User Manual
Version 1.1

RS-232 to RS-422/485 Converter

Introduction

Thank you for purchasing the RS-232 to RS-422 / 485 media converter.

RS-232 hardware is a popular used and easily designed interface in today's industrial environment and commercial application. The drawback of it is that RS-232 is a point to point characteristic with a distance limitation of 15 meters, this converter provides an ideal solution for extending RS-232 transmission distance and increasing networking capability. Users can use RS-232 devices to connect to an industrial RS-422 or RS-485 network and increase transmit data up to 1.2 kilometer by using a differential signal and multi-drop connections !!

Features

This converter has incorporated advanced ARSC™ and Auto Identify-n-Switch technology not only to automatically detect and control data direction by RTS signal instead of using software control, but also automatically detect the state of RS-422 full-duplex or RS-485 half-duplex then control the data transceiver and receiver wires at the same port without selecting jumpers or switches.

RS-232 to RS-422/485 media converter, a specialized equipment for industrial and commercial applications which can effectively protect your equipment from electrostatic discharges with surge protection. The converter is equipped with easy wiring terminal block, extended RS-232 cable and self-power mode for users to easily implement the converter into their applications or projects. It is the best solution not only for application in critical factory and industrial environment, but also incorporating industrialized and user friendly design.

- Supports baud rate up to 921.6 Kbps and Auto Baud Rate Detection
- Auto Identify and Switch RS-422 and RS-485 technology
- Support RS-485 Auto RTS Signal Control (ARSC™) technology
- Embedded 15KV ESD Surge Protection
- Extended RS-232 cable design for users easily fitting kinds of application
- Plug-in screw terminal block for easy RS-422/485 wiring
- Support self-power mode & external 5VDC Jack built-in.

Package List

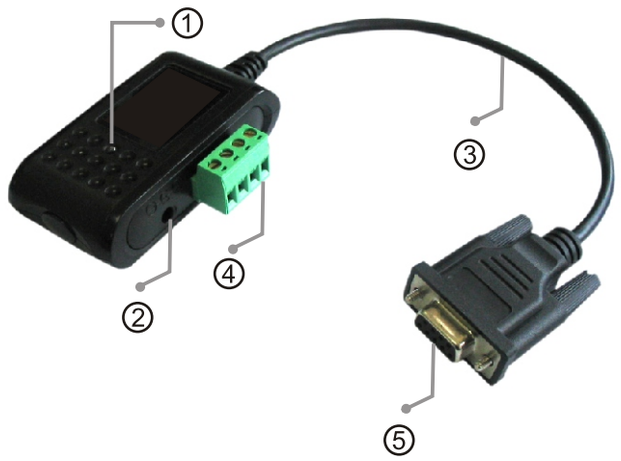
Please check if the following items are present and in good condition upon opening your package. Contact your vendor if any item is damaged or missing.

- RS-232 to RS-422/485 Media Converter
- User Manual (this document)

Optional Accessories

- Power Adapter: DC 5V / 500mA

Hardware Guide



① Power LED (This LED will lit when power from DC adapter)

② DC Jack : 5VDC ⊖—●—⊕ Aperture: 1.3mm

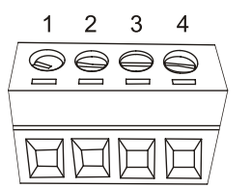
③ RS-232 30mm extended cable

④ RS-422/485 3-contact Terminal Block

⑤ RS-232 DB9 Female Connector

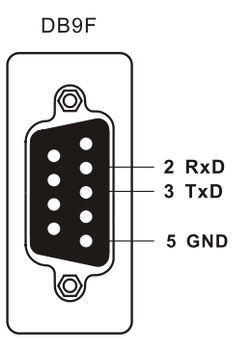
Pin Assignment

• **RS-422 / 485**



	RS-422	RS-485
1	TX+	D+
2	TX -	D -
3	RX+	-
4	RX -	-

• **RS-232**



Specification

Product Name	MedIO Converter
Interface	RS-232 to RS-422/485 Media Converter

Serial Communication

Connector	RS-232 : DB9 Female RS-422/485 : Mini Block
Signal	RS-232 : Rx, Tx, GND, RS-422 :Tx+, Tx-, Rx+, Rx- RS-485 : Data+, Data-
RS-422 / 485	Auto Identify and Switch RS-422 & RS-485
RS-485 Control	RS-485 Auto RTS Signal Control: ARSC™
Network	RS-422 up to 10 nodes, 1.2KM RS-485 up to 32 nodes, 1.2KM
Protection	15KV ESD Surge Protection for all signals 600W Surge Protection for all signal (Optional) *Maimum clamping voltage 24.4V *Peak pulse current 24.6V
Baud Rate	RS-232 up to 921.6 Kbps RS-422 up to 115.2 Kbps RS-485 up to 921.6 Kbps
LED	Power
Approvals	CE, FCC(Class B)
Environment	Operating Temperature: 0℃ ~ 60℃ Storage Temperature: -20℃ ~ 85℃ Humidity: 5 ~ 95% RH

Power

Input Power	Self-Power Mode (Power from RS-232 TxD, RTS, DTR Pin) 5 VDC External Power, DC Jack type
Power Consumption	< 100mV=5V **x** 20mA

Mechanical

Dimensions	75 x 46 x 23mm (WxDxH)
Case	Hard Plastic
Weight	100 ± 5 g

FC CE

User Manual

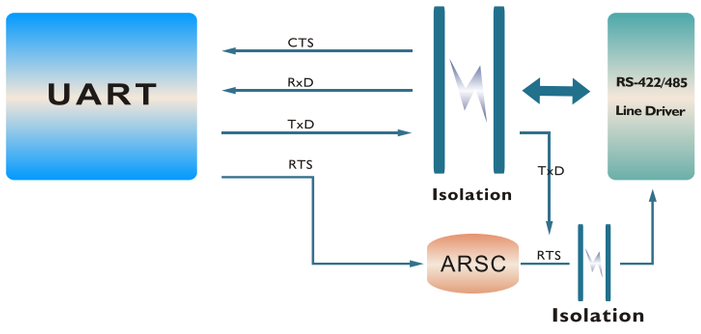
Version 1.1

RS-232 to RS-422/485 Converter

◆ ARSC™ Technology

Due to the limitation of traditional RS-485 two wires half-duplex communication, system must determine when to switch the transmitter on and off. There is only one mode can be switch on and off at any given time by software. ARSC™ (Auto RTS Signal Control) technology can identify the status of data transceiver or receiver and send RTS signal automatically, instead of using software control the transmitter.

This new version of RS-422/485 industrial host controller has built-in ARSC™ technology now. System can manage the RS-485 ports without writing extra code to control the half-duplex protocol by using ARSC™ technology.



◆ RS-422/485 Auto Identify & Switch Technology

The unique circuit-design RS-422/485 Auto Identify & Switch technology can automatically identify the state of RS-422 full-duplex or RS-485 half-duplex and control the data transceiver and receiver wires at the same port without selecting jumpers or switches anymore. It's more convenient for users to avoid shutting down the computer and opening the chassis for jumpers or switches setting.

◆ Auto Baud Rate Detection

This converter is provided with detecting the baud rate of serial signal transmission automatically, instead of configuring and setting by user. Even though the device's baud rate is changed, the signal will be transmitted through the converter without problem.

◆ Surge Protection

Surges is high amplitude electrical pulses lasting only several millionths of a second in duration. They can be caused by heavy-duty equipment, power lines, short circuits, or large motors. A surge suppressor has the ability to effectively absorb the high energy in an extremely short period of time, preventing the connected devices from damage. To eliminate this problem, we provide the embedded 600W surge protection for all signals.