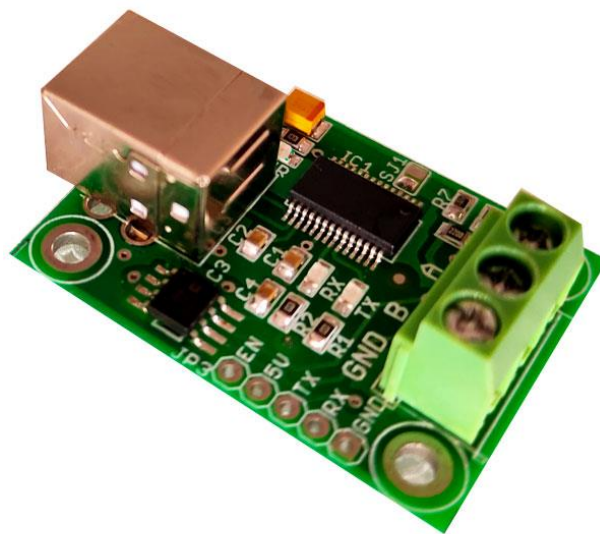


USB TO RS485 CONVERTER



Order Code: RDL/RSU/14/001/V1.0

DOCUMENT VERSION: 2.0

Contents

INTRODUCTION.....	3
APPLICATIONS	3
FEATURES	4
SPECIFICATIONS.....	5
FTDI CHIPSET SUPPORTED DRIVER.....	5
COMPARISON TABLE	6
RS485 RTU APPLICATION CONNECTION DIAGRAM	7
APPLICATION WIRING DIAGRAM FOR TESTING METHOD.....	7
APPLICATION WIRING DIAGRAM FOR DMX512 MASTER CONTROL	8
MODBUS RTU PROTOCOL TESTING APPLICATION SOFTWARE TOOL	8
DIMENSIONS	9
RELATED PRODUCTS	10

INTRODUCTION

USB TO RS485 CONVERTER



USB TO RS485 CONVERTER- FT232RL
ORDER CODE: RDL/RSU/14/001/V1.0



USB TO RS485 CONVERTER- FT230X
ORDER CODE: RDL812

The USB-RS485 is a fully automatic plug-and-play USB module that connects to your PC via the Universal Serial Bus (USB) port and provides robust USB to RS-485 protocol conversion with automatic RS-485 flow control.

This converter provides two ways serial communications signal conversion between the RS485 to and from a personal computer USB port using virtual serial COM port. Using the USB-RS485 module, one can connect up to 32 RS-485 devices simultaneously to a single USB port. Typically it is used for multi-drop communication.

APPLICATIONS

- USB to serial RS485 level converter.
- USB to RS485 industrial legacy device PLC / HMI / SCADA communication.
- USB Instrumentation PC interface
- Upgrading legacy peripherals to USB
- USB password protected file transfers.
- USB to RS485 Data Logging application
- USB to RS 485 industrial / instrumentation device Diagnostic application
- Transceivers for EMI-Sensitive Applications
- Industrial-Control Local Area Networks
- DTE/DCE interface Application
- DMX512 Lighting Control Application

FEATURES

- Self powered from USB.
- USB-RS485 converter provides a USB to RS485 serial interface with USB A / USB B connectors.
- EIA/TIA-485 communication interface with low power requirements.
- Output shorting is prevented by a thermal shutdown circuit.
- Supports 32 slaves on RS485 Bus.
- UART interface support for 7 or 8 data bits, 1 or 2 stop bits and odd / even / mark / space / no parity.
- Fully integrated USB termination resistors.
- Fully integrated 1024 bit EEPROM storing device descriptors and CBUS I/O configuration.
- Data transfer rates from 300 baud to 5 Mbaud (RS485) at TTL levels.
- FIFO receives and transmits buffers for high data throughput.
- Device supplied pre-programmed with unique USB serial number.
- Integrated power-on-reset circuit.
- Fully integrated AVCC supply filtering - no external filtering required.
- USB 2.0 Full Speed compatible.
- FTDI's royalty-free VCP allow for communication as a standard emulated COM port and D2XX „direct“ drivers provide DLL application programming interface.
- Visual indication of TX and Rx traffic via LEDs in the transparent USB connector.
- -40°C to 85°C extended operating temperature range.
- Supports devices with RS485 interface: PLC, HMI, surveillance cameras, video capture device, and fingerprint attendance machine.

SPECIFICATIONS

Specifications	
Operating Voltage	5V
Communication Speed	2400 Bps 5 Mbps
Extended Operating Temperature Range	0°C to 70°C
USB Chipset	FTDI
RS485 Chipset	ADM485
Receiver/Driver Enable	Auto
Number of receivers on Bus	32
Duplex type	Half Duplex
Thermal Shutdown Protection	Enabled
Visual Indication	TX,RX traffic via LEDs
ESD Protection	RS-485 I/O's $\pm 15\text{kV}$ Human Body Model (HBM) $\pm 15\text{kV}$
Connector Type-USB	USB A / USB B
Connector RS485	Screw Connector(A,B,GND)
RoHS Compliant	Yes
Dimensions(L * W)	39.4MM * 30MM
Weight	20g

FTDI CHIPSET SUPPORTED DRIVER

Royalty free VIRTUAL COM PORT (VCP) DRIVERS for



- Windows 10 32,64-bit
- Windows 8/8.1 32,64-bit
- Windows 7 32,64-bit
- Windows Vista and Vista 64-bit
- Windows XP and XP 64-bit
- Windows 98, 98SE, ME, 2000, Server 2003, XP, Server 2008 and server 2012 R2
- Windows XP Embedded
- Windows CE 4.2, 5.0 and 6.0
- Mac OS 8/9, OS-X
- Linux 2.4 and greater

Royalty free D2XX Direct Drivers (USB Drivers + DLL S/W Interface)

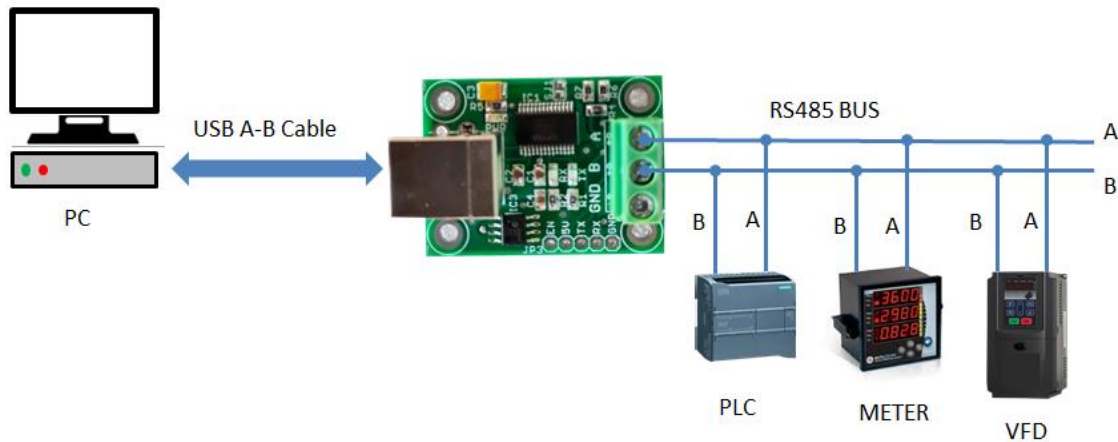
- Windows 10 32,64-bit
- Windows 8/8.1 32,64-bit
- Windows 7 32,64-bit
- Windows Vista and Vista 64-bit
- Windows XP and XP 64-bit
- Windows 98, 98SE, ME, 2000, Server 2003, XP, Server 2008 and server 2012 R2
- Windows XP Embedded
- Windows CE 4.2, 5.0 and 6.0
- Linux 2.4 and greater
- Android(J2xx)

The drivers listed above are all available to download for free from FTDI website (www.ftdichip.com). Various 3rd party drivers are also available for other operating systems - see FTDI website (www.ftdichip.com) for details. For driver installation, please refer to <https://ftdichip.com/drivers/d2xx-drivers/>

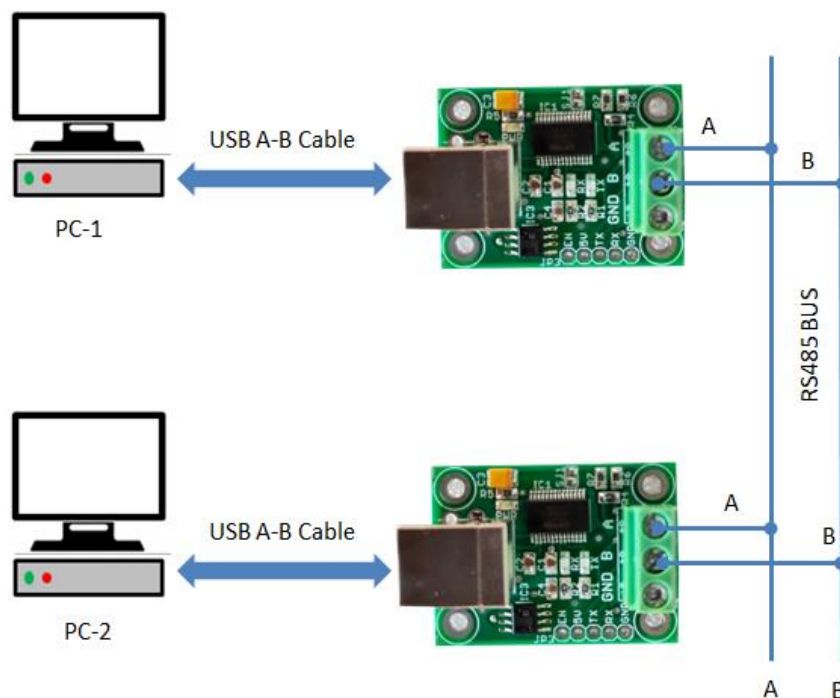
COMPARISON TABLE

	USB To RS485 Converter Module	USB TO RS485 Converter Module FT230X
		
Order Code	RDL/RSU/14/001/V1.0	RDL812
USB Chipset	FT232RL	FT230X
Speed	2400 Bps 5 Mbps	2400 Bps 5 Mbps
Connector Type-USB	USB A / USB B	USB A / USB B
Transmitter Buffer	256 byte transmit buffer	512 byte transmit buffer
Receiver Buffer	128 byte receive buffer	512 byte receive buffer
Memory	1024 bit	2048 byte
Dimensions(L * W)	39.4MM * 30MM	39.4MM * 30MM

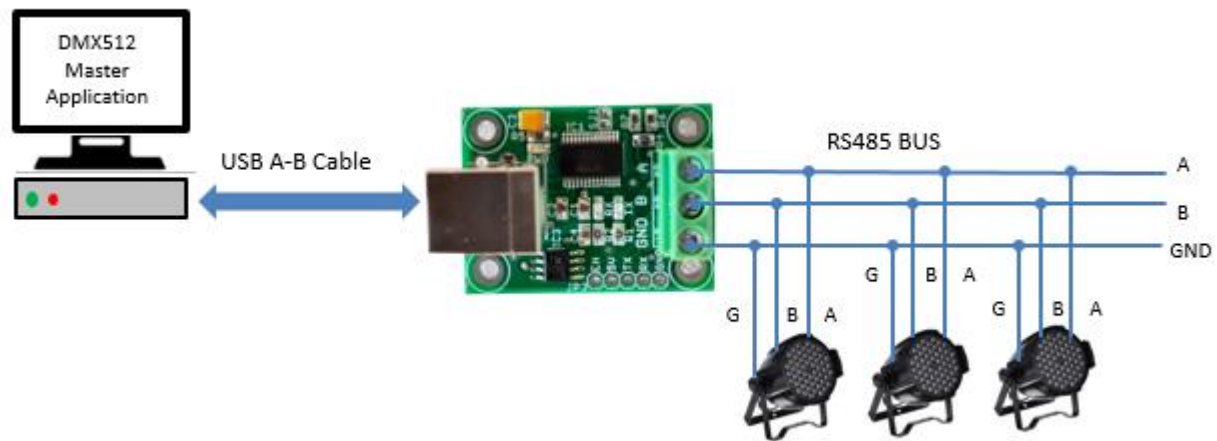
RS485 RTU APPLICATION CONNECTION DIAGRAM



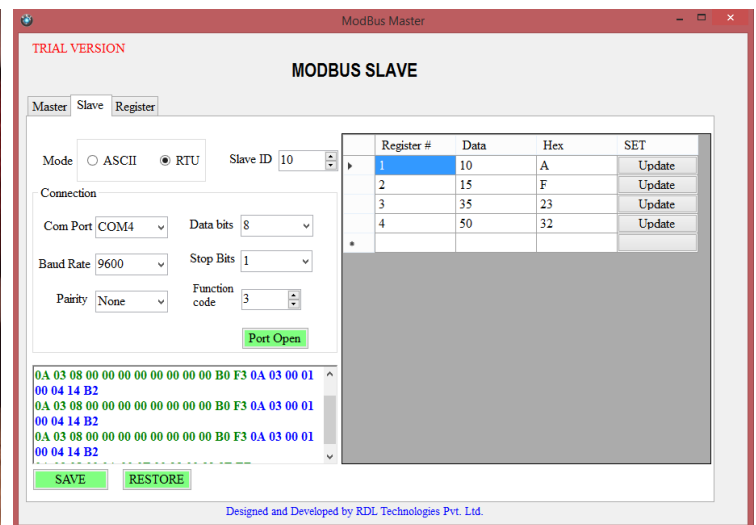
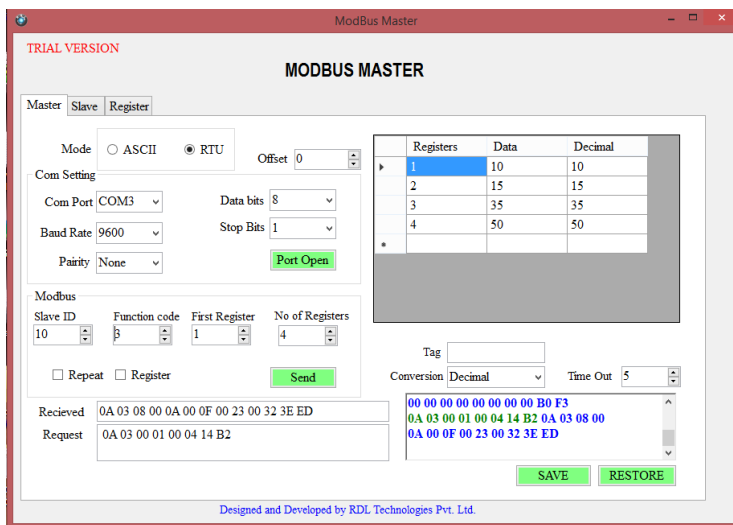
APPLICATION WIRING DIAGRAM FOR TESTING METHOD



APPLICATION WIRING DIAGRAM FOR DMX512 MASTER CONTROL



MODBUS RTU PROTOCOL TESTING APPLICATION SOFTWARE TOOL

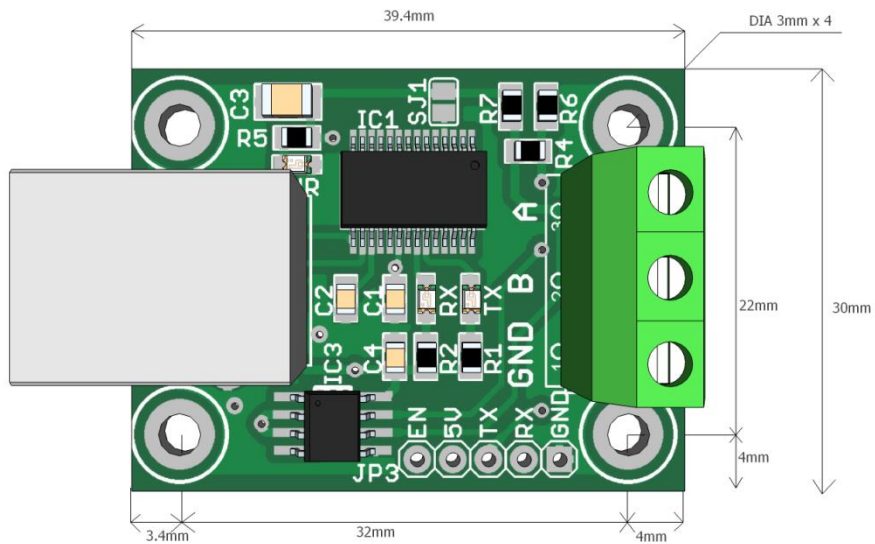


Click on the below link,

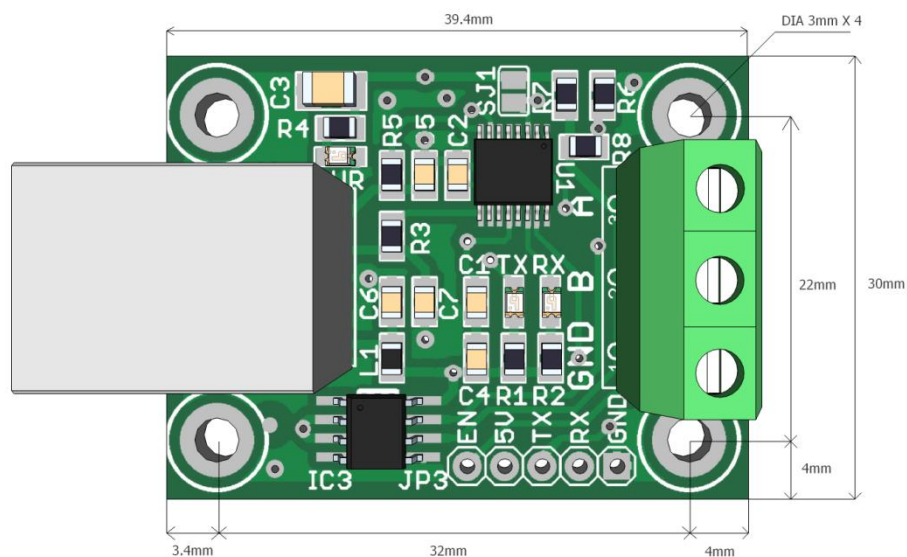
<https://researchdesignlab.com/modbus-protocol-testing-tool.html>

DIMENSIONS

A) USB TO RS485 CONVERTER -FT232RL



B) USB TO RS485 CONVERTER -FT230X



RELATED PRODUCTS

8 Channel Relay Board-RS485



ORDER CODE: RDL/8RB-R/14/001/V1.0

RS485 Modbus RTU Ethernet/Wi-Fi Gateway



ORDER CODE: RDL799

Biometric Authentication System for PLC and SCADA



ORDER CODE: RDL810

Cloud PLC 4.0



ORDER CODE: RDL826

Industrial Data Logger 4G LTE

**ORDER CODE: RDL838**

Industrial RFID Reader

**ORDER CODE: RDL839**

Indino 4.0

**ORDER CODE: RDL813**

Automated Machine Fault Alerting System

**ORDER CODE: RDL809**