JTool-IO


USB
IO
www.jo
USB
IO
www.jooie.com
104
103
102
101
GND
VCC
54mm
19mm

JTool-IO

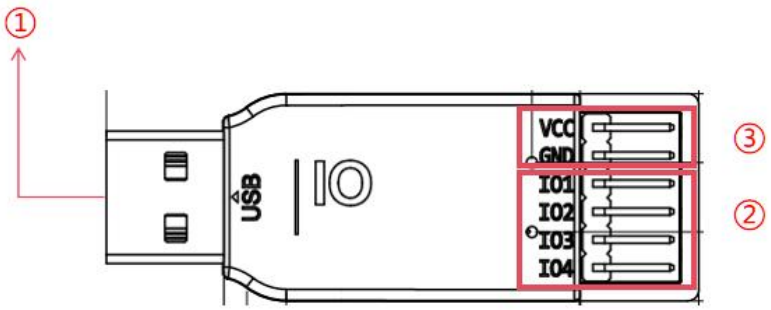
AN USB Tools directly driving GPIO, PWM, ADC with Windows Computer

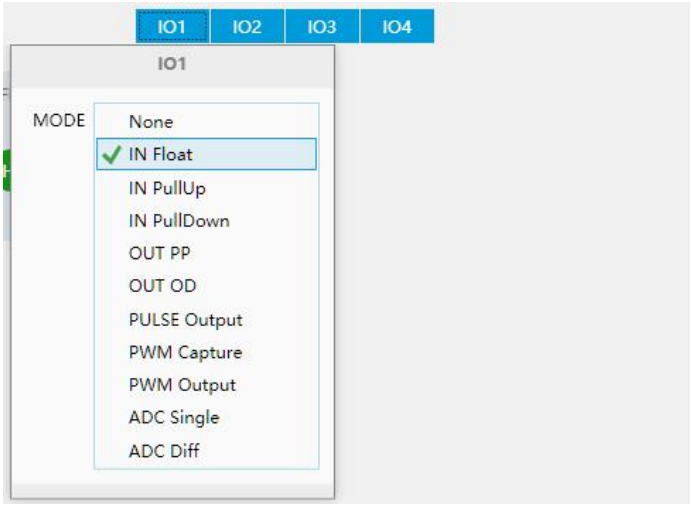
1 Description

Pibiger JTool-IO Module is a powerful USB to GPIO, PWM, ADC Mini Debug Tools,Works with excellent windows software JIO, allows for independent configuration of multiple channels,which is easily for develop and debug.

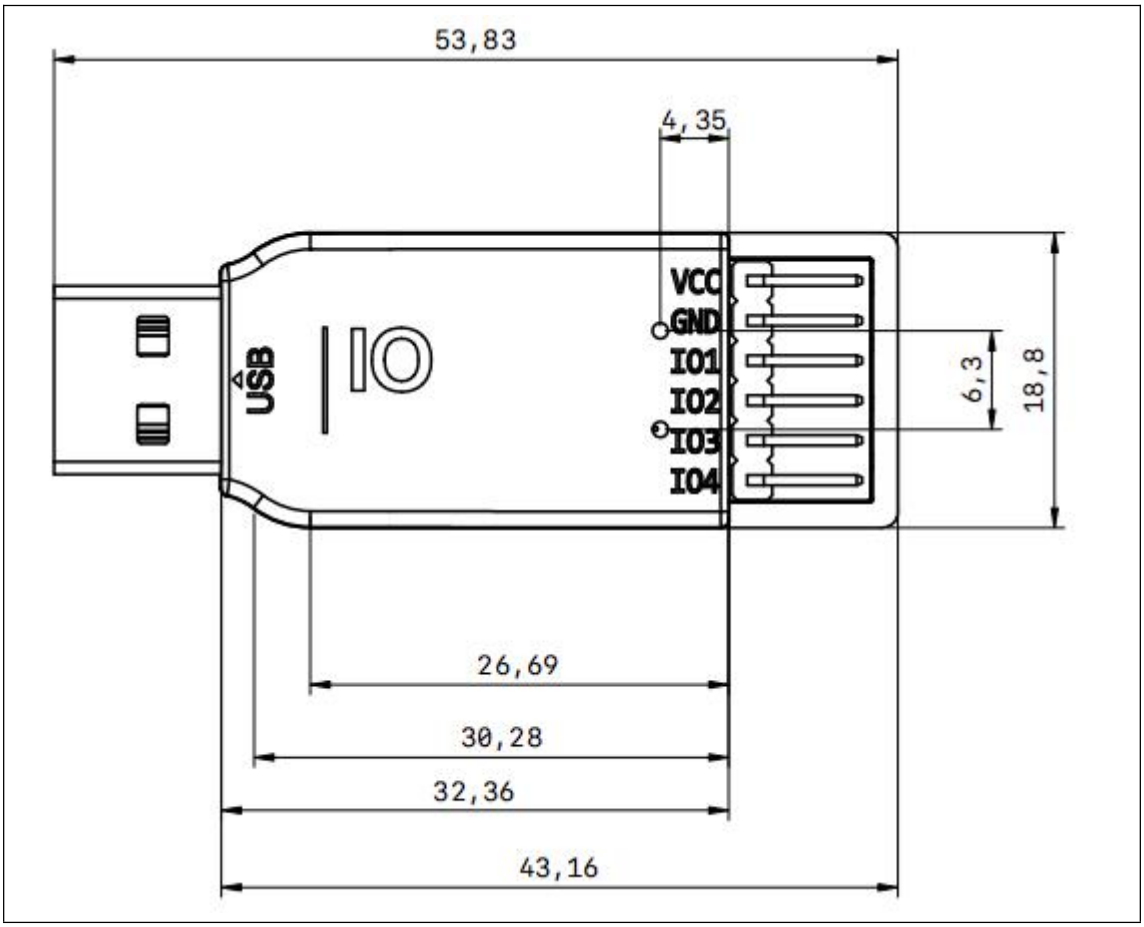
JIO is a tool for directly driving GPIO, PWM, ADC, and differential ADC signals from a host computer. It works with the JTool-IO module and allows for independent configuration of multiple channels.

1.1 Pins Out



①	USB:Type A
③	VCC:Output 3.3V, 5V,Disable GND:GND
②	IO1,IO2,IO3,IO4: 

1.2 Size Information



2 Specification

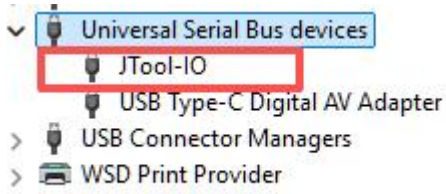
Items	Descriptions
IO	• Inputs support pull-up, pull-down, and floating. • Outputs support push-pull and open-drain. • Supports pulse output from 1Hz to 400kHz, with any number of pulses.
PWM Output	• Drag the slider to adjust duty cycle and frequency. • High precision, 0.1% • Maximum frequency of 170kHz. • With on/off switch.
PWM Capture	• High-precision PWM duty cycle and frequency capture. • Supports real-time curve display. • Supports pulse count capture. • Capture function supported on channel 1 only.
ADC/Differential ADC	• 12-bit high-precision ADC sampling. • 4-channel independent single-ended sampling or pairwise differential sampling. • Supports real-time curve generation. • Supports raw data input into formula calculations. • Supports sample rate modification, up to 10kHz.
USB	• Type A
Pins Header	• 6Pin,2.54mm
Os Support	• Windows 8 or Above • Windows 7

3 Drivers

JIO supports Windows 7 and above.

3.1 Windows 8 Or above

No host computer installation or USB driver installation required. Simply download the .exe file and the module will be automatically recognized when inserted.



3.2 Win7

1.Requires installation of the Dot .NET Framework 4.8 **Go to download page**
2.Manually install the JIO WinUSB driver **Download**
3.Note: Windows 7 is no longer officially supported. Some versions of Windows 7 may experience incompatibility issues. Please use a later version of Windows

4 Software Manual

4.1 Inserting a Device

After inserting the JTool-IO module, the host computer will automatically recognize and connect it. If multiple devices are plugged in, click the Switch Device menu to switch to the desired module. The top bar allows you to set the VCC voltage and IO level.

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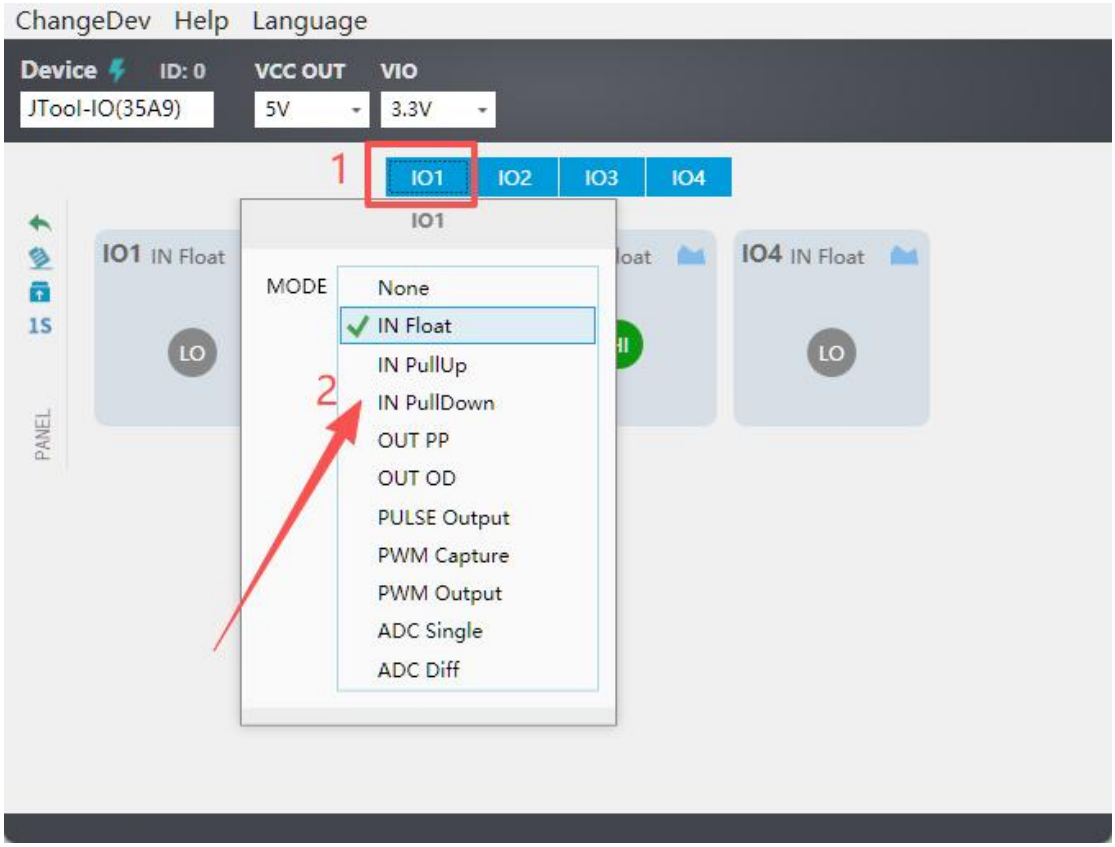
Notice:

The VCC voltage and IO level settings are saved internally on the module and remain unchanged upon re-insertion.

4.2 Switching Pin Modes

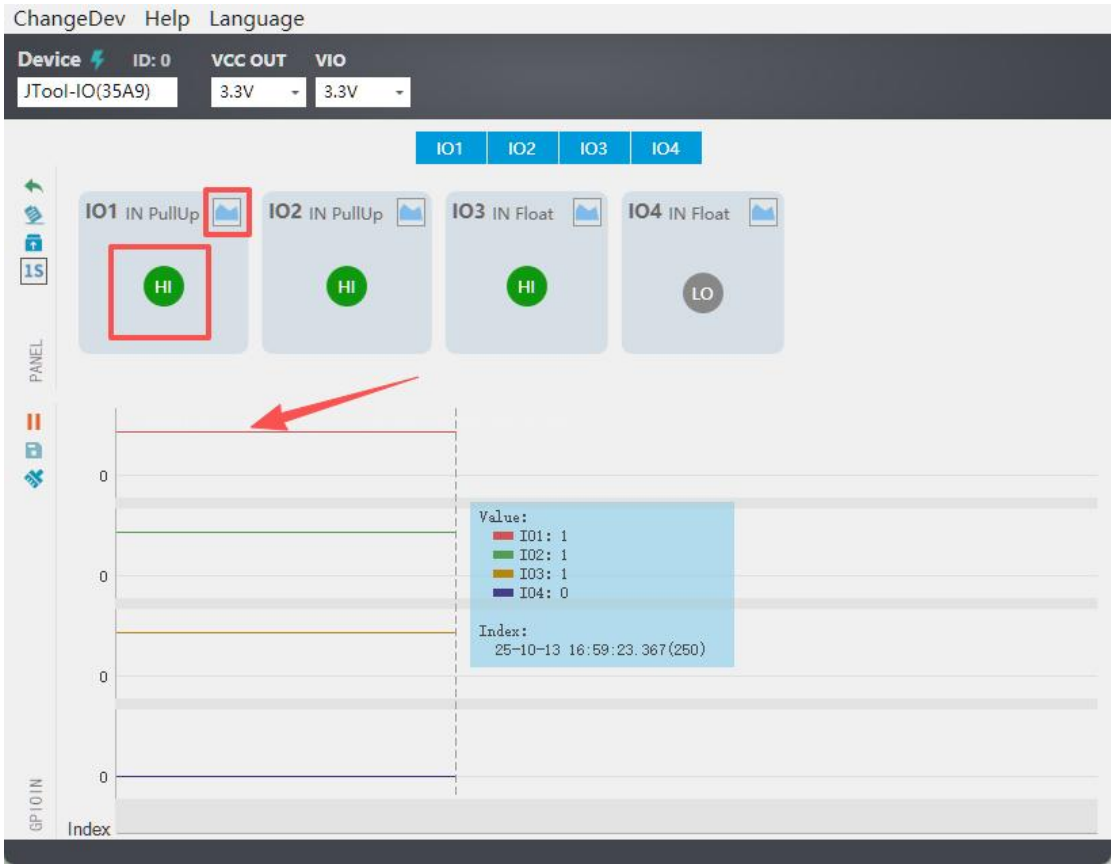
Click the blue button at the top to change the mode of each pin individually.



4.3 GPIO Input

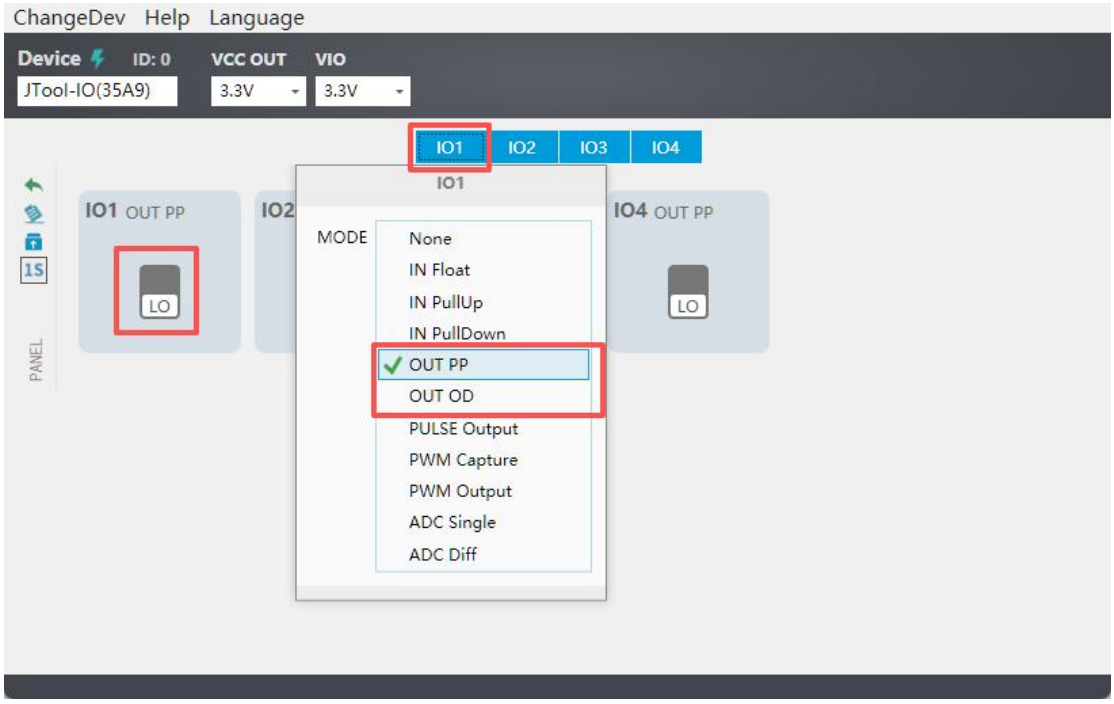
The input can be configured as pull-up, pull-down, or floating. The level value is displayed on the panel as an indicator, updating at a 50Hz frequency.

Click the curve icon in the upper right corner of the card indicator to view the real-time IO curve.

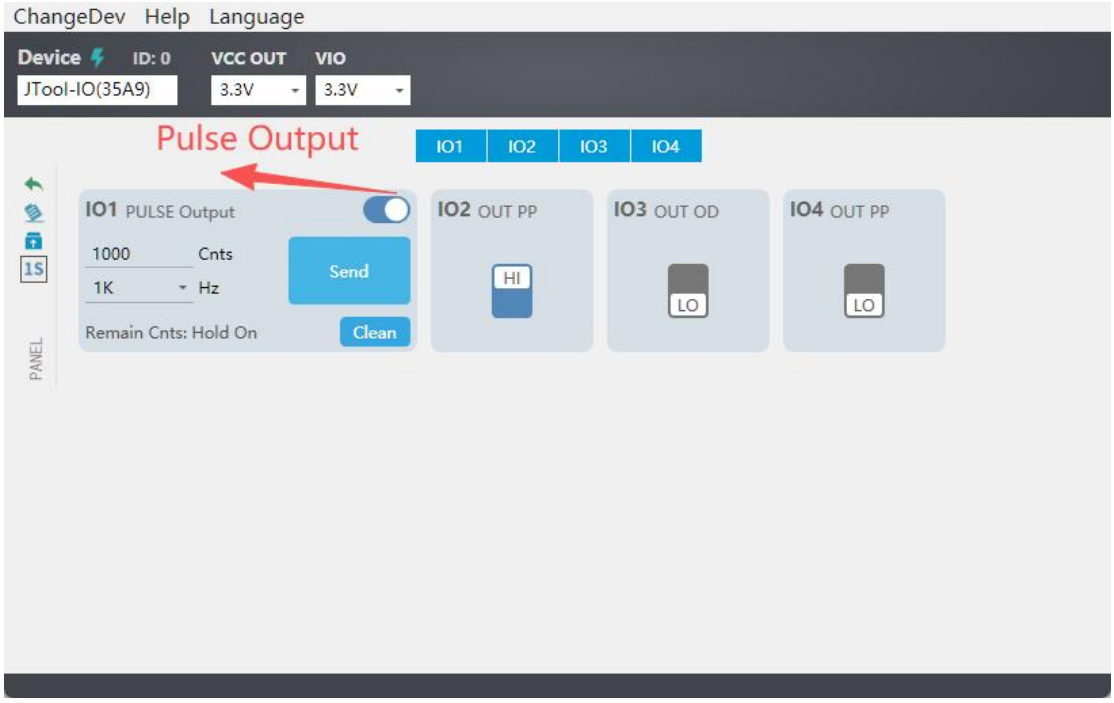


4.4 GPIO Output

The output can be configured as push-pull or open-drain. After setting, click the switch button to toggle the pin level.

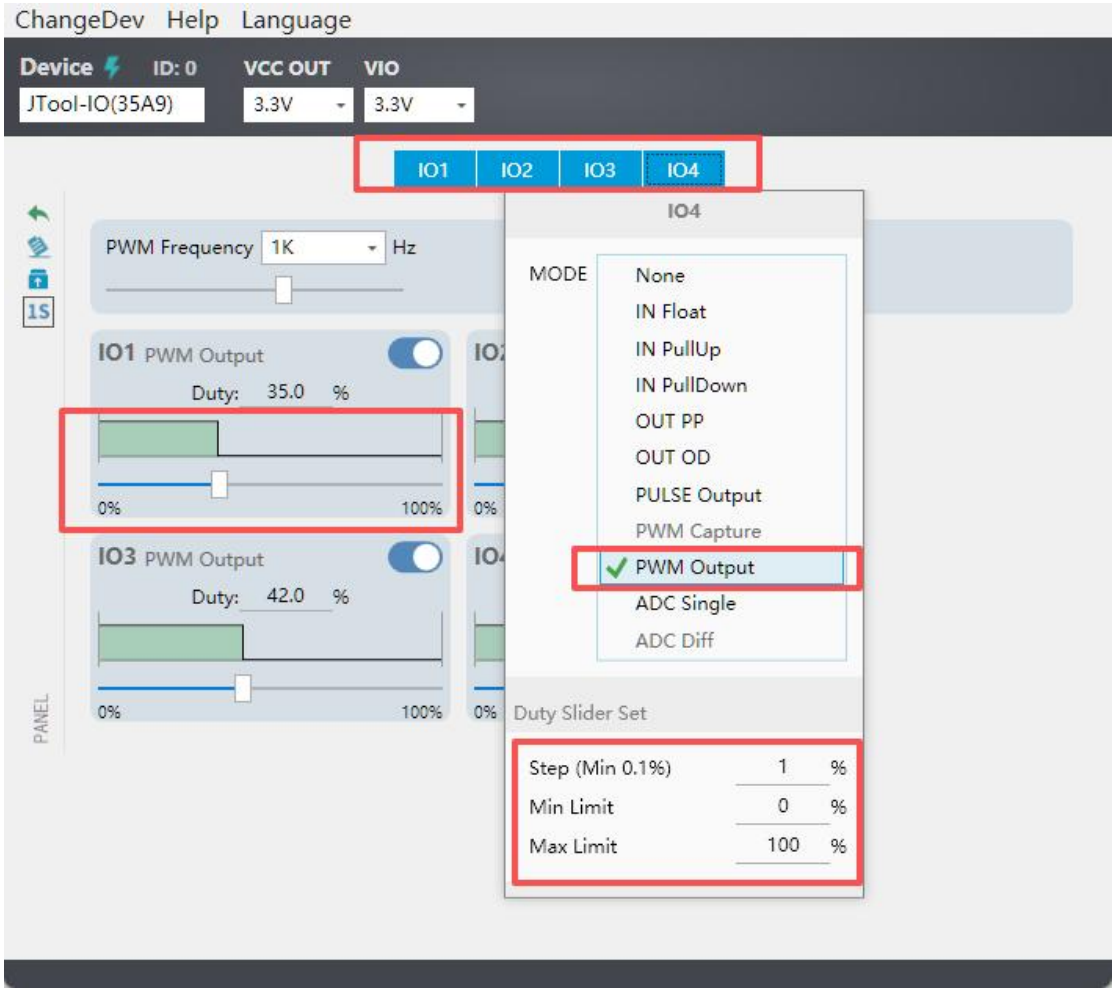


4.5 Pulse Output



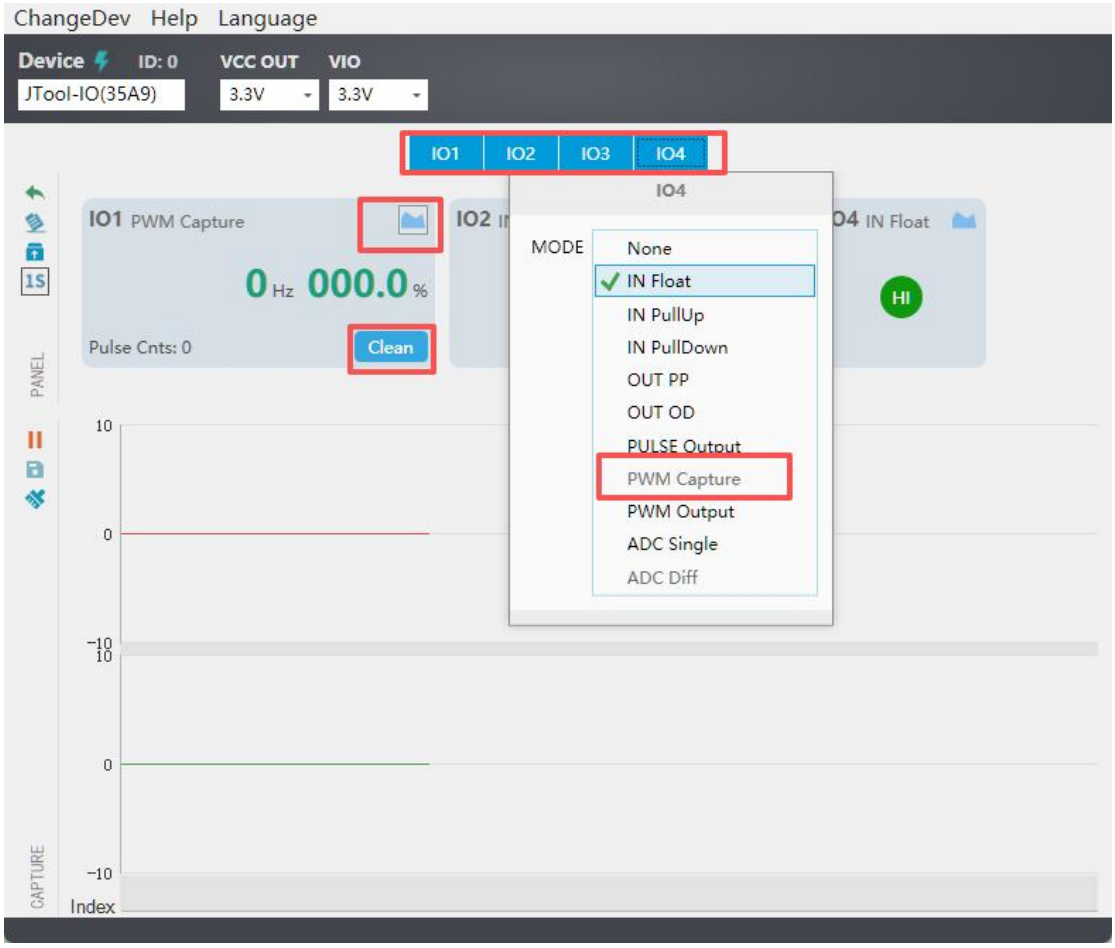
4.6 PWM Output

PWM duty cycle is independently configurable for each of the four channels, with a unified frequency setting (i.e., the frequency applies to all PWM channels). The slider's step accuracy, maximum limit, and minimum limit can be set.



4.7 PWM Capture

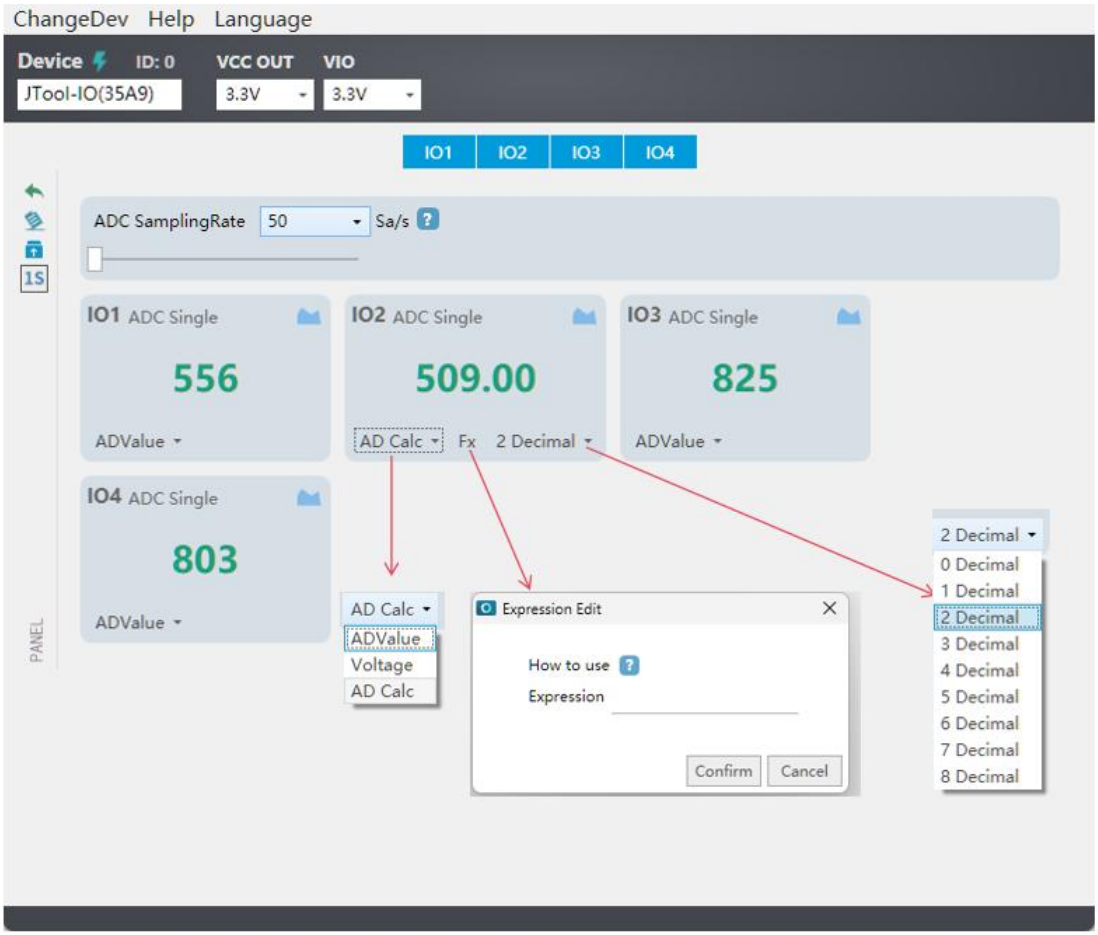
IO1 pin supports PWM capture, which measures PWM frequency, duty cycle, and pulse count. Accurate measurements are within 400kHz. Click the curve icon in the upper right corner to generate a real-time measurement curve.



4.8 ADC and Differential ADC

ADC resolution is 12 bits, the reference voltage is 3.3V, and the sampling rate can be set by dragging the slider, up to 10kHz. The display mode can be switched between raw ADC value, voltage value, and raw ADC value + formula calculation. Click the curve icon in the upper right corner to generate a real-time measurement curve.

- If using a differential ADC, the next IO port will be occupied.
- For single-ended sampling, 0-4095 corresponds to a voltage of 0-3.3V.
- During differential sampling, 0 to 4095 corresponds to a voltage of -3.3V to 3.3V.



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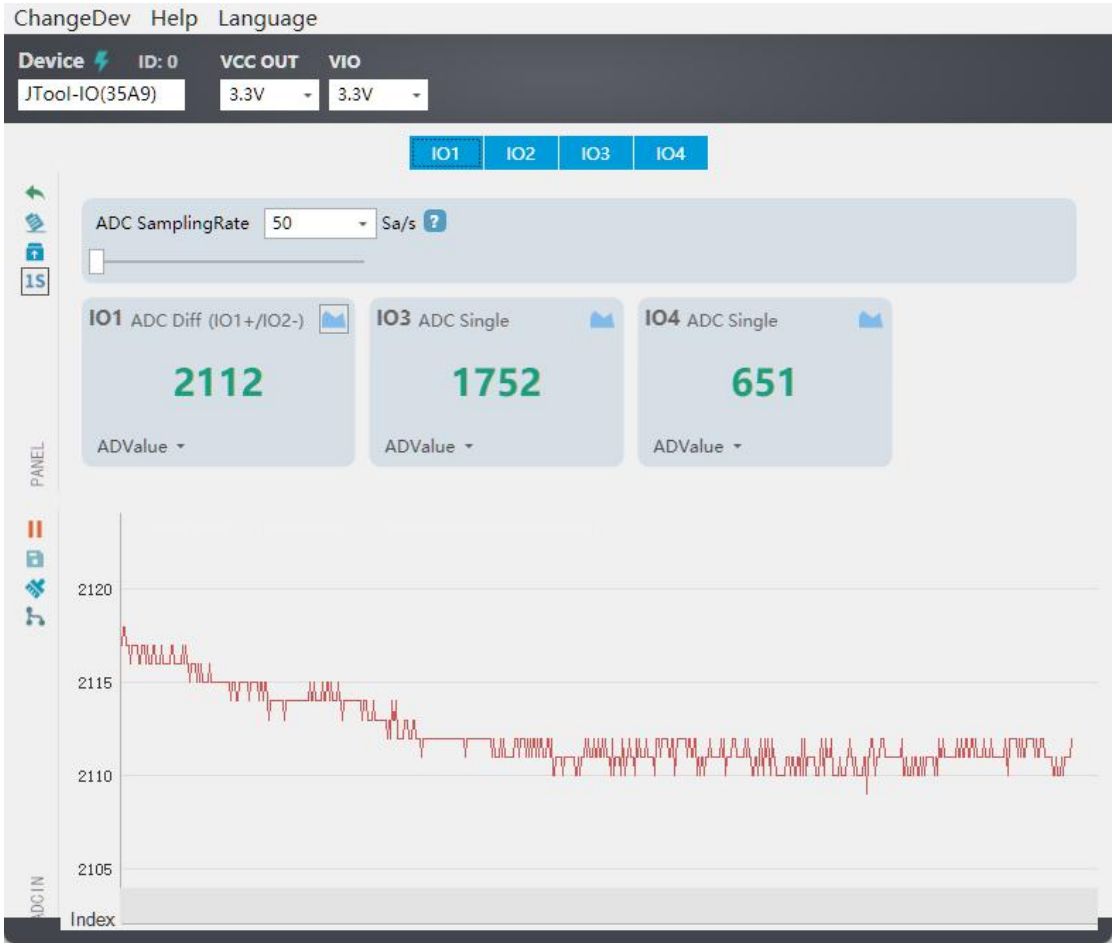
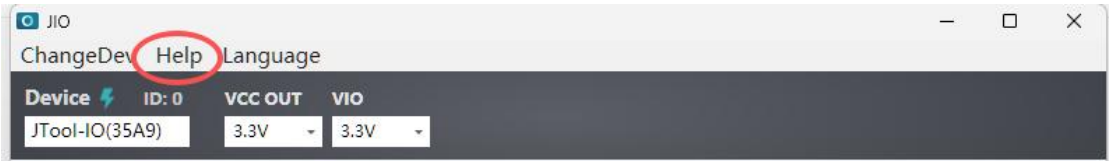


5 Firmware Upgrade

The JTool-IO module supports firmware upgrades. After uploading the latest firmware to the server, you will be prompted to download and upgrade. Click Help->About, download the latest firmware, and then click the Upgrade button. The module will simulate a USB flash drive. Drag the downloaded firmware bin file into the USB flash drive to complete the Upgrade



HELP-ABOUT

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