



μ Art USB to UART Adapter Datasheet

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Product Overview

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

COMPLIANCE



DoC and test report available on product website.

The μ Art 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 μ Art 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: 183 – 3M baud
- Support for standard and non-standard baudrates
- Handshake support: None, hardware, Xon/Xoff
- 7 and 8 data bits support
- Support for 1 and 2 stop bits
- Parity support: odd, even, mark, space, no parity
- Transmit/receive buffers: 512 bytes
- Virtual COM port drivers provided

Technical Specifications

ADDITIONAL INFORMATION

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

IO HEADER PINOUT

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

| | |
|---------|--------|
| Outputs | Inputs |
|---------|--------|

LED INFORMATION

PWR On if USB, VIN and GND are connected

RX Blinks during UART data receival

TX Blinks during UART data transmission

GPI On if GPI is low

HOW TO ORDER

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

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| 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 |
| Electrostatic Discharge Immunity | IEC 61000-4-2 | ± 8 kV air ± 4 kV contact |

| Electrical specifications | | | |
|---|--------------------------------|---------------|-----------|
| | Conditions | Min | Max |
| VIN 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 | 19 mA (typ.) | |
| | TX @ 3 Mbaud GPI = low | 29 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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