

tM-7520U

Tiny Isolated RS-232 to RS-485 Converter

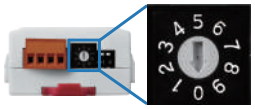
Features

- 2-way 2500 VDC Isolation Protection
- ESD Protection for RS-485 Data Line
- Low power consumption
- Long-cable application
- Power and data flow indicator for troubleshooting
- Easy-to-use rotary switch for baud rate setting, 1200 ~ 115200 bps
- Tiny packaging fits on your DIN-Rail Mounting

Introduction

Most industrial computer systems provide standard RS-232 serial ports with limited transmission speed, range, and networking capabilities. The RS-485 standards overcome these limitations by using differential voltage lines for data and control signals. The tM-7520U transparently converts RS-232 signals into isolated RS-485 signal with no need to change any hardware or software. This lets you easily build an industrial grade, long-distance communication system using standard PC hardware. The module provides 2500 VDC of optical isolation allowing you to separate and protect critical segments of the system from the rest of the RS-485 network.

The tM-7520U provides 2 modes of baud rate setting, one is Self-Tuner mode and the other is Fixed baud rate mode. The Self-Tuner mode can support Multiple Baud Rate and Multiple Data Format. The Self-Tuner design is exactly the same as I-7520 series. The Fixed baud rate mode offers a better quality for data transmission over long or lossy lines or electrically noisy environments.



Baud rate 1200 ~ 115200 bps

Comparison Table of Converter

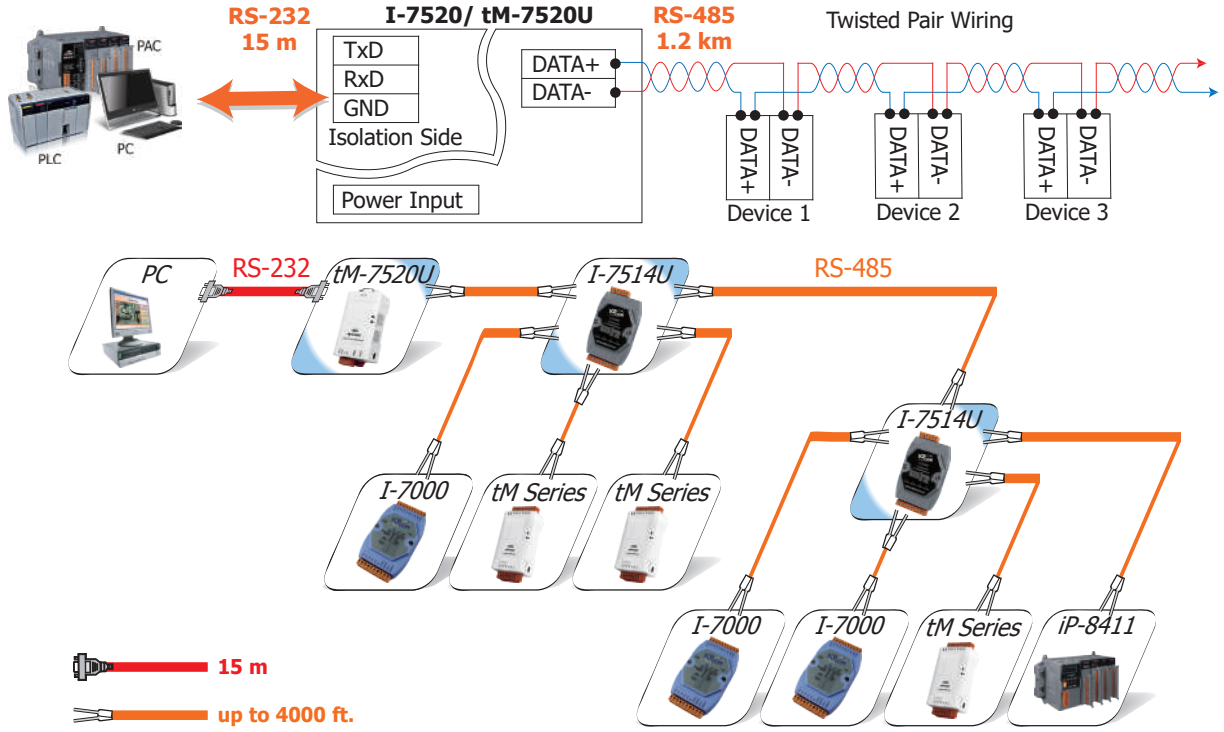
Mode name	tM-7520U	I-7520
RS-485 Direction Control	Fixed baud rate setting and Automatic RS-485 Direction Control (Self-Tuner, default)	Automatic RS-485 Direction Control (Self-Tuner)
Baud rate	300 ~ 115200 bps for Self-Tuner 1200 ~ 115200 bps for Fixed baud rate setting	300 ~ 115200 bps
Dimensions (W x L x H)	52 mm x 27 mm x 92 mm	72 mm x 35 mm x 118 mm
Remarks	Entry-level Long-cable application	Entry-level

System Specifications

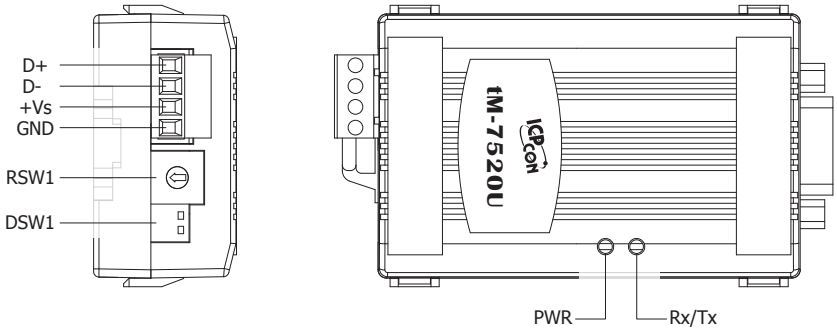
Interface	
Input	RS-232: TxD, RxD and GND
Output	RS-485: Data+, Data-
Transmission Distance	Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps (Belden 9841 2P twisted-pair cable, if different cables are used, the transmission distance may change)
2500 VDC Isolated Protection	Yes
Connector	Removable 4-Pin Terminal Block x 1; 9-Pin Female D-Sub x 1
LED Indicators	
Power/TxD/RxD	Yes
Power	
Input Voltage Range	+10 VDC ~ +30 VDC (Non-isolated)
Power Consumption	0.5 W
Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +75 °C
Humidity	10 ~ 90% RH, non-condensing

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Applications



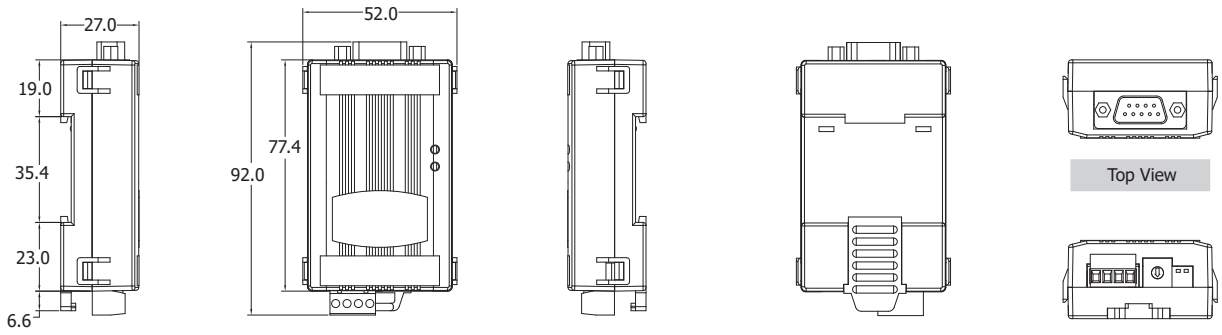
Pin Assignments



Pin Assignment	Terminal No.	Pin Assignment
--	01	06 --
TxD	02	07 --
RxD	03	08 --
--	04	09 --
GND	05	

RS-232: Female DB-9 Connector

Dimensions (Units: mm)



Ordering Information

tM-7520U CR	Tiny Isolated RS-232 to RS-485 Converter (RoHS)
tM-7520U-CA CR	Tiny Isolated RS-232 to RS-485 Converter with CA-0915 Cable (RoHS)

Accessories

GPSU06U-6	Power Supply, 110~240 VAC to 24 VDC/0.25 A, 6 W, two pins USA plug (RoHS)
tM-7510U CR	Tiny Isolated RS-485 Repeater (RoHS)

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