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## DragonOSD+ FY-30 (AHI) connections

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**Author**

**Message**

**virgis21**

**Post subject:** DragonOSD+ FY-30 (AHI) connections

**Posted:** Fri 04 Nov 04 2011 5:09 am

[offline](#)

For those who has FY-30 as stabilizer and would like to use it as AHI (IMU) for DOSD+

**Joined:** Thu 18 Mar 18 2010  
3:31 pm  
**Posts:** 8

should follow this:

You just need Arduino mini board (or similar with Atmega 328P and should be 3.3v level).

Here I will use ArduIMU (as just converter).

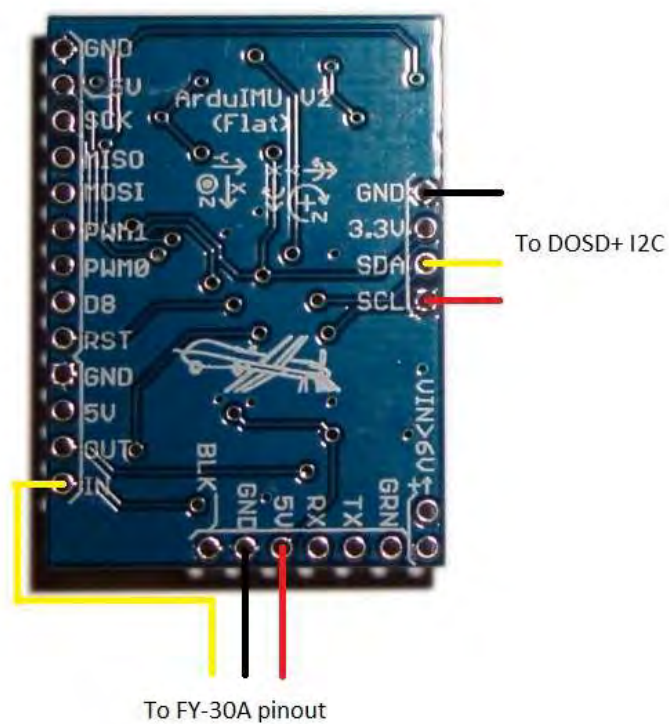
Step by step how to upload firmware (attached file under this post, don't use any firmwares from the link) to ArduIMU here:  
[viewtopic.php?f=7&t=76](http://viewtopic.php?f=7&t=76)

Here is the pinout for FY-30 (AHI output):





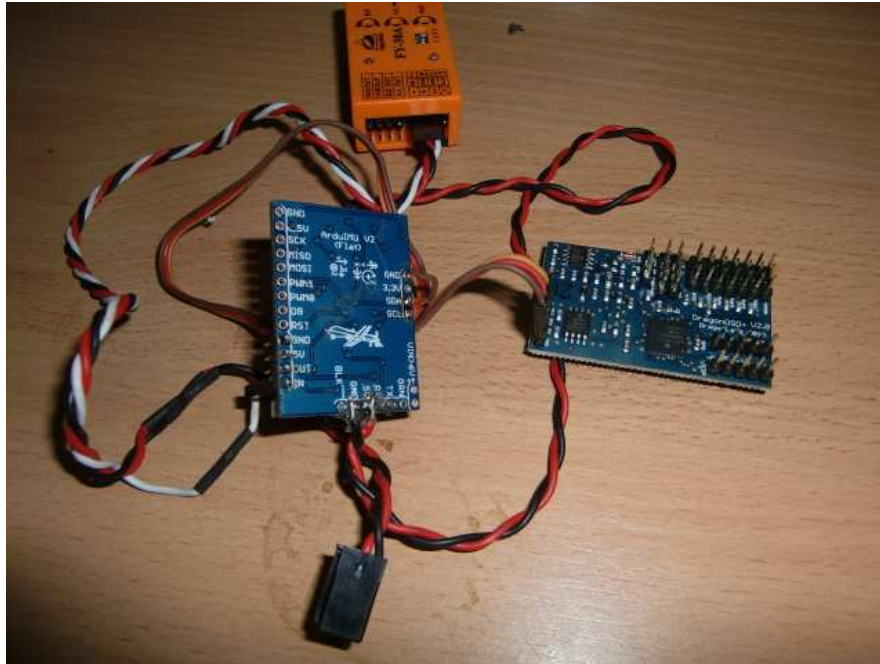
Pinout for ArduIMU (My test with it):



Keep in mind about colors here (red is +5v, black - GND, Yellow is rx), make sure you connect correctly to FY-30. Wrong connection will damage FY-30A.

Pinout to DOSD+ is very simple, as GND goes to GND, SCL to SCL, SDA to SDA (just 3 wires).

For powering ArduIMU, I use 5v (from BEC) to ArduIMU 5v and GND same pins powers FY-30:



Thanks to Webe (gytiswb) for the firmware. More updates here:  
<http://www.rcdreams.lt/projects/fy30a-ahi-sensor>

Good luck

Virgis

#### Attachments:

**File comment:** Extract into main Arduino directory as new project (3 files)

[ArduFY30.rar](#) [2.62 KiB]  
 Downloaded 34 times

Last edited by [virgis21](#) on Sat 12 Nov 12 2011 8:14 am, edited 1 time in total.

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**virgis21**

**Post subject:** Re: DragonOSD+ FY-30 (AHI) connections

**Posted:** Fri 04 Nov 04 2011 5:45 am

[offline](#)

**Joined:** Thu 18 Mar 18 2010  
 3:31 pm  
**Posts:** 8

For 10Hz refresh rate from FY-30A, must flash new firmware into FY-30A.  
 Instructions here:

Download attached FY-30A firmware (in the bottom of this post).

Read firmware update manual:

<http://shop.fyetechnology.com/dl/firmwarefy30a.pdf>

Firmware update program here:

<http://shop.fyetechnology.com/dl/fy30afirmware1.exe>

Enjoy AHI 😊

Virgis

#### Attachments:

**File comment:** FY-30A 1.14 firmware with faster AHI output (10Hz)

[FY-30A V1.14 固件说明.rar](#) [40.43 KiB]  
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**virgis21**

**Post subject:** Re: DragonOSD+ FY-30 (AHI) connections

**Posted:** Fri 04 Nov 04 2011 5:28 pm

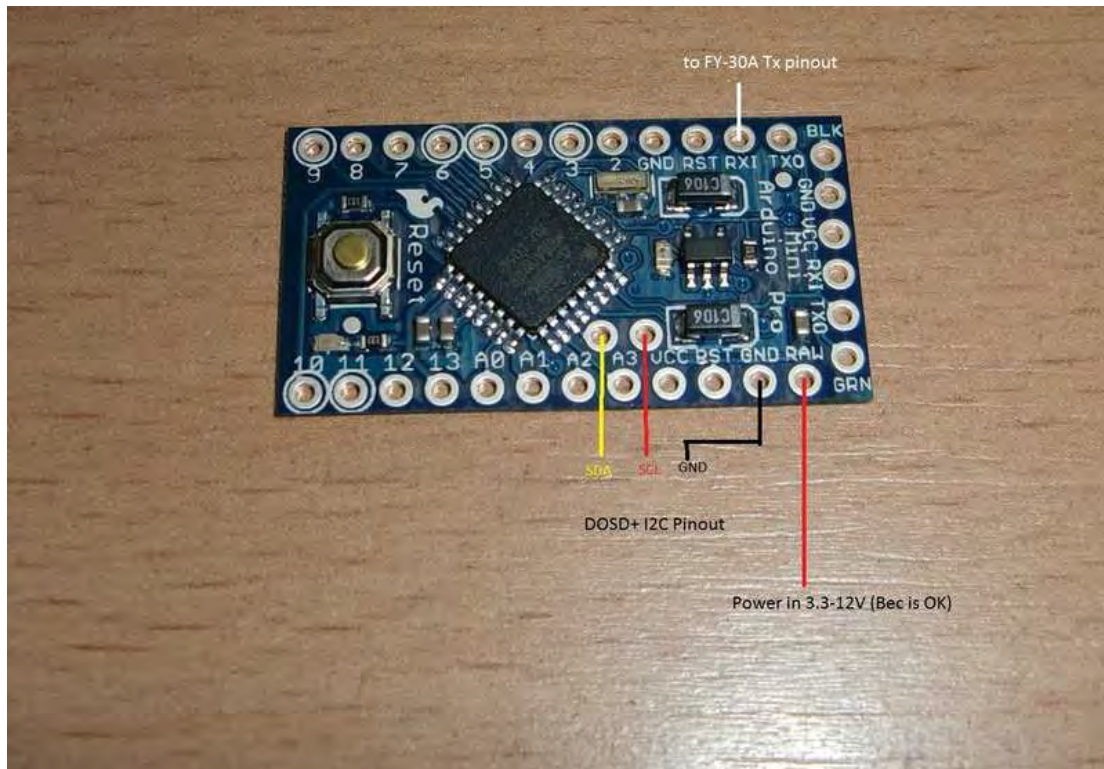
[offline](#)

**Joined:** Thu 18 Mar 18 2010  
 3:31 pm  
**Posts:** 8

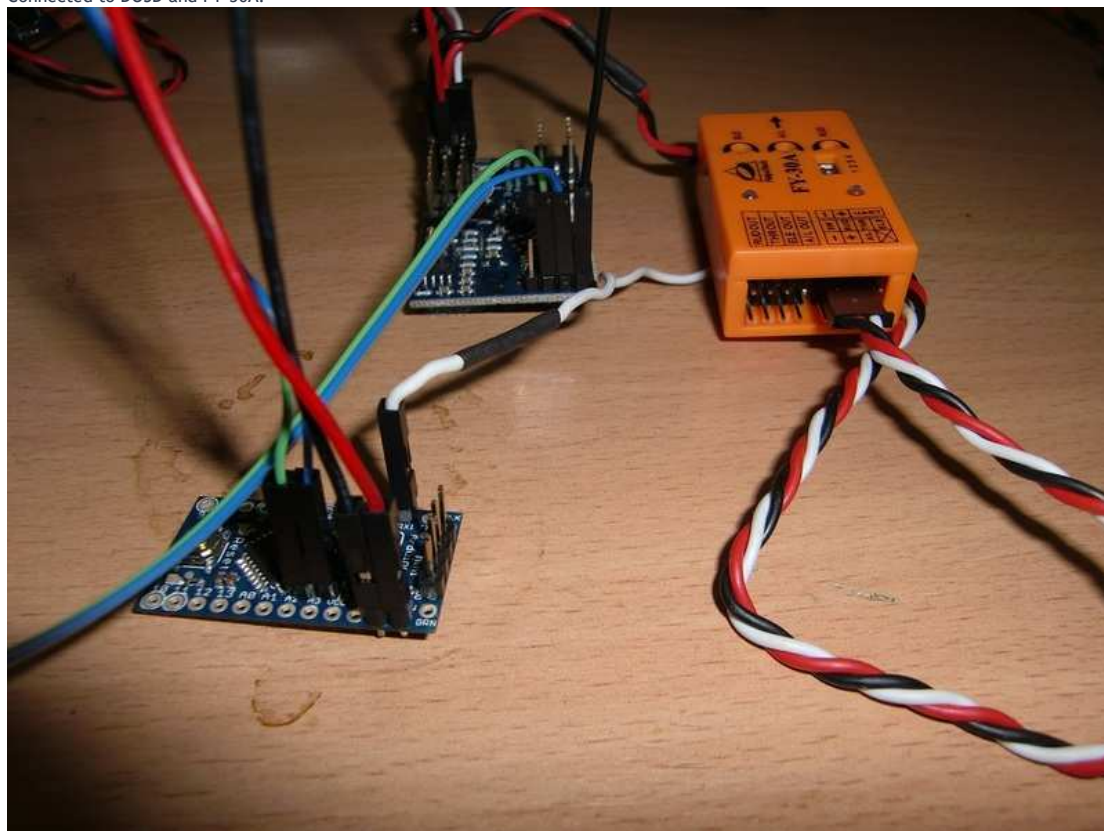
Here is the connection using Arduino Mini Pro 3.3v (make sure you get 3.3v for this task, 5v isn't suitable).

Firmware for Arduino Mini Pro will be posted latter. Since it is 8Mhz mcu. Needs higher boudrates (38400 in place of 19200 as it was ArduIMU).

Pinout for Arduino Mini Pro:



Connected to DOSD and FY-30A:



Thanks to Webe again 😊

Virgis

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**virgis21**

**Post subject:** Re: DragonOSD+ FY-30 (AHI) connections

**Posted:** Thu 10 Nov 10 2011 8:43 pm


[offline](#)

Here the firmware for Arduino Mini Pro (only for 3.3v version, 8Mhz)  
Firmware is the same as for ArduLMU, but has boudrate 38400 in place of 19200, because Arduino Mini works in 8Mhz frequency..

**Joined:** Thu 18 Mar 18 2010  
3:31 pm  
**Posts:** 8

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**Attachments:**

 ardufy30.rar [3.03 KiB]  
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 profile**virgis21****Post subject:** Re: DragonOSD+ FY-30 (AHI) connections**Posted:** Mon 12 Dec 12 2011 11:48 pm offline

Is either better ArduIMU or FY-30A?

**Joined:** Thu 18 Mar 18 2010  
3:31 pm  
**Posts:** 8

The main differences are:

ArduIMU gives faster AHI draw (faster data flow, very faster 😊)

ArduIMU doesn't need any extra devices to connect it.

ArduIMU isn't available as v2, v3 is out, but is there a suitable firmware?

ArduIMU DRIFTS VERY BADLY!

FY-30:

almost no drift.

need extra arduino or other atmel to make UART - &gt; I2C convert.

lower refresh rates - 10Hz.

FY-30 sample:

<http://vimeo.com/31207276>

ArduIMU sample (this was the best setup and minimum drift I got 😊):

<http://vimeo.com/13187590>

Those samples could give some ideas 😊

Virgis

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 profile**virgis21****Post subject:** Re: DragonOSD+ FY-30 (AHI) connections**Posted:** Mon 23 Jan 23 2012 9:51 pm offline

Another setup with Arduino Mini pro 3.3v and FY-30A

**Joined:** Thu 18 Mar 18 2010  
3:31 pm  
**Posts:** 8



Virgis

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