µArt USB to UART Adapter Datasheet

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KEY FEATURES

- Wide voltage range
- Handshaking pins
- Custom baudrates
- Protected interfaces
- Galvanic isolation
- Integrated pull-ups
- High-speed UART
- USB GPIO
- LED comm. and GPIO feedback

KEY BENEFITS

- For all electronics 1.8 – 5.4 V
- Fast comm. speeds
- Allows fully automatic FW flashing
- Low-noise
- Isolates and protects connected equipment

Product Overview

The µArt is a USB to UART adapter for all electronics operating at 1.8 – 5.4 volts. UART pins RTS, CTS, DTR enable reliable high-speed data exchange up to 3Mbaud and allow fully automatic firmware flashing of connected electronics. Galvanic isolation not only efficiently prevents faults from propagating between devices, but coupled with the included power and signal filters, allows low-noise operation for use with sensitive applications. Built-in ESD, overcurrent and reverse-polarity protections extend device lifetime and avoid damage to self or other equipment in case of common user errors. Integrated pull-ups help prevent floating signals.

The µArt also incorporates two GPIO pins – 1 input and 1 output – that are not part of the UART interface and can be read/written by the USB host as desired in parallel to the UART communication. The input pin's state is visible via an on-board LED even without host support.

Driver support is provided for Windows, Linux, and MacOS.

UART Features

- RXD, TXD, CTS, RTS and DTR pins
- Baudrate range: 300 – 3M baud
- Support for standard and non-standard baudrates
- Handshake support: None, hardware, Xon/Xoff
- Data bits support: 5, 6, 7, and 8
- Stop bits support: 1, 1.5, and 2
- Parity support: odd, even, mark, space, no parity
- Transmit/receive buffers: 512 bytes
- Virtual COM port drivers provided

More information, drivers, and resources can be found at: uart-adapter.com

IO HEADER PINOUT

1. VIN	2. GND	Power
3. RXD	4. TXD	Data
5. NC	6. DTR	DTR
7. CTS	8. RTS	Handshake
9. GPI	10. GPO	GPIO

Inputs | Outputs

LED INFORMATION

PWR — On if USB, VIN and GND are connected

RX — Blinks during data receival

TX — Blinks during data transmission

GPI — On if GPI is low

HOW TO ORDER

Visit uart-adapter.com for up to date information.

Technical Specifications

Mechanical specifications

	Remarks	Value
Dimensions	+/- 0.1mm	58 x 33 x 14 mm
Mass	+/- 1 g	15 g

Environmental specifications

	Min	Max
Operating temperature	-20°C	80°C
Storage temperature	-30°C	85°C

ESD protection

	Conditions	Value
IO interface pins	IEC 61000-4-2 air & contact	+/- 15kV
USB interface pins	IEC 61000-4-2 air & contact	+/- 15kV

Electrical specifications

	Conditions	Min	Max
V_{IN} Working voltage		1.8 V	5.4 V
V_{IO} IO voltage	RXD, TXD, CTS, RTS, DTR	0 V	VIN
I_{VIN} Current consumption	VIN = 5 V	12 mA (typ.)	
I_{VBUS} Current consumption	TX @ 115200 baud GPI = high	20 mA (typ.)	
	TX @ 3 Mbaud GPI = low	38 mA (typ.)	
V_{OH} Output high voltage	I_{IO} = 300 µA	VIN-0.5V	
V_{OL} Output low voltage	I_{IO} = 300 µA		0.3 V
V_{IH} Input high voltage		0.7x VIN	
V_{IL} Input low voltage	1.80 V ≤ VIN ≤ 1.89 V		0.6 V
	2.25 V ≤ VIN ≤ 5.40 V		0.8 V
V_{HYS} Input hysteresis		410 mV (typ.)	
I_L Input leakage current			1.2 µA
R_{PU} Pull-up resistance	RXD, CTS, GPI	9.5 kΩ	10.5 kΩ
I_{IOLIM} IO current limiting	VIN = 5.0 V		16.2 mA
	VIN = 3.3 V		11.7 mA
	VIN = 1.8 V		5.8 mA
V_{ISO} Isolation voltage per IEC 60950-1	pollution degree 2 — t = ∞	443 Vrms	
	t = 60 s	2750 Vrms	
	t = 1 s	3252 Vrms	

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