PX4FLOW – Smart Camera

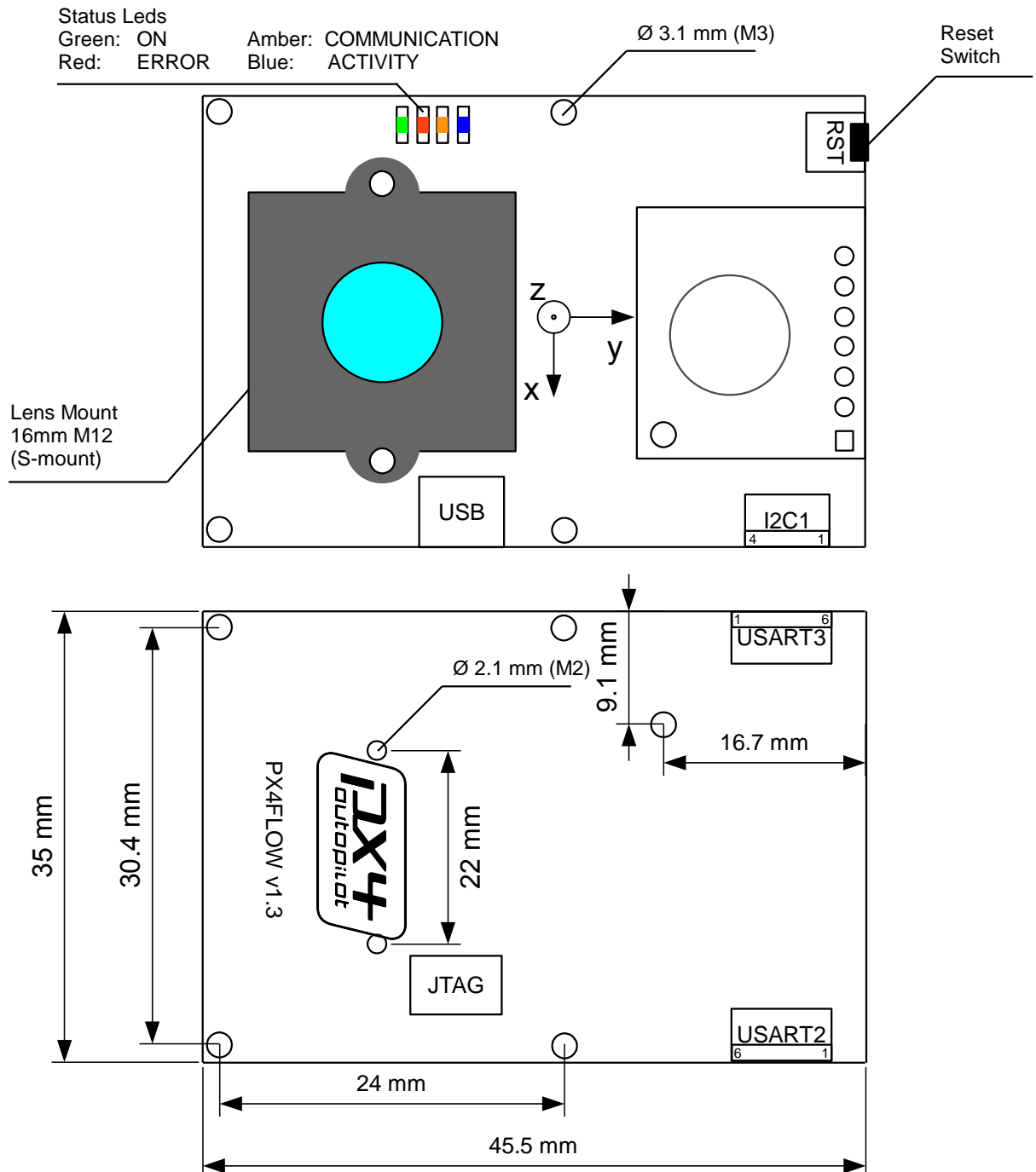## QUICK START – HARDWARE VERSION 1.3

Description

PX4Flow is an optical flow smart camera. It has a native resolution of 752x480 pixels and calculates optical flow on a 4x binned and cropped area at 250 Hz (bright, outdoors), giving it a very high light sensitivy.

Unlike many mouse sensors, it also works indoors and in low outdoor light conditions without the need for an illumination LED at 120 Hz (dark, indoors). It can be freely reprogrammed to do any other basic, efficient low-level computer vision task.
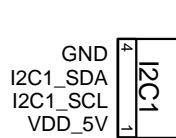
http://pixhawk.ethz.ch/px4/

Features

- 168 MHz Cortex M4F CPU (128 + 64 KB RAM)
- 752x480 MT9V034 image sensor
- L3GD20 3D Gyro
- 16mm M12 lens (IR block filter)
- Size 45.5 mm X 35 mm
- Power consumption 115mA / 5V

Connectors and Dimensions

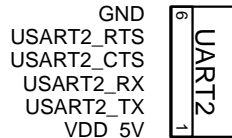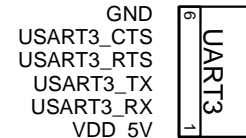## Pinout and absolute maximum Ratings

- Input: 4.3-6 V (VDD_5V),
  115mA onboard use,
  max. 800 mA for peripherial load

- Output: 3.3 V (VDD_3V3), 500 mA

I2C1 (4 ... 1)
```
GND      4
I2C1_SDA
I2C1_SCL
VDD_5V   1
```
Mates 4 pos Hirose DF13 housings
Part # DF13-4S-1.25C
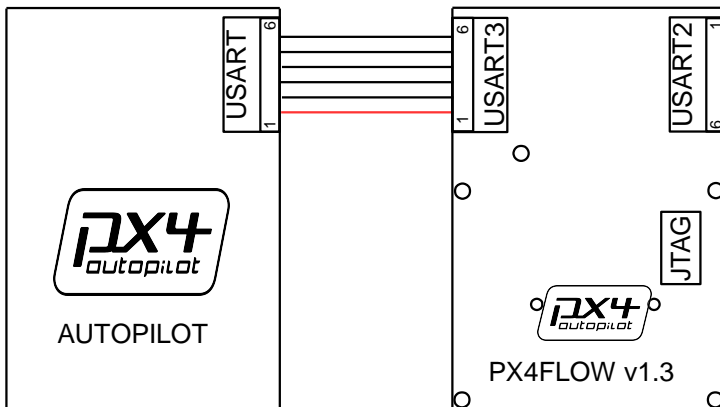*Crimp terminals*
Part # DF13-2630SCF (for AWG 26-30 wire)

UART2 (6 ... 1)
```
GND          6
USART2_RTS
USART2_CTS
USART2_RX
USART2_TX
VDD_5V       1
```
Mates 6 pos Hirose DF13 housings
Part # DF13-6S-1.25C
Crimp terminals
Part # DF13-2630SCF (for AWG 26-30 wire)

UART3 (6 ... 1)
```
GND          6
USART3_CTS
USART3_RTS
USART3_TX
USART3_RX
VDD_5V       1
```
Mates 6 pos Hirose DF13 housings
Part # DF13-6S-1.25C
Crimp terminals
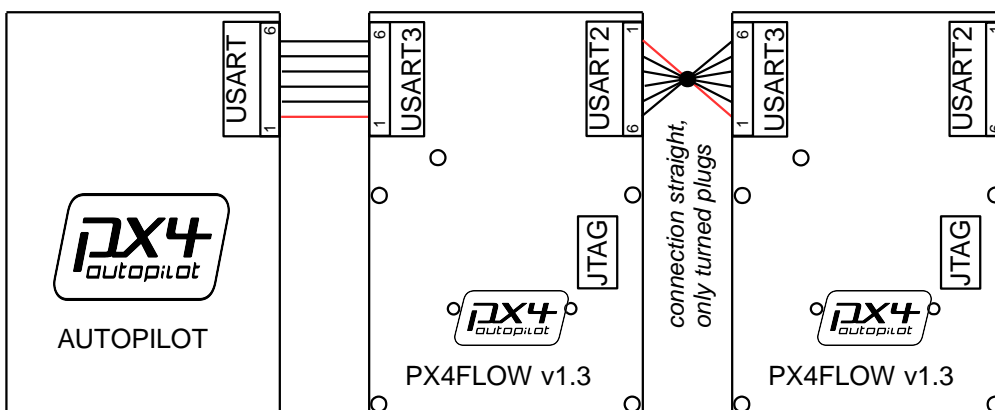*Part # DF13-2630SCF (for AWG 26-30 wire)*

Assembly Instructions

- **Slave Configuration**

- PX4FLOW acts as a slave and is connected to a host device e.g. autopilot board using the USART3 port.

- **Daisy Chain Configuration**

PX4FLOW modules can be connected in series to attach several modules on a single USART port of a host device

Open Hardware License

PX4FLOW open hardware design, following the OSHW 1.1 definition licensed under the Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0) license.