



USB / RS232C < - > RS485/ RS232 CONVERTER'S MANUAL

Model: UD25U

INTERFACE PRODUCTS. INFO

Phone: 91-79-55124898 / 55310266 (M) 0-98253-50221
www.interfaceproducts.info



“UD-25U” USB / SERIAL TO ISOLATED RS422 / 485 CONVERTOR

INTRODUCTION

Milestone model “UD-25U” IS A USB/RS232C TO Isolated RS422 / RS485 Convertor and is designed for high speed Isolated data transmission between computer system through its USB port or RS232C port and peripherals or other devices having RS485 interface over long distance under high noise conditions.

APPLICATIONS:

Application for these converters can be for Factory Automation, Programmable Logic Controllers, Attendance Recording Systems, Barcode Readers, Remote Data Transmission, Remote Terminals, EPABX and many more applications, which requires the converter.

SPECIFICATIONS:

Input	USB 2.0 Compliant & RS232C (D9-Female)
Output	RS485 Interface TX+, TX-, RX+, RX- (D9-Male)
Output Protection	Spike Suppressor and Opto Isolation for each signal
Data Format Supported	<ul style="list-style-type: none"> • Data Bits: 8 • Sop Bits: 1 • Parity: Odd, Even, No Parity • Baud Rate: 300 bps to 19.2KBPS • X-On / X-Off Hand Shake Protocol • Receive Buffer: 512 Bytes • Transmit Buffer: 512 Bytes

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Selection Switch (O/P)	Rear side has 2-Way toggle (4 Wire 2) switch for selection 4 wire (Full Duplex) or 2 wire (Half Duplex) mode in RS422 / 485 application
Selection Switch (input)	Rear side has 2-Way toggle switch (RS232-USB) for selecting RS232 to RS422 / RS485 or USB to RS422 / RS485 mode.
Output Cable	Output cable should be Shielded Twisted Pair cable – CAT-5 (Shielded) on RS485 / RS422 Side.
Front Panel LED	Power, Rx, Tx
Power Supply	230 V AC, 5 Amp
Size	117mm x 105mm x 55mm

UD-25U KIT CONTENTS

- UD-25U Converter Box (Unit)
- USB A-A Cable
- D9-Female Connector with dust cover
- UD-25U driver floppy / CD (Virtual COM port driver & USB bridge)

INSTALLATION INSTRUCTIONS

The Converter can be used as Rs232 to RS422 / RS485 Converter or as USB to RS422 / RS485 Converter depending upon the rear panel toggle switch.

For using in RS232 mode, no need of installing the drivers on PC. But in USB mode drivers has to be installed on PC.

In USB mode this Converter has to be used with PC with Windows Operating System. Before connecting UD-25U Converter to USB Port of the PC, a “VIRTUAL COM PORT” has to be created on PC.

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Installation of Drivers:

Before connecting the unit following drivers has to be installed. This installation is required only once or after uninstallation.

1. Insert Floppy Disk provided along with the kit.
2. Run “setup.exe” from Floppy Disk. You will get a display message screen, which will guide you through installation process. Click “INSTALL” TO INSTALL THE DRIVERS. Follow the instructions till you get displayed message “ MLU485” installed successfully” click “OK”. Now the drivers are installed and you can go ahead with hardware installation as mentioned below.

Installation of Hardware:

1. Select ‘2-Wire’ or ‘4-Wire’ Mode as required through slide switch provided at the rear panel of UD-25U Convertor.
2. Power ON UD-25U
3. Plug in the UD-25U using USB A-A cable to PC USB port. As soon as it is plugged in, It will start updating the drivers automatically. By default it will select either COM-3 or COM-4 Port as Virtual COM Port.
4. Check the device manger whether Virtual Com Port has been installed
5. and also check the properties of the Port. (Such as Baud rate, Buffered size etc.)
6. Connect RS485 port through appropriate cable (refer Table 5 and Table 6) to external device.

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7. Now you are ready for Communication between PC and external 485 / 422 Device using Virtual Com Port (Com-3 or Com-4)
8. in case if you want to uninstall the drivers go to Driver Folder and run “CYG_UNINSTALL” from the Floppy Disk provided along with the kit, you will get a display message screen, which will guide you through the uninstallation of the Drivers.

Table (1): *USB Input Port* Description (On UD25U)

Pin No.	Signal Name
1	V BUS
2	D -
3	D +
4	Signal Ground

TABLE 2: *RS 232 Input Port* – D9 Female Connector (On UD25U)

Pin No.	Signal Name	Input / Output
2	Tx	Output
3	Rx	Input
5	Signal Ground	-



TABLE 3: RS 485 / RS485 Output Port – D9 Male Connector (On UD25U)

Pin No.	Signal 4 Wire	Signal 2 Wire
3	-Rx	
4	+Rx	
5	+Tx	+Tx / +Rx
6	-Tx	-Tx / -Rx
7	GND.	GND.
1	Frame Ground	Frame Ground

****Connect Frame ground to earth for proper surge protection on the RS485 side****

LED Indication:

A	Power	Power to the unit
B	TD	TX Data on RS485 / 422
C	RD	RX Data on RS485 / 422

LONG DISTANCE CABLE LAYING

Long distance cable between two RS422/RS485 interfaces must be a twisted pair shielded cable. The pair should be used for each signal type + and – signal. This gives high common mode noise rejection. While laying the cable, care should be taken not to lay this cable parallel to power line cables. The cable resistance should not be more than 90 ohms/1000 meters. The cable should be run through conduit pipe for physical protection.

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TABLE 4: RS 232 Cable From Computer to UD-25U

Computer End			RS232 Port on Unit	
Pin No on (D-25)	Pin No on (D-9)	Signal	Pin No (D-9, F)	Signal
2	3	Tx	2	Tx
3	2	Rx	3	Rx
7	5	GND	5	Sig. Gnd
6, 20	6, 4	Short		
4,5	7,8	Short		

TABLE 5: OUTPUT CABLE – 4 Wire

D9-Male	Pin No.	Instrument
-Rx	3	-TX
+RX	4	+TX
+TX	5	+RX
-TX	6	-RX

TABLE 6: OUTPUT CABLE – 2 Wire

D9-Male	Pin No	Instrument
+TX / + RX	5	+TX / +RX
-TX / - RX	6	-TX / -RX

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