



1 Connector for AS5172 (PSI5 sensor interface – SIF)
2 External power supply connector (VBAT – 12V DC / 100mA)
3 Mini-USB jack for UART interface to computer

(1) All dimensions are in mm.

1.1 Communication

The Mini-USB jack is used for UART communication with the computer. The PCB uses a FT232R –USB-to-UART IC by FTDI. Therefore, the installation of the VCP (Virtual COM Port) driver is necessary to detect the USB device as a COM Port.

The driver can be downloaded from the official FTDI website using the following link: ftdichip.com/drivers/vcp-drivers/

1.2 Power supply

The PCB has to be supplied through the external power connector (2). The PCB supply voltage should be 12V DC (100 mA). The PCB uses an LDO to generate a supply voltage of 7V for the AS5172.

2 Revision information

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Changes from previous version to current revision v1-00	Page
Initial production version	

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

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