



## USB Interface Products



**USB Mini-B to UART Module (UB232R)** is a USB Bus Powered Micro module with the FT232RQ device and a USB mini-B connector. Small size is ideal for new developments or additional USB interfaces to existing product designs. The UB232R supports RTS/CTS hardware handshaking and data rates up to 3MBaud at TTL level. CBUS pins of the FT232R are brought out to provide clock signals to external logic or signal traffic indicator LEDs. Two 1x4 turned pin board headers with a standard 0.1" pitch are supplied with the UB232R to allow for rapid prototyping and development.

**USB to UART Miniature Module (MM232R)** is a mini development module for the FT232RQ IC device supporting TTL levels. MM232R provides USB serial UART interface in an extremely small form factor with a USB type-B connector. Ideal for new development or adding a USB interface to existing product designs. Two 1x4, and one 2x4 board headers with a standard 0.1" pitch are supplied with the MM232R to allow for rapid prototyping and development.

**USB to UART DIP Module (UM232R)** is a 24-DIP socket PCB module with the FT232R IC providing access to on-chip UART I/O and control pins. The module can be configured for USB bus powered or self-powered operation, with support for 3V3 or 5V I/Os. Full hardware handshaking is supported, with data rates up to 3MBaud at TTL/CMOS levels.

**USB to FIFO DIP Module (UM245R)** is a 24-DIP socket PCB module with the FT245R IC providing access to on-chip FIFO I/O and control pins. The module can be configured for USB bus powered or self-powered operation, with support for 3V3 or 5V I/Os. Transfer data rate up to 1MByte/second.

**Dual/Quad USB 2.0 Hi-Speed USB to UART/FIFO/MPSSSE Modules (FT232RH/FT4232H\_MINI MOD)** are USB 2.0 Hi-Speed Modules (480 Mb/s) utilizing the 2-port (FT232RH) and 4-port (FT4232H) IC's which handle USB to UART/FIFO/MPSSSE (JTAG/I2C/SPI) protocol conversion. Can be configured for industry standard serial or parallel interfaces as listed.

**Full Speed USB to RS232 Module to replace RS232 DB9 male or female connector (DB9-USB-M/DB9-USB-F)** integrates embedded RS232 level shifters, FT232R and USB mini-B connector into a DB9 form factor for quick upgrading of legacy RS232 interfaces to Full-Speed USB port. The modules support modern handshake signals, and data rates up to 1MBaud.

**USB to Serial UART Interface Development and Evaluation Module (EVAL232R)** based on the FT232RL IC. Additional header pins on the board provide access to the FT232RL device's configurable CBUS interface pins. The EVAL232R supports both 3V3 and 5V level I/O interface voltage on the CBUS via a jumper setting. Full RTS/CTS, and FTR/DSR hardware handshaking are supported, DCD and RI are also available. RS232 data rates up to 250kbaud. LEDs for FT232RL transmit and receive lines indicate activity.

**USB to RS232 Interface Module (USB-COM232-PLUS-x, Hi-Speed or Full Speed)** which handle USB to RS232 protocol conversion RS232-level signals, including modem handshake signals, are available on an industry-standard DE-9P connector. The maximum RS232-level data rate is 1MBaud. Plus1 is USB Full Speed, Plus2 & 4 are USB Hi Speed.

**USB to RS422 Interface Module (USB-COM422-PLUS-x, Hi-Speed or Full Speed)** RS422-level signals, including modem handshake signals, are available on an industry-standard DE-9P connector. Plus1 is USB Full Speed (RS422=3MBaud), Plus2 & 4 are USB Hi Speed (RS422=10MBaud).

**USB to RS485 Interface Module (USB-COM485-PLUS-x, Hi-Speed or Full Speed)** RS485-level signals, including modem handshake signals, are available on an industry-standard DE-9P connector. Plus1 is USB Full Speed (RS485=3MBaud), Plus2 & 4 are USB Hi Speed (RS485=10MBaud).

**TTL to USB Converter Cables (TTL-232R-xxxx)** provide a simple way to connect serial TTL interface devices to USB. The electronics are embedded within the USB-Type A connector moulding. Cables are terminated at the end of a 1.8 meter cable with a 0.1" pitch SIL connector or tinned wire leads. RXD, TXD, RTS and CTS signals are provided.

**Premium USB to RS232 Adapter Cable (US232R-10)** is a FT232RL based 10cm USB to RS232 converter cable with embedded level shifters and LED's for activity indication. The US232R-10 cable includes instructions, utilities and complete Microsoft WHQL certified VCP drivers for Windows, Mac and Linux (available online). CE and FCC approved. Data rates from 300 to 1MBaud.

**Standard USB to RS232 Converter Cable (UC232R-10 ChiPi)** is the economy version of USB to RS232 converter cable. It also serves as an evaluation cable for the FT232R. Using a standard DB9 connector and powered from the USB port, the UC232R-10 "ChiPi" converter can be used with VCP drivers to provide a COM port on a PC which is capable of communication rates with RS232 devices from 300 Baud up to 230kbaud.

**USB to RS422 Converter Cable (USB-RS422-WE-xxxx-BT)** is a USB to RS422 level serial UART converter cable incorporating FTDI's FT232RQ USB to Serial UART interface IC device which handles all the USB signalling and protocols. The 1.8m cable provides a fast, simple way to connect devices with a RS422 interface to USB.

**USB to RS485 Converter Cable (USB-RS485-WE-xxxx-BT)** is a USB to RS485 level serial UART converter cable incorporating FTDI's FT232RQ USB to Serial UART interface IC device which handles all the USB signalling and protocols. The 1.8m cable provides a fast, simple way to connect devices with a RS485 interface to USB.

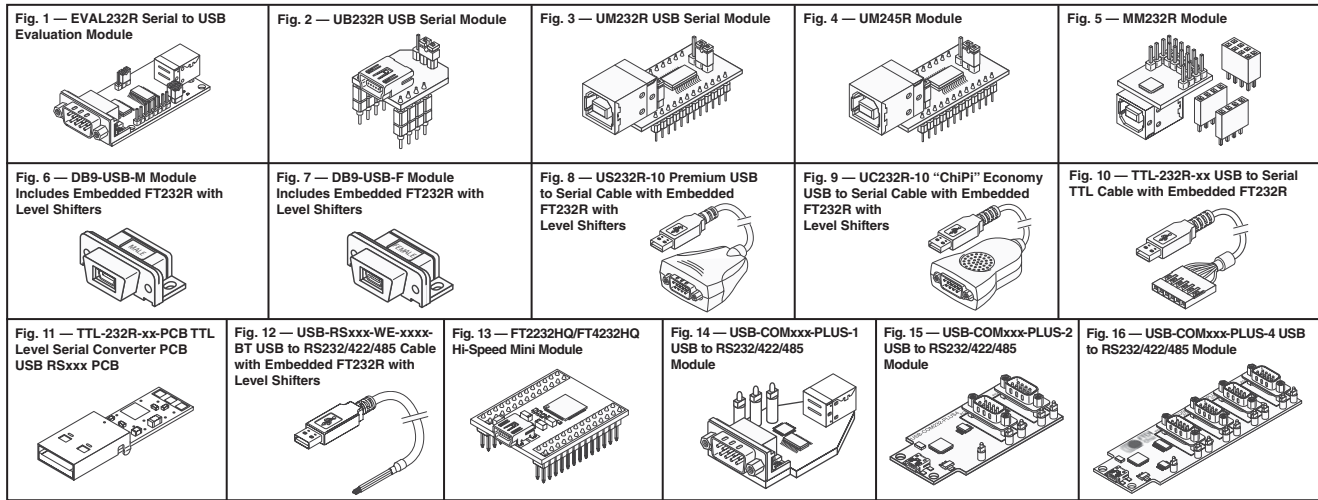


Fig.	Description	Digi-Key Part No.	1	10	50	FTDI Part No.
1	Evaluation Module for FT232RL	768-1023-ND	14.55	13.17	12.13	EVAL 232R
2	UB232R USB Serial Module	768-1022-ND	12.13	10.75	9.86	UB232R
3	UM232R USB Serial Module	768-1019-ND	13.86	12.48	11.44	UM232R
4	UM245R USB Serial Module	768-1020-ND	13.86	12.48	11.44	UM245R
5	MM232R Module	768-1021-ND	12.47	11.09	10.05	MM232R
6	DB9-USB-RS232 Male Module	768-1064-ND	15.27	13.29	12.08	DB9-USB-M
7	DB9-USB-RS232 Female Module	768-1063-ND	15.27	13.29	12.08	DB9-USB-F
8	Premium version USB to RS232 converter cable. DB9 male for connection to target. RS232 voltage levels at pins. 10cm cable length	768-1013-ND	15.25	13.52	13.00	US232R-10-BLK
9	Economy version USB to RS232 converter cable. DB9 male for connection to target. RS232 voltage levels at pins. 10cm cable length	768-1014-ND	12.82	11.79	10.75	UC232R-10 "CHIPI"
10	6-Pin, female header, 0.1" spaced 0V - 3V3 TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS	768-1015-ND	13.86	12.48	11.44	TTL-232R-3V3
10	6-Pin, female header, 0.1" spaced 0V - 5V TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS	768-1028-ND	13.86	12.48	11.44	TTL-232R-5V
11	Solder terminals, 6 position 0V - 5V TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS-PCB	768-1017-ND	10.40	9.36	8.58	TTL-232R-PCB
11	Solder terminals, 6 position 0V - 3V3 TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS-PCB	768-1018-ND	10.40	9.36	8.58	TTL-232R-3V3-PCB
11	USB to RS422 UART Serial Converter PCB	768-1044-ND	20.79	19.41	19.06	USB-RS422-PCBA
11	USB to RS485 UART Serial Converter PCB	768-1043-ND	17.33	16.29	15.94	USB-RS485-PCBA
12	6 Conductor, stripped and tinned 0V - 3V3 TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS	768-1016-ND	13.86	12.48	11.44	TTL-232R-3V3-WE
12	6 Conductor, stripped and tinned 0V - 5V TTL signals, 5V power TX, RX, VCC (5V), GND, CTS, RTS	768-1029-ND	13.86	12.48	11.44	TTL-232R-5V-WE
12	USB to RS422 Serial Converter Cable	768-1042-ND	24.26	22.70	22.18	USB-RS422-WE-1800-BT
12	USB to RS485 Serial Converter Cable	768-1041-ND	20.79	19.41	18.99	USB-RS485-WE-1800-BT
13	USB Hi-Speed to Serial/FIFO Development Module - Dual Channel	768-1030-ND	18.71	16.84	15.51	FT232HQ_MINI MOD
13	USB Hi-Speed to Serial/FIFO Development Module - Quad Channel	768-1031-ND	20.72	18.65	17.17	FT4232HQ_MINI MOD
14	Module USB to RS232 Converter Single Port	768-1032-ND	13.17	11.85	10.54	USB-COM232-PLUS-1
14	Module USB to RS422 Converter Single Port	768-1035-ND	20.10	18.09	16.08	USB-COM422-PLUS-1
14	Module USB to RS485 Converter Single Port	768-1038-ND	18.02	16.22	14.42	USB-COM485-PLUS-1
15	Module USB to RS232 Converter Dual Port High Speed	768-1033-ND	23.56	21.21	18.85	USB-COM232-PLUS-2
15	Module USB to RS422 Converter Dual Port High Speed	768-1036-ND	41.58	37.43	33.27	USB-COM422-PLUS-2
15	Module USB to RS485 Converter Dual Port High Speed	768-1039-ND	27.72	24.95	22.18	USB-COM485-PLUS-2
16	Module USB to RS232 Converter Quad Port High Speed	768-1034-ND	33.96	30.57	27.17	USB-COM232-PLUS-4
16	Module USB to RS422 Converter Quad Port High Speed	768-1037-ND	59.60	53.64	47.68	USB-COM422-PLUS-4
16	Module USB to RS485 Converter Quad Port High Speed	768-1040-ND	41.58	37.43	33.27	USB-COM485-PLUS-4

Free shipping on orders over £50! All prices are in British pound sterling and include duties.

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