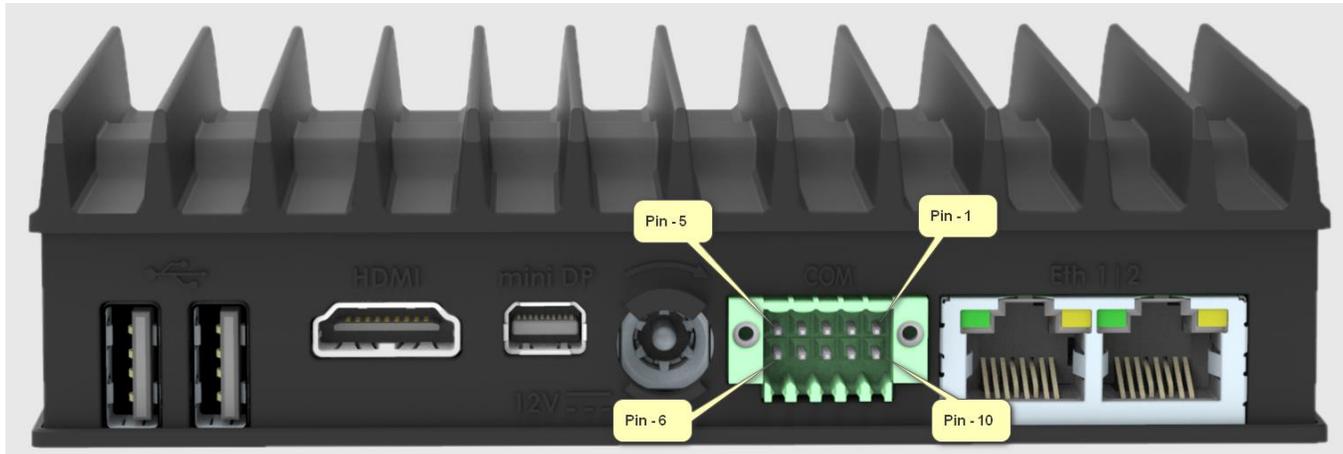21-Nov-2024

Application note – How to configure the default on-board Serial port in the fitlet3 device with [S] option enabled.

Introduction:
When the fitlet3 device is ordered with [S] option enabled, it comes with special connector assembled, see below

Below you can see the global pinout of this connector:

General COM + GPIO connector pinout

Note! GPIO is not supported by Microsoft Windows

| Pin Number	RS232+GPIO	RS485 Half duplex +GPIO	RS485 Full Duplex +GPIO
1	Power In	Power In	Power In
2	GPO (output)	GPO (output)	GPO (output)
3	GPO (output)	GPO (output)	GPO (output)
4	GPI (Input)	GPI (Input)	GPI (Input)
5	GPI (Input)	GPI (Input)	GPI (Input)
6	TXD	Data-	TX-
7	RXD		RX+
8	CTS		RX-
9	RTS	Data+	TX+
10	GND	GND	GND

Here the Serial communication pinout only:

Serial communication pinout:

Pin Number	RS232	RS485 Half duplex	RS485 Full Duplex
6	TX	TXN/RXN	TXN
7	RX	-	RXP
8	CTS#	-	RXN
9	RTS#	TXP/RXP	TXP

For change from rs-232 to rs-485 half and full you need to make some changes in the device BIOS configuration (press F7 during the boot process in order to get the BIOS menu):
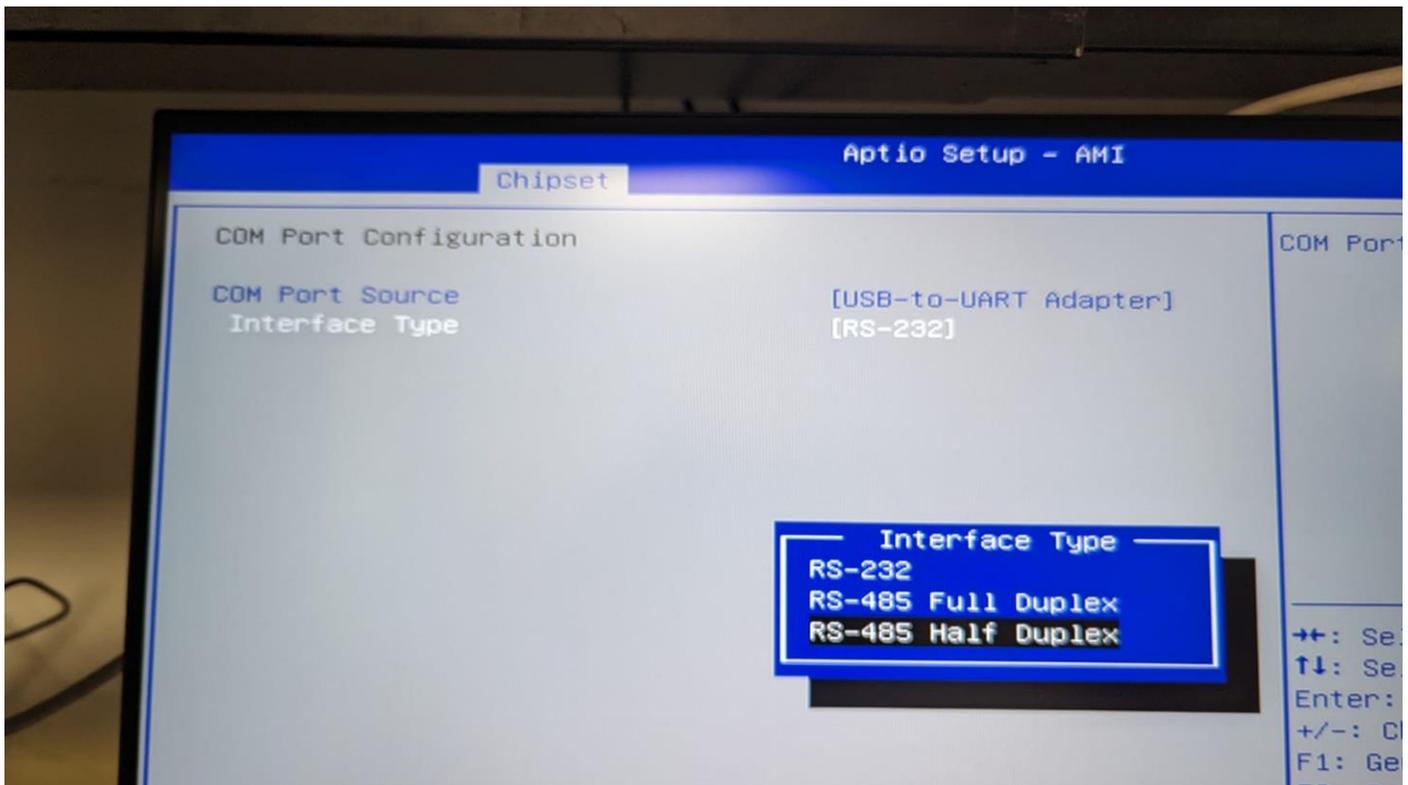
1. Access **"Chipset"** menu

2. Click on **"PCH-IO Configuration"**
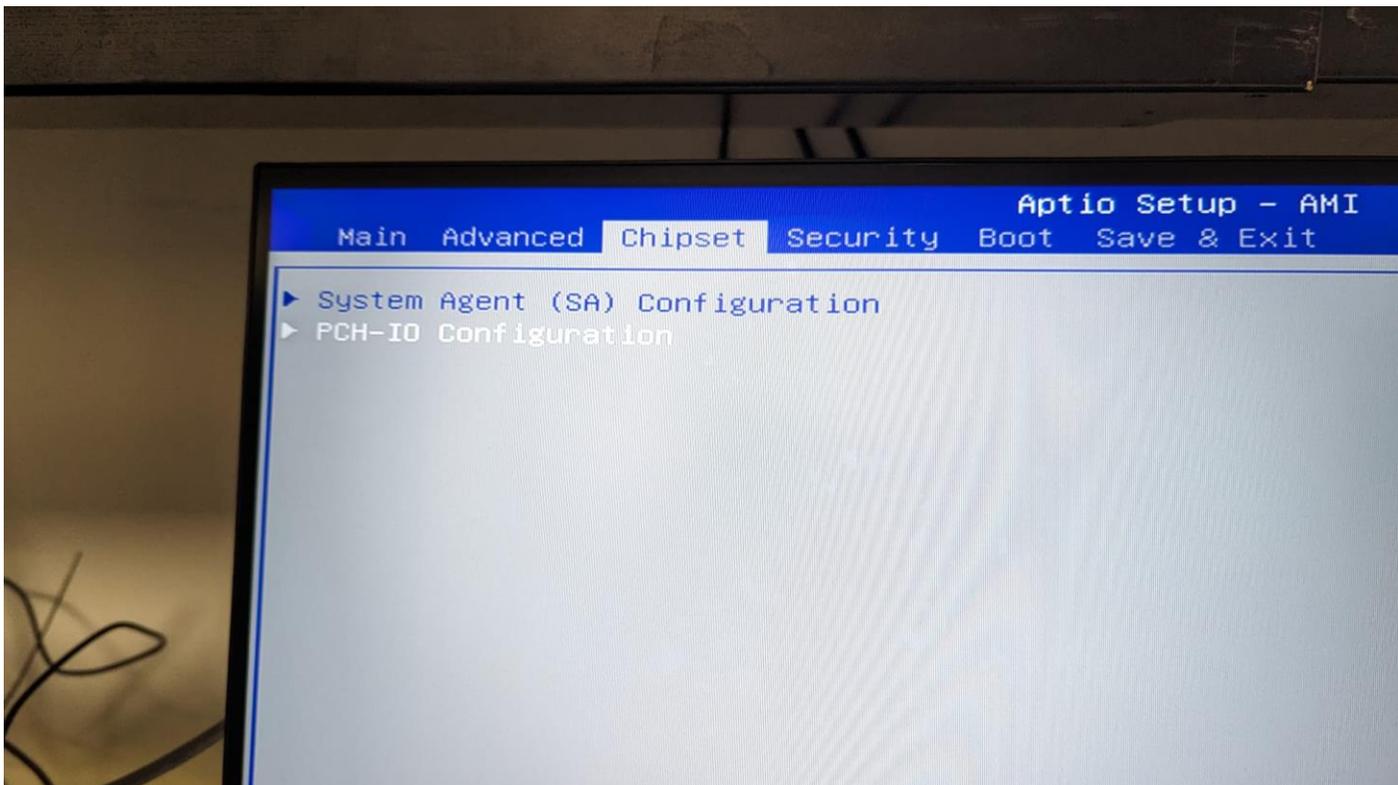
3. Click on "**Com Port Configuration**"
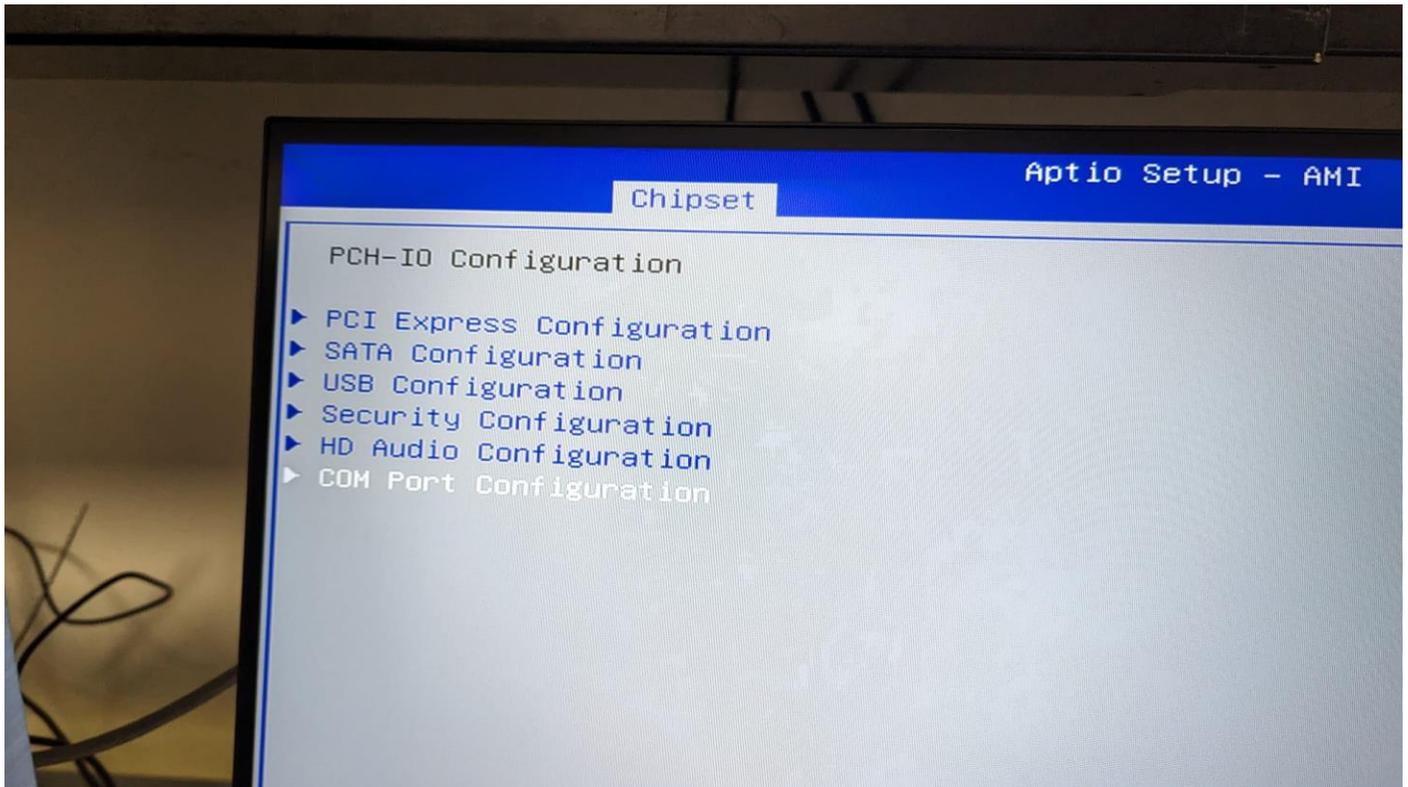
4. Click on the **Interface Type** and choose preferred configiguration

Note: If you wish to connect point to point, (short tx-rx or two devices) you need to set the **Termination** option to **Enabled** (see below)

Using the Serial port (examples in Linux and Windows)

LINUX

1. find all ttyUSB devices:

```
sudo dmesg | grep tty
sudo cat /dev/ttyUSB*
```
2. For transmit data
Note: change X below to the your ttyUSB number

```
sudo minicom -D /dev/ttyUSBX
```
     For configuration serial port
```
sudo minicom -s /dev/ttyUSBX
```
3. Change the user to root: sudo –i
4. Exit from all minicom terminals
5. Change X to your ttyUSB number
6. Configure your Serial port:

RS-232 115200 HW-FLOW-CONTROL-OFF

```
sudo stty -F /dev/ttyUSBX 1:0:1cb2:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-232 9600 HW-FLOW-CONTROL-OFF`

```
sudo stty -F /dev/ttyUSBX 1:0:cbd:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-232 115200 HW-FLOW-CONTROL-ON`

```
sudo stty -F /dev/ttyUSBX 1:0:80001cb2:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-232 9600 HW-FLOW-CONTROL-ON`

```
sudo stty -F /dev/ttyUSBX 1:0:80000cbd:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-485 half - 9600`

```
sudo stty -F /dev/ttyUSBX 1:0:cbd:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-485 half - 115200`

```
sudo stty -F /dev/ttyUSBX 1:0:1cb2:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-485 Full - 9600`

```
sudo stty -F /dev/ttyUSBX 1:0:cbd:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

`RS-485 Full - 115200`

```
sudo stty -F /dev/ttyUSBX 1:0:1cb2:0:3:1c:7f:15:4:5:1:0:11:13:1a:0:12:f:17:16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0
```

7. give priority to the serial port

> **sudo chmod 777 /dev/ttyUSBX**
> **sudo dd if=/your/directory/file of=/dev/ttyUSBX bs=1M status=progress**

Or

> **sudo echo "hello world" > /dev/ttyUSBX**

WINDOWS 10

1. Install all drivers from the C-LAB web: [Windows-10-derivers-Fitlet3](#)
2. Verify the COM port exists in the Device Manager and its number
3. Install [PuTTY](#) application
4. Open the PuTTY application
   a. Press on Serial
   b. Change the Bitrate speed to preferred (9600, 115200, etc.)
   c. Change the COM port to one you found in the Device Manager
   d. Click on "Open" button
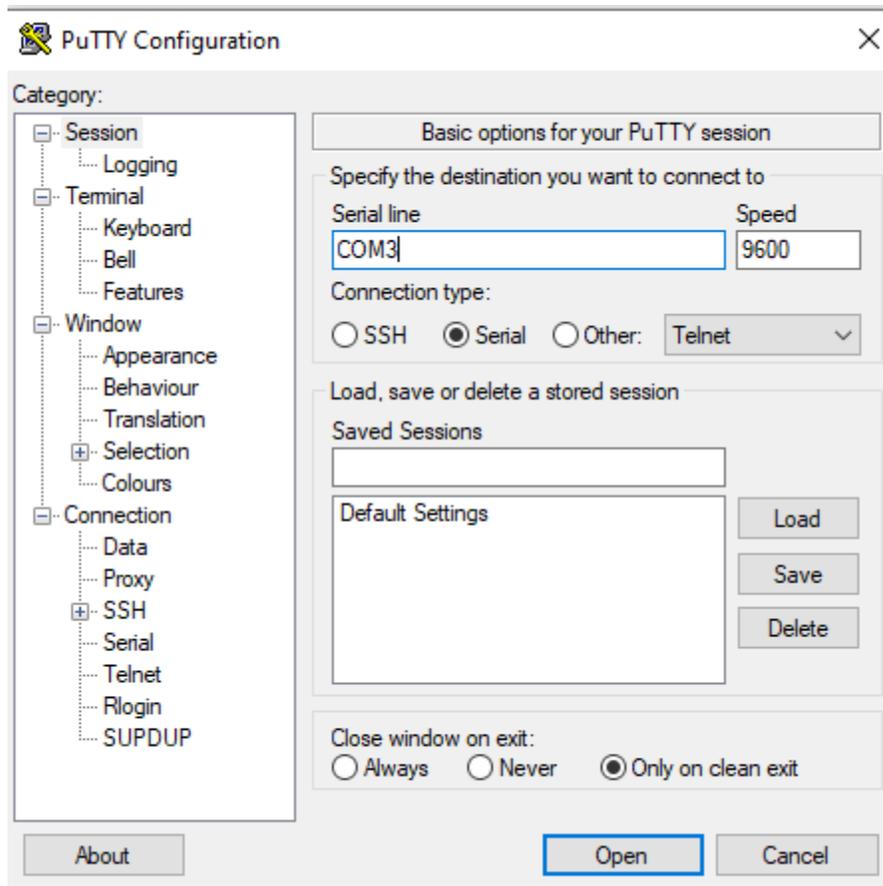
e. You should see the following:
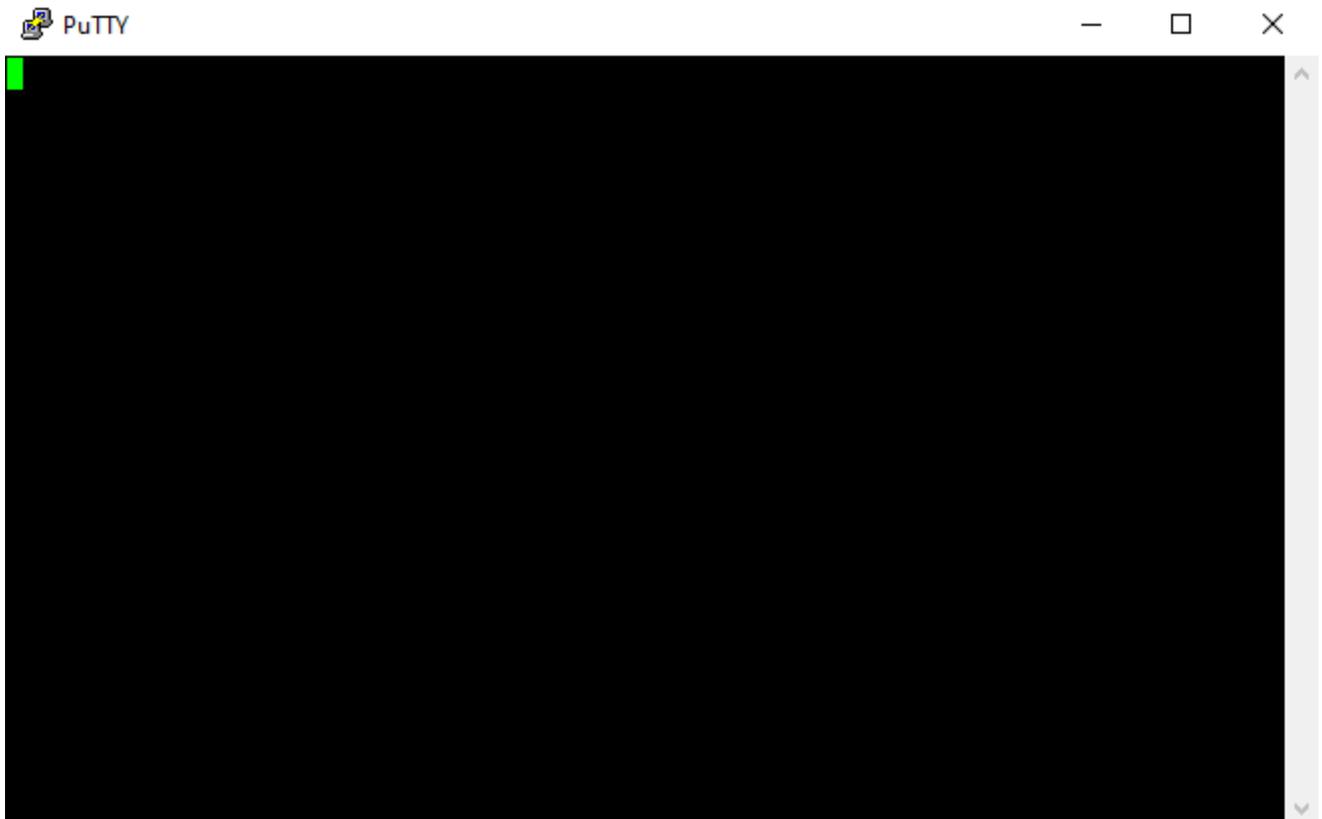
Further information

https://fit-iot.com/web/
www.fit-pc.com/wiki

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