

OpenSensIOT – Programming Cable Tutorial

Version 1.0

4.12.2018

History of changes

Version #	Date	Modified paragraph	Reason
1.0	4.12.2018	All	Release of document

Table of contents

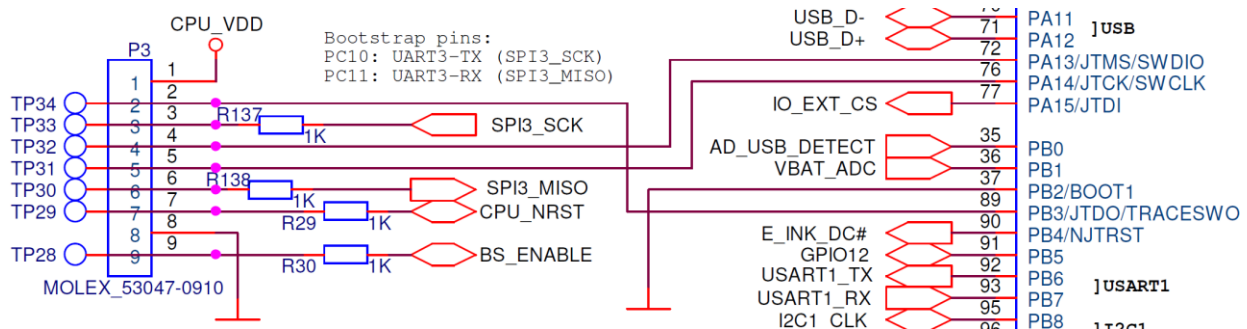
1	Connectors pinout	3
1.1	- StLink V2 pinout:	3
1.2	- OpenSens connector pinout:.....	3
2	Material	4
2.1	StLink V2	4
2.2	Molex PicoBlade 9 positions cable	4
2.3	IDC connector 10 positions female for cable	4
3	Assembly instructions.....	5
3.1	If cable was bought as a cable assembly	5
3.1.1	Cut cable assembly on half	5
3.1.2	Remove unneded wires from connector.....	5
3.2	If cable was bought as a connector and pre-cripped wires.....	6
3.2.1	Assemble connector and precrimped wires.....	6
3.3	In both ways	6
3.3.1	Puth the other side of the cable in IDC connector like:.....	6
3.3.2	Put on the wire holder:.....	7
3.3.3	Assemble created cable with St-Link and try to connect it with OpenSense and try the connection if it's working properly.....	7

1 Connectors pinout

1.1 - StLink V2 pinout:

- pin 1 - RST
- pin 2 - SWCLK
- pin 3 - SWIM
- pin 4 - SWDIO
- pin 5 - GND
- pin 6 - GND
- pin 7 - +3,3V
- pin 8 - +3,3V
- pin 9 - +5V
- pin 10 - +5V

1.2 - OpenSens connector pinout:



- pin 1 - CPU_VDD
- pin 2 - JTDO/SWO
- pin 3 - UART_TX
- pin 4 - JTMSO/SWDIO (connect to StLink SWDIO)
- pin 5 - JTCK/SWCLK (connect to StLink SWCLK)
- pin 6 - UART_RX
- pin 7 - CPU_NRST (connect to StLink RST)
- pin 8 - GND (connect to StLink GND)
- pin 9 - BS_ENABLE

2 Material

2.1 StLink V2

Available for example here: <https://www.ebay.com/itm/ST-Link-V2-Programming-Unit-mini-STM8-STM32-Emulator-Downloader-M89-New/401088363326?hash=item5d62babb3e:g:8soAAOSwZVIXilCF:rk:8:pf:0>

Note that there are multiple very **similar devices** on the marked, but **with different pinout!!!!** Make sure to buy all with the same pinout, otherwise cable assembly must be modified according to the pinout.



2.2 Molex PicoBlade 9 positions cable

Currently there is no 9 pin PicoBlade assembled cable available. I suggest to use:

[- Molex 51021-0900](#)



[- Molex 06-66-0015](#)



2.3 IDC connector 10 positions female for cable

[- KONEKTOR SPEEDY 10P ŽENSKI ZA KABEL](#)

3 Assembly instructions

3.1 If cable was bought as a cable assembly

3.1.1 Cut cable assembly on half

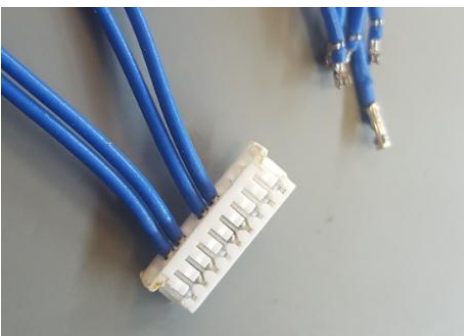


Each side can be used as a separate cable.

3.1.2 Remove unneeded wires from connector

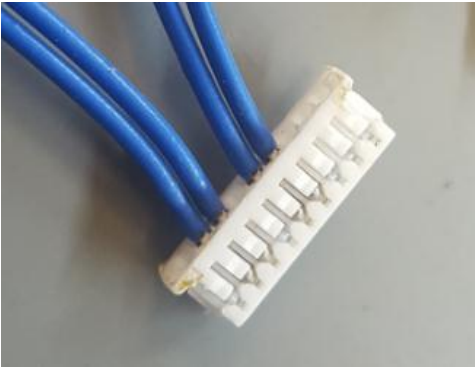


Final result:



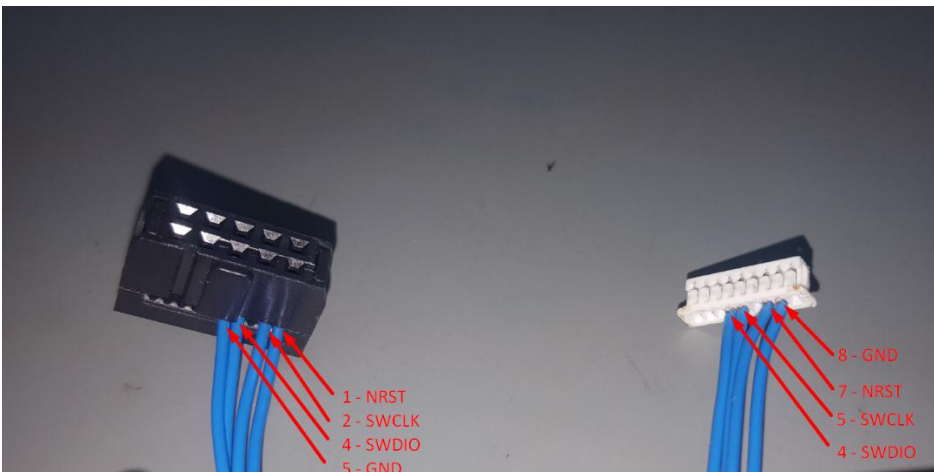
3.2 If cable was bought as a connector and pre-crimped wires

3.2.1 Assemble connector and precrimped wires

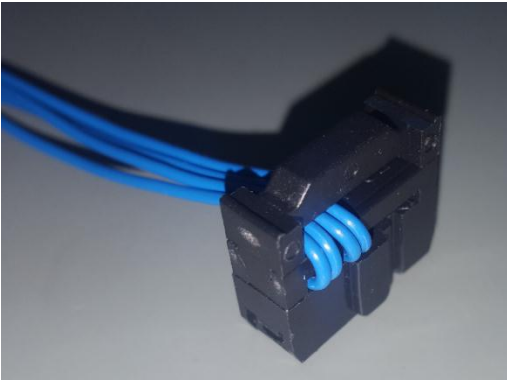


3.3 In both ways

3.3.1 Puth the other side of the cable in IDC connector like:



3.3.2 Put on the wire holder:



3.3.3 Assemble created cable with St-Link and try to connect it with OpenSense and try the connection if it's working properly

