



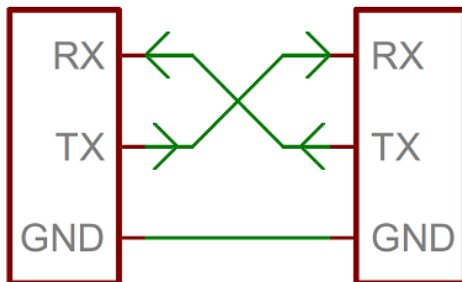
# Digital D-Type (HSL)

## FAQ GUIDE

## FAQ:

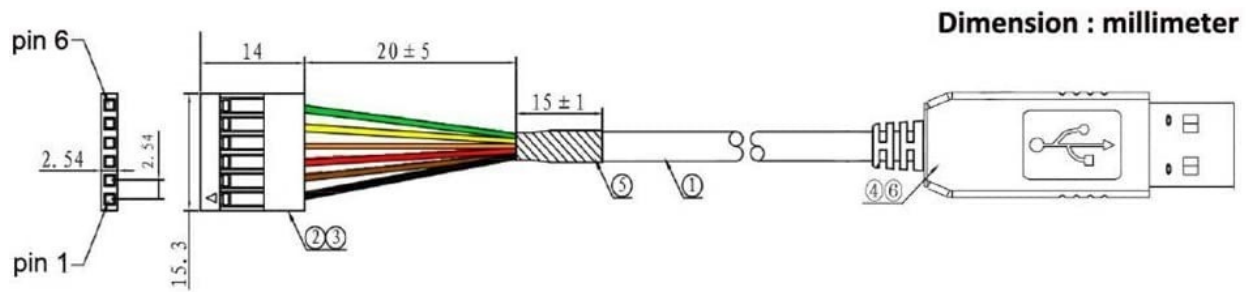
- The digital D-Type does not have any USB connection.
- The 8 pin connector contains a UART interface (RX, TX, Gnd)
  - The older generation only has 6 pins, no digital interface.
- The UART interface works with 3.3v, not 5
- Connecting anything else (USB, RS-232) may damage the logic board.
- A UART to USB cable or PCB can be purchased for \$5-15
- FT232RL is a common UART interface component (chip) found in most UART adapters. This is what we have been using in-house. The customer can choose to design a custom interface using this chip.
- The Digital D-Type uses an 8 pin connector which is positioned upside-down with Pin 1 on the right side and pin 8 on the left.
- Pin 1 is indicated on our supplied cable with the first pin on the cable being red (right side).
- The Digital D-Type looks for a digital communication during startup. This means to connect digitally; the order of operations is as follows: (1) Connect 3.3v UART interface between device and PC. (2) Supply power to the device. Doing this in reverse might result in no communication until power is cycled to device. This might be resolved in a firmware update in the future.

Connection between UART adapter and Laser is as follows:



The D-Type-HD module uses the HSLY board (Gener8 call out for PCB). The pin out is as followed:

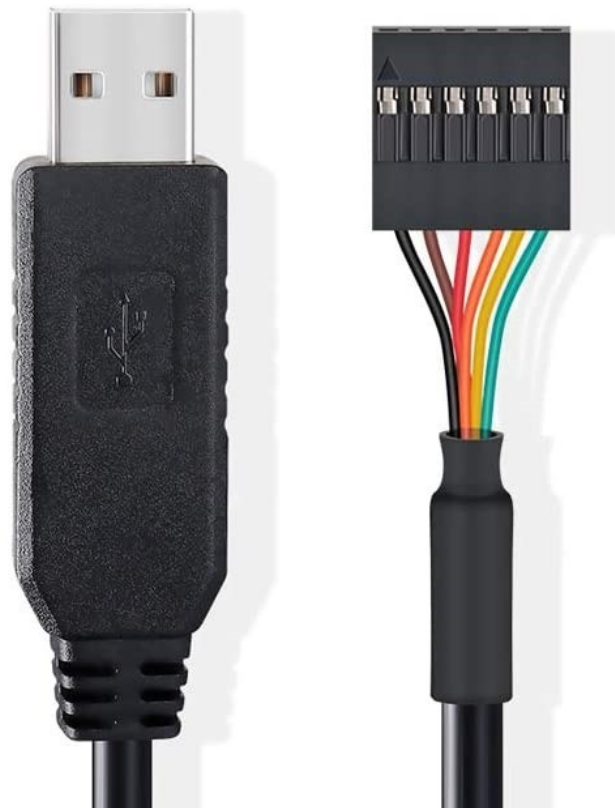
Pin #	Symbol	Wire Color	Description	Notes
1	VCC	Red	Supply Voltage	5 V DC, 1 Amp
2	GND Return	Gray	Ground Return	Need to connect to Signal Ground
3	PD	Gray	Linear Tracking PhotoDiode	Optional - Not Installed by Default
4	LD Set	Gray	Laser Power Control	0.0 V DC - 0.2 V DC - Disabled by default
5	LD Enable	Gray	Laser Enable	5 V TTL, See Note 1 Below
6	Tx	Gray	Transmit	Digital I/O
7	Rx	Gray	Receive	Digital I/O
8	Sig GND	Gray	Signal Ground	Tie to GND Return (Pin 2)



Dimension : millimeter

- ① PVC Jacket
- ② 2.54mm 1\*6p female terminal, single row
- ③ 2.54mm pitch socket
- ④ USB A male, FT232RL TTL 3.3vPCBA inside
- ⑤ Heat shrink tube, black, OD=5.0
- ⑥ ABS Housing

1*6P Female Socket	Name	Colour	Description
Pin 1	GND	Black	Device ground supply
Pin 2	CTS	Brown	Clear to Send Control/Handshake signal
Pin 3	VCC	Red	+5V
Pin 4	TXD	Orange	Transmit Asynchronous Data
Pin 5	RXD	Yellow	Receive Asynchronous Data
Pin 6	RTS	Green	Request To Send Control/Handshake signal



To connect this cable ([https://www.amazon.com/Converter-Terminated-Galileo-BeagleBone-Minnowboard/dp/B06ZYPLFNB/ref=sr\\_1\\_11?dchild=1&keywords=uart+to+usb&qid=1600355595&s=electronics&sr=1-11](https://www.amazon.com/Converter-Terminated-Galileo-BeagleBone-Minnowboard/dp/B06ZYPLFNB/ref=sr_1_11?dchild=1&keywords=uart+to+usb&qid=1600355595&s=electronics&sr=1-11)):

**Cable pin 1 to Laser pin 8**

**Cable pin 4 to Laser pin 7**

**Cable pin 5 to Laser pin 6**