

### USB Converters Datasheet

These converters provide RS232, RS422 and RS485 connectivity (with galvanic isolation) to computers through USB port.

#### **Converter Specifications:**

- Three different interfaces supported: RS232, RS422, RS485.
- RS232 interface includes 3 signals (RxD, TxD, RTS) and GND connection.
- RS422 interface includes 4 signals (Tx+, Tx-, Rx+, Rx-) and GND connection.
- RS485 interface includes either 4 (Tx+, Tx-, Rx+, Rx-) or 2 (TxRx+, TxRx-) signals and GND connection.
- Galvanic isolation (1000VDC) between USB side and RSxxx side.
- USB driver for Windows included.
- Communications speeds:
  - a. For RS232: up to 115200 baud.
  - b. For RS4xx: up to 921600 baud.
- Rx and Tx LED indications.
- No external power supply needed.
- Options (factory settings) for RS422:
  - a. Termination resistor (120 Ohm) connected or not connected.
- In case of RS422, both Rx and Tx are always enabled.
- Options (factory settings) for RS485:
  - a. 4 wire or 2 wire interface.
  - b. Echo ON or OFF.
  - c. Termination resistor (120 Ohm) connected or not connected.
- In case of RS485, Rx and Tx will be conditionally enabled:
  - a. Tx is automatically enabled during transmission. When transmission completes, Tx is automatically disabled. No action by Software needed for this direction control.
  - b. If echo is ON, then Rx is always enabled.
  - c. If echo is OFF, then Rx is disabled while transmission is going on; enabled at all other times. No action by Software needed for this direction control.
- RS485 4 wire and 2 wire options: If 4 wire option is selected, then Tx+, Tx-, Rx+, Rx- signals become available separately on connector. If 2 wire option is selected, then Tx+ is internally short circuited with Rx+; similarly Tx- is internally short circuited with Rx-. As a result, TxRx+, TxRx- are available on connector. A 4 wire converter can be used as 2 wire by short circuiting Tx+,Rx+ and Tx-,Rx- signals externally. However, a 2 wire converter can not be used as 4 wire by any means.
- Operating Temperature Range: 0°C to +70°C.

#### **Connector details:**

All converters have USB type B connector on one side. Standard USB cable is included with each converter. One end of this cable connects to the converter and other connects to USB port of computer. All converters have DB9 female connector on the other side. It's pin connections are as per table below.

DB9 connector pin number	Signal name (RS232)	Signal name (RS422 and 4 wire RS485)	Signal name (2 wire RS485)
1	GND	GND	GND
2	RxD	Rx+ (A)	No connection.
3	TxD	Tx- (Z)	TxRx- (B)
4	GND	GND	GND
5	GND	GND	GND
6	GND	GND	GND
7	RTS	Rx- (B)	No connection.
8	No connection.	Tx+ (Y)	TxRx+ (A)
9	GND	GND	GND

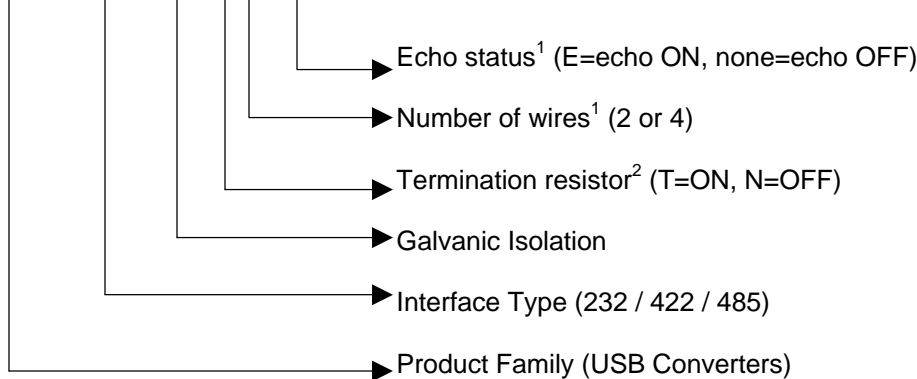
**Product Photos:**



**Ordering Information:**

Orderable Part Number is composed as below:

# U2R-iii-Gtwe



**Notes:**

1. Applicable only for interface type RS485.
2. Applicable only for interface types RS485 and RS422.

**Part Number Examples:**

U2R-232-G = USB to RS232 converter with galvanic isolation.

U2R-422-GN = USB to RS422 converter with galvanic isolation and without termination resistor.

U2R-485-GT2 = USB to RS485 converter with galvanic isolation, termination resistor, 2 wires, no echo.

U2R-485-GT4E = USB to RS485 converter with galvanic isolation, termination resistor, 4 wires, echo ON.

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