Datasheet for JWSmythe USB-TTL Converter CP2102N v1.0

v1.0
rev: 20231019

Introduction

Simple lightweight USB to UART/TTL Converter, with onboard 3.3v regulator for powering sensors.

Usage

PC side:
Insert the USB side into a free USB-A port. You can use a USB extension if you need. The first time you plug in the device, it may be necessary to install drivers. On most recent versions of Windows, the drivers will install automatically. On Linux machines, it should just show up as a serial device.

Device side:
Look at the target device, and determine what voltage is applicable. Our ESP32 based devices use 3.3v. Some other devices may use 5v. It can catastrophically damage a device if you feed 5v into a 3.3v chip!

- Attach the correct voltage pin to the VCC on the device (marked +, 3v3, 3.3v, 5v, VCC, etc)
- Attach the GND pin to the negative power pin (marked GND, -, VDD, etc)
- Attach TX to the TX pin on the device.
- Attach RX to the RX pin on the device.

  If the expected data is now received, you may need to switch the TX and RX connections on ONE SIDE.

Activity lights
There is a RGB LED on the device. You should see RED for TX, GREEN for RX, and yellow if both TX and RX packets are received simultaneously. You may not see any flashing if no data is being sent or received.

Power

5v power is provided directly from the PC side USB port. Due to differences in hardware and load, the USB spec's allowed to range from 4.75v to 5.25v. The current is limited by the host PC.

3.3v power is provided by an onboard voltage regulator. This should be able to provide up to 1A of power, limited by the current provided by the host PC, minus incurred losses.

Important Components

Purpose	Manufacturer	Part

USB to UART	Silicon Labs	CP2102N-A02-GQFN24R
Voltage Regulator	Advanced Monolithic Systems (AMS)	AMS1117-3.3

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