Application Note

AS5xxx-EK-USB-PB

UART Programmer Operation Manual

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Revision History

Revision	Date	Owner	Description
1.0	28.08.2013	dsch	Initial version
1.1	13.08.2014	ekno	Updates and corrections
1.2	04.12.2014	mzie	Updated to latest corporate template
1.3	03.02.2015	mzie	Minor corrections

1 General Description

This application note describes more in detail the usage of the AS5xxx-EK-USB-PB UART Programmer.

Figure 1: AS5xxx-EK-USB-PB UART Programmer

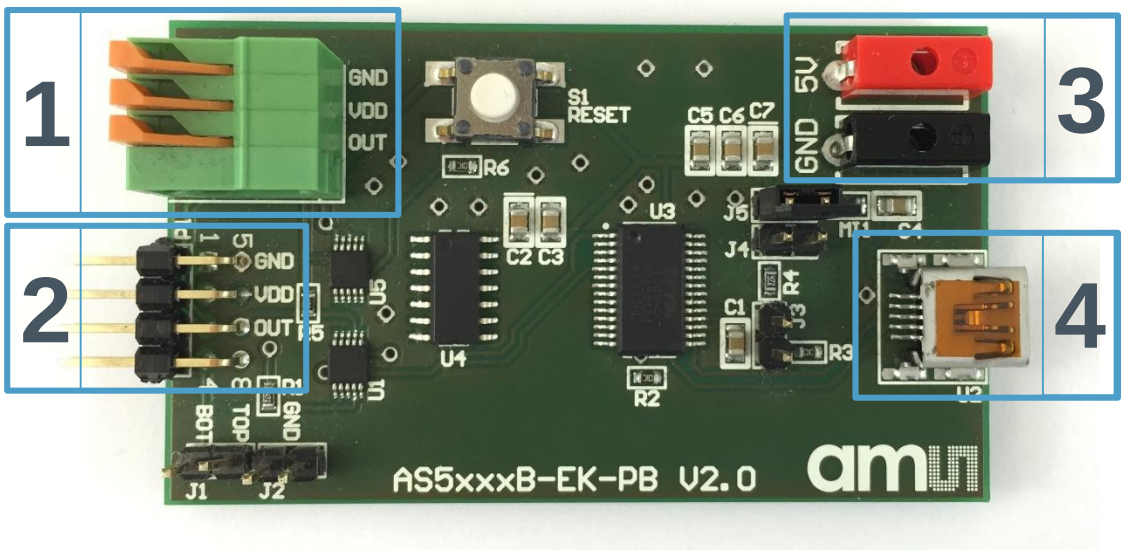


Figure 2: Connector description

Pos.	Item
1	Universal connector (e.g. AS5403X)
2	Connector for AS5x6y devices
3	External power supply connectors
4	Mini-USB socket

1.1 Communication

The Mini-USB socket is used for communicating with the computer. Therefore, a Mini-USB to USB cable is necessary. The board is using a FT232R – USB-to-UART IC by FTDI. Therefore the installation of the VCP (Virtual COM Port) is necessary to detect the USB device as a COM Port.

The driver can be downloaded from the official FTDI website using following link:
http://www.ftdichip.com/Drivers/VCP.htm

1.2 Power supply

By default the 5V supply voltage is provided by the USB interface. Depending if the jumpers J3, J4 and J5 are open or closed the supply source can be switched to external power supply.

Figure 3: Jumper configuration

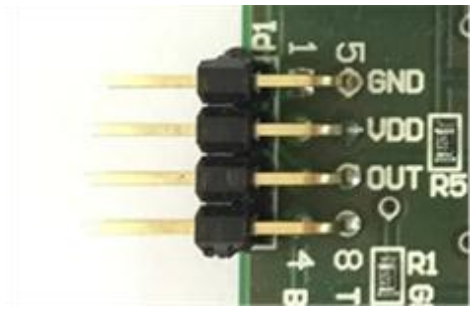
J3	J4	J5	Supply source
SET	SET	NC	External
NC	NC	SET	USB

2 Connecting options

2.1 AS5x6y

For connecting AS5x6y devices the connector P1 is used. When connecting a single die IC (AS5161 or AS5162) the bottom (BOT) interface has to be used. The required pull-up resistor for the UART communication is also included on this board.

Figure 4: Connector P1



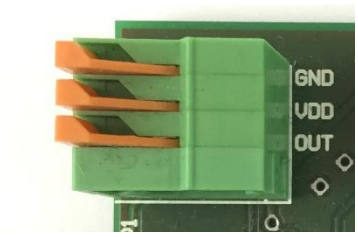
1	5
2	6
3	7
4	8

Pin #	Symbol	Description
1	GND Bottom	Ground Bottom die
2	VDD Bottom	Supply voltage Bottom die
3	OUT Bottom	Output signal Bottom die
4	OUT Bottom	Output signal Bottom die
5	GND Top	Ground Top die
6	VDD Top	Supply voltage Top die
7	OUT Top	Output signal Top die
8	OUT Top	Output signal Top die

2.2 Universal Connector socket

For more connecting options the board offers a universal connector socket. This socket provides access to GND, VDD and OUT (BOT) signals. This may be used to connect to an AS5403X adapter board. Also in this case the required pull-up resistor for UART communication is included.

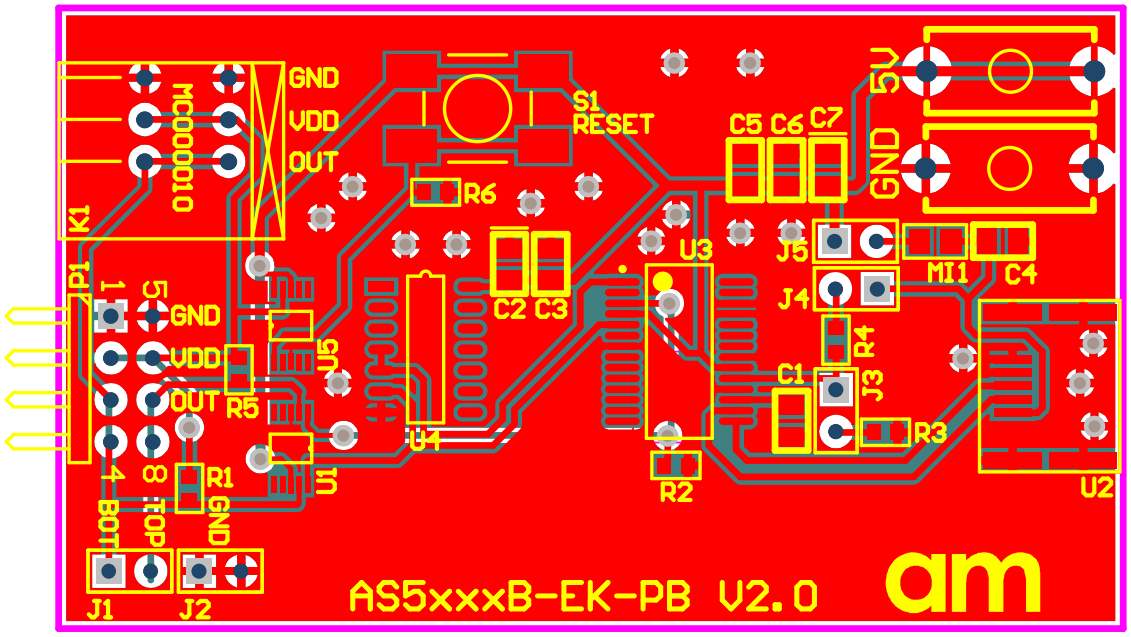
Figure 5: Universal Connector socket



3 AS5xxx-EK-USB-PB Hardware

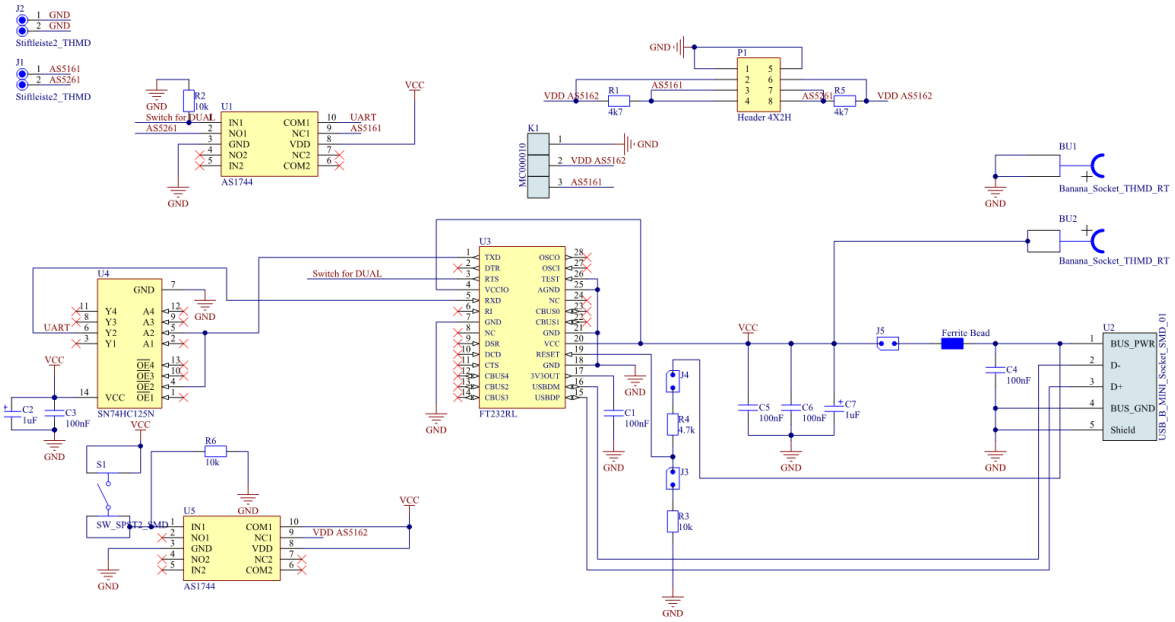
3.1 AS5xxx-EK-USB-PB PCB layout

Figure 6: AS5xxx-EK-USB-PB PCB layout



3.2 AS5xxx-EK-USB-PB schematic

Figure 7: AS5xxx-EK-USB-PB schematic



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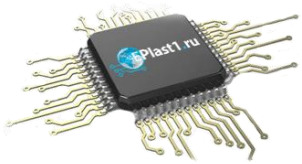

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