tM-7520U
Release Note

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 V_{DC} 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 loss lines or electrically noisy environments.

Features:

2-way 2500 V_{DC} Isolation Protection
Long-cable application
LEDs for indicating TxD/RxD activity
Self-Tuner baud rate, 300 ~ 115200 bps and Fixed baud rate, 1200 ~ 115200 bps
ESD Protection for RS-485 Data Line
Power Input, +10 ~ +30 V_{DC}
Operating Temperatures, -25 °C ~ +75 °C
Low power consumption
Tiny packaging fits on your DIN-Rail

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Specifications:

Interface	
Input	1 RS-232 Channel: TxD, RxD and GND
Output	1 RS-485 Channel: Data+, Data-
2-wire Cabling	Belden 8941 (2P twisted-pair cable), if different cables are used, the transmission distance may change
Transfer Distance	Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps with Belden 8941 cable
Max. Devices Supported	256
Self-Tuner Asic Inside	Yes
Speed	300 ~ 115200 bps via Self-Tuner mode; 1200 ~ 115200 bps via Fixed baud rate mode
ESD Protection	Yes
2500 V_{DC} isolation on RS-232	Yes
Connection	Removable 4-Pin Terminal Block x 1; 9-Pin Female D-Sub x 1
LED Indicators	
Power/Communication	Yes
Power	
Input Voltage Range	+10 V_{DC} ~ +30 V_{DC} (Non-isolated)
Power consumption	0.5 W
Power reverse polarity protection	Yes
Mechanical	
Casing	Plastic (Flammability UL 94V-0)
Dimensions (W x H x D)	52 mm x 92 mm x 27 mm
Installation	DIN-Rail
Environmental	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +80 °C
Ambient Relative Humidity	10% ~ 90% RH, non-condensing

LED Indicator Functions:

The TxD/RxD LED will flash when the unit is being sent out or received data.

LED	***Color***	***Description***
PWR x 1	Red	LED will be ON solid when the power is On.
TxD x 1	Green	LED will flash when the unit is being sent out.
RxD x 1	Orange	LED will flash when the unit is being received data.

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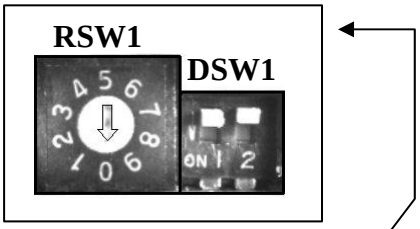
Selecting the tM-7520U's Data Formats: Fixed baud rate mode

DSW1 controls the data format. Data can be 9, 10, 11 or 12 bits. The factory default is 10 bits: one start bit, eight data bits, no parity bit and one stop bit. When using the converter in combination with other I-7000 series modules, do not change the default setting as I-7000 series modules have a fixed data format of ten data bits.

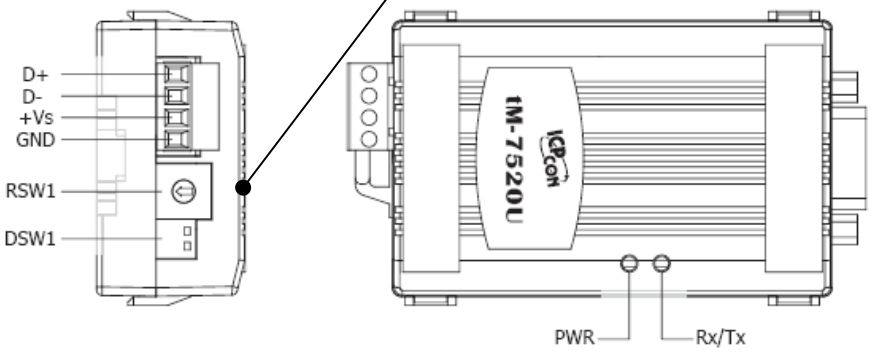
The option of changing to 9, 11 or 12 bits is for use with other modules (other than I-7000 series modules) that have different data formats. Should you change the data format, be aware that you will have to change the data format settings on all the other modules in the network.

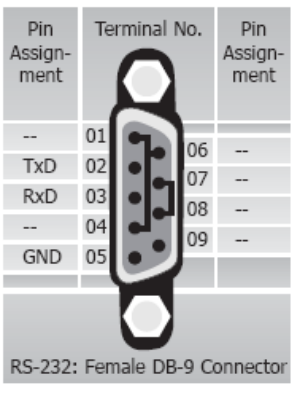
Data format settings (DSW1)		
Data Format	1	2
9 - Bit	ON	ON
10 - Bit	ON	OFF
11 - Bit	OFF	ON
12 - Bit	OFF	OFF

Baud Rate settings (RSW1)	
RSW1	Baud Rate
1	1200 bps
2	2400 bps
3	4800 bps
4	9600 bps
5	19200 bps
6	38400 bps
7	57600 bps
8	115200 bps
0	Self-Tuner (300 bps ~115200bps)



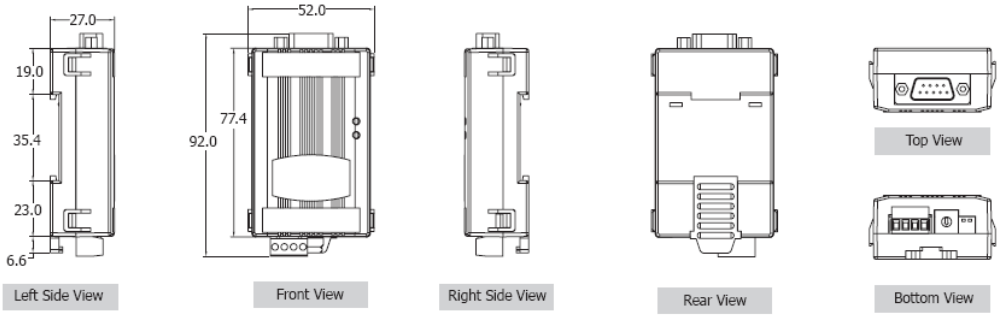
Pin assignment:



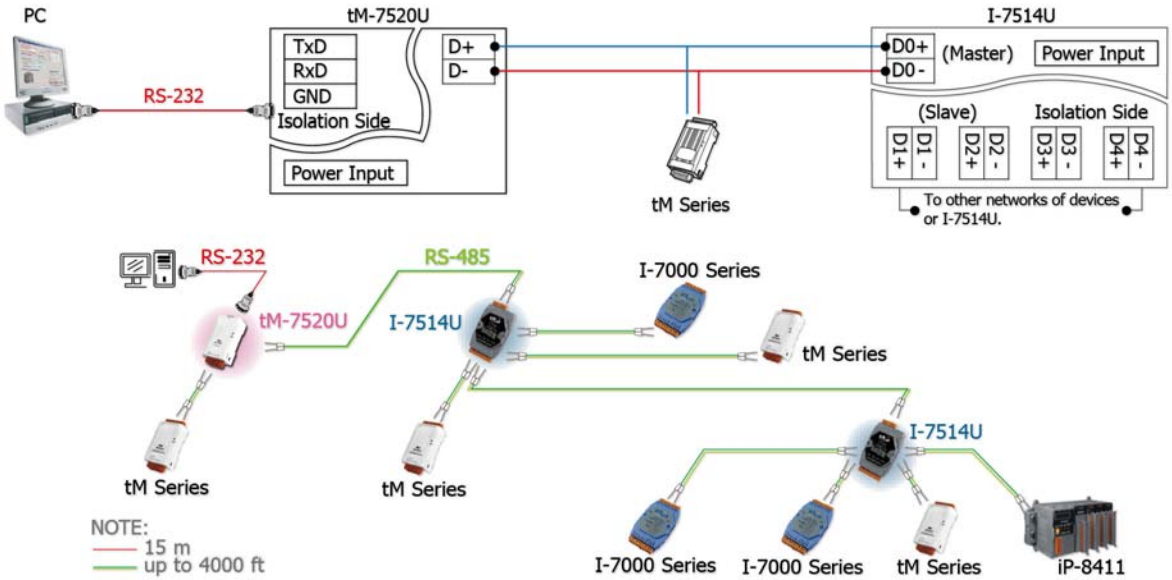


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Dimensions: Unit = mm



Applications :



Ordering Information :

tM-7520U CR	Isolated RS-232 to RS-485 Converter (RoHS)
tM-7520U-CA CR	tM-7520U CR with CA-0915 cable x 1 (RoHS)

Accessories :

GPSU06U-6	24 VDC/0.25 A, 6 W Power Supply
DIN-KA52F	24 VDC/1.04 A, 25 W Power Supply with Din-Rail Mounting
tM-7510U CR	Isolated RS-485 Repeater (RoHS)
CA-0915	9-Pin Male-Female D-Sub Cable, 1.5 m

ICP DAS Web Site: http://www.icpdas.com

Contact Us (E-Mail): service@icpdas.com , service.icpdas@gmail.com

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