USB ⟷ RS-485/RS-422/RS-232/TTL
E810-U15HF & E810-U15HFS User Manual
Industrial High-Speed Optoelectronic Isolated Converter

Chapter 1: Product Introduction

With the continuous development of the industrial automation industry, USB interfaces are gradually replacing various low-speed peripheral interfaces of older PCs. However, many devices in current industrial environments are still designed using RS-232/RS-422/RS-485/TTL interfaces. Therefore, many users employ USB to RS-232/RS-422/RS-485/TTL converters to achieve data transmission between PCs and serial port devices.

The E810-U15HF & E810-U15HFS is a high-speed USB to RS-232/RS-422/RS-485/TTL converter. It supports a maximum serial port rate of 12Mbps, requires no external power supply, and can convert USB signals to RS-232/RS-422/RS-485/3.3V/5V TTL signals. Surge protection is provided for each interface. (Note: Only the E810-U15HF is the isolated version)

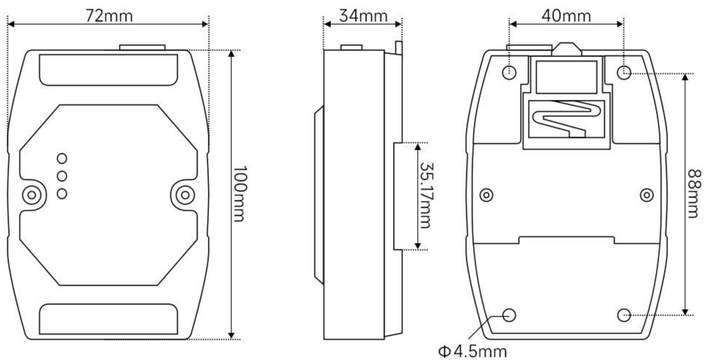
The E810-U15HF & E810-U15HFS interface converter provides reliable connections for point-to-point and point-to-multipoint communications. In point-to-multipoint mode, each converter can connect up to 128 pieces of RS-422 or RS-485 interface devices. The device features a power indicator and data traffic indicators for monitoring its status. Supported communication modes include data conversion between USB and RS-232, RS-422, RS-485, and TTL.

Chapter 2: Features

- The USB interface uses a Type-C connector for ease of use and high reliability.
- Supports 3.3V TTL and 5V TTL full-duplex communication.
- Supports 3-wire RS-232 full-duplex communication.
- Supports 4-wire RS-422 full-duplex communication.
- Supports 2-wire RS-485 half-duplex communication.
- Supports a full-featured DB9 communication interface.
- When the converter is connected to multiple external devices or used for long-distance communication, a 120Ω matching resistor (1/4W) can be connected in parallel at the line terminal.

Chapter 3: Hardware Installation and Application

The E810-U15HF & E810-U15HFS supports both DIN rail and mounting hole installation methods, either can be chosen. For DIN rail mounting, note the clip width is 35mm. For mounting hole installation, refer to the base dimension drawing.



Chapter 4: Package Contents

① Main Unit x 1 ② USB to Type-C Cable x 1 ③ 10P 5.08mm Terminal Block x 1
④ Certificate of Compliance x 1 ⑤ User Manual x 1

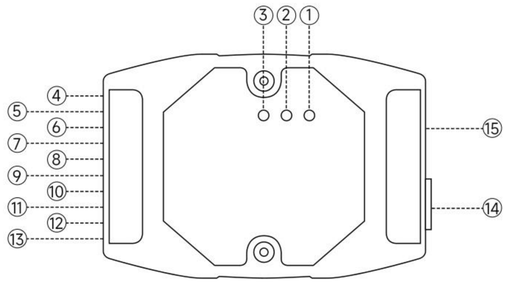
Chapter 5: Driver Installation

The product supports driver-free operation on Windows 10 and above. If driver installation is required, it can be downloaded from the corresponding product page on our company's official website.

Chapter 6: Specifications

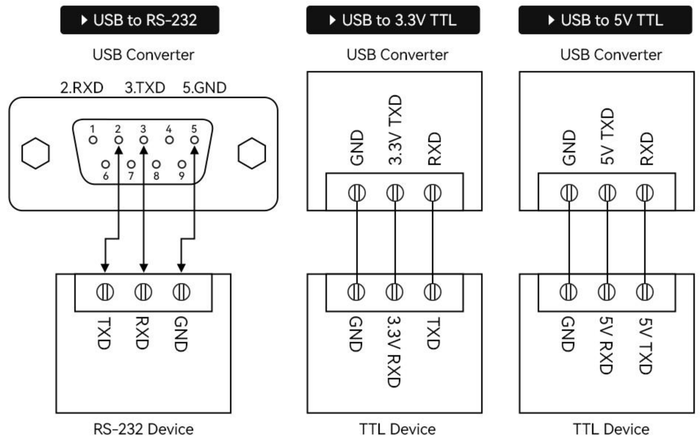
USB Protocol Standard	USB 2.0, backward compatible with USB 1.0, USB 1.1
USB Interface Standard	Type-C Interface
RS-232 Interface Standard	Full-featured DB9 Male Connector, Full-Duplex 1:DCD 2:RXD 3:TXD 4:DTR 5:GND 6:DSR 7:RTS 8:CTS 9:RI
RS-485 Interface Standard	2P 5.08mm Terminal Block, Half-Duplex
RS-422 Interface Standard	4P 5.08mm Terminal Block, Full-Duplex
TTL Interface Standard	4P 5.08mm Terminal Block, compatible with 3.3V and 5V levels
Power Output	2P 5.08mm Terminal Block, 5V, Max Output Current 100mA
Isolation Voltage	3KV
ESD Protection Level	Contact 4KV, Air 8KV
Impulse Surge	Differential mode 1KV, common mode 2KV
Protection Level	Industrial EMC Level 3
Baud Rate Range	RS-485/422:110~12Mbps
	TTL:110-12Mbps
	RS-232:110~460800bps
	Supports Adaptive Baud Rate
Product Dimensions	113×72×34mm
Product Weight	120±5g
Operating Temperature & Humidity	-40~+85℃、5%~95%RH (No Condensation)
Storage Temperature & Humidity	-40~+105℃、5%~95%RH (No Condensation)
Note: E810-U15HF is the isolated version; E810-U15HFS is the non-isolated version.	

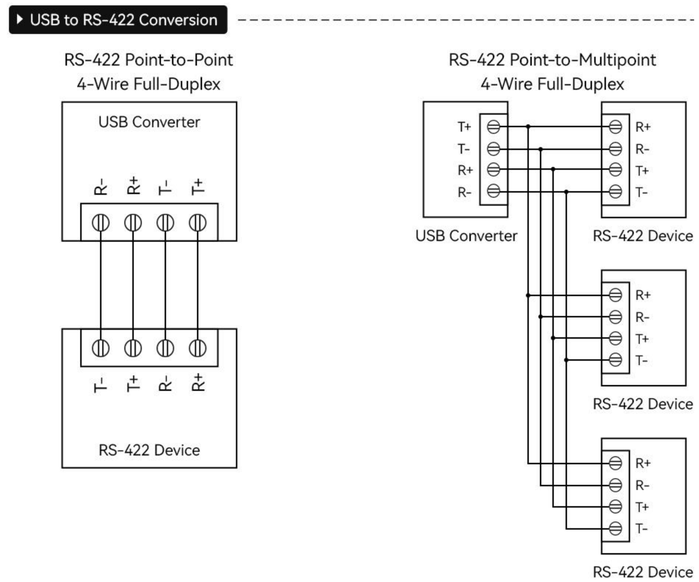
Chapter 7: Interface Definitions

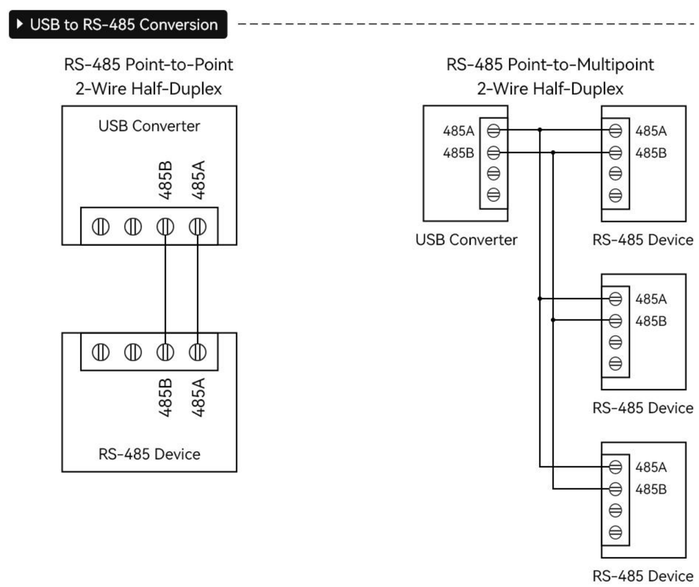


No.	Name	Interface Description
1	PWR	Power Indicator (Red), lights up when powered on.
2	TXD	Data Transmit Indicator (Yellow), flashes when USB is transmitting data.
3	RXD	Data Receive Indicator (Yellow), flashes when USB is receiving data.
4	EARTH	Ground Terminal, can be connected to earth ground.
5	T+/A	RS422 T+ Terminal. When used as RS422, connects to the R+ end of the user device. When used as 485, connects to the A end of the user device.
6	T-/B	RS422 T- Terminal. When used as RS422, connects to the R- end of the user device. When used as 485, connects to the B end of the user device.
7	R+	RS422 R+ Terminal. When used as RS422, connects to the T+ end of the user device.
8	R-	RS422 R- Terminal. When used as RS422, connects to the T- end of the user device.
9	3.3V TXD	TTL 3.3V TXD Interface, connects to the RXD interface of other TTL interface devices.
10	5V TXD	TTL 5V TXD Interface, connects to the RXD interface of other TTL interface devices.
11	RXD	TTL RXD Interface, connects to the TXD interface of other TTL interface devices; supports 3.3V and 5V auto-adaptation.
12	GND	Power Output Negative / Digital Ground Signal Interface, can be used in conjunction with VCC.
13	VCC	Power Output Positive (VCC) Interface, maximum output 5V 100mA current.
14	RS232	Full-featured DB9 Male Connector 1:DCD 2:RXD 3:TXD 4:DTR 5:GND 6:DSR 7:RTS 8:CTS 9:RI
15	USB	Standard Type-C Interface

Chapter 8: Communication Connection Diagrams







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