

FEATURES

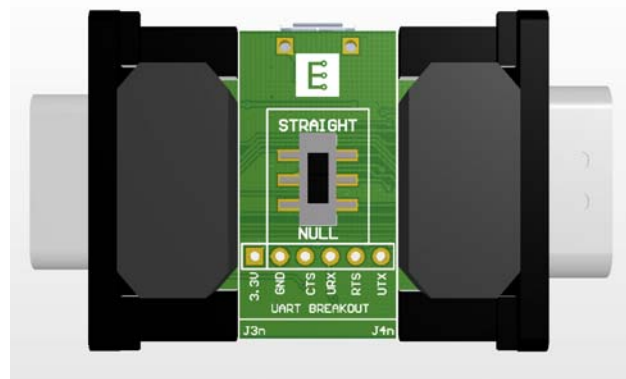
- Bus-powered developer-grade USB to RS-232 / UART converter
- Male or female DB9 serial cable connection eliminates need for gender changers
- Straight-thru / null modem connection type selector switch (crosses Tx / Rx only) enables universal connection and simple guess-and-test debugging on cable configuration
- Built-in RS-232 to CMOS level translation to/from DB9 contacts
- FTDI USB to serial chipset supports data rates up to 115.2kbps
- Included Micro B to USB A cable for PC connection; detachable for custom length or termination requirements
- Green transmit (Tx to target) and yellow receive (Rx from target) activity LEDs
- Blue power LED
- Includes hardware flow control signal conversion (RTS/CTS)
- Onboard ESD protection
- Breakout header for signal investigation or direct UART (3.3V CMOS) connection; can also be used for CMOS to RS-232 signal conversion

OVERVIEW

UART / RS-232 serial remains an important debugging and communication interface for embedded systems and products.

Accessing serial data via a PC terminal for testing and debugging is often essential for developers.

Serial to USB converters are now common but most are consumer grade and limited to RS-232 to USB through either a male or



female DB9 connector. In many cases, a gender changer or straight-thru / null modem cable is required to achieve the correct signaling. Valuable time can be wasted by not having the appropriate connector or inadvertently using the wrong connection.

The Engenuics OEM USB to Serial converter simultaneously addresses all of those issues. RS-232 connection of either gender or cable type can be used immediately by plugging in to either male or female DB9 connector and adjusting the toggle switch for straight-thru or null modem connections (lines 2 and 3 are cross-connected). Level translation is provided on board. Direct UART to USB conversion is also supported using the standard 0.100" header to access Tx, Rx, RTS, CTS, VCC and GND.

APPLICATIONS

- Engineering development and test
- Production test and verification
- Consumer RS-232 to UART serial conversion
- UART signal breakout

ORDERING INFORMATION

ENGENUICS PART NUMBER	VERSION	NOTES
200054	USBRS-EHDW-04	USB to Serial converter with USB A to Micro B cable

ELECTRICAL SPECIFICATIONS

Unless otherwise noted, the following specifications apply for VCC = +3.0V to +5.5V with TAMB = TMIN to TMAX, Typical values apply at VCC = +3.3V or +5.0V and TAMB = 25°C.

PARAMETER	MIN	NOM	MAX	UNITS
Supply voltage (Vcc)	4.5	5	5.5	V
USB load current			20	mA
DB9 output voltage HIGH	5	5.4		V
DB9 output voltage LOW	-5	-5.4		V
DB9 input voltage HIGH			15	V
DB9 input voltage LOW			-15	V
UART input voltage HIGH	2.4		Vcc +0.3	V
UART input voltage LOW			0.8	V
UART output voltage HIGH	Vcc -0.6	Vcc - 0.1		V
UART output voltage LOW			0.4	V
Data rate			115200	bps
Operating temperature	-10	25	50	°C

DATASHEET REVISION HISTORY

DATE	VERSION	RELEASE NOTES
February 19, 2015	1	First release.

Further information can be accessed online at the product page for this device www.engenuics.com/products or via email at support@engenuics.com

LIABILITY DISCLAIMER

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FCC WARNING

This evaluation board/kit is intended for use for **ENGINEERING DEVELOPMENT, DEMONSTRATION, OR EVALUATION PURPOSES ONLY** and is not considered by Engenuics to be a finished end-product fit for general consumer use. It generates, uses, and can radiate radio frequency energy and has not been tested for compliance with the limits of computing devices pursuant to part 15 of FCC rules, which are designed to provide reasonable protection against radio frequency interference. Operation of this equipment in other environments may cause interference with radio communications, in which case the user at his/her own expense will be required to take whatever measures may be necessary to correct this interference.

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