
tM-7510U

Release Note

Introduction:

The tM-7510U repeater simply amplifies, or boosts, existing RS-485 signal to enable them to cover longer distances. It extends the communication distance by 4000 ft. (1200 m) or increases the maximum number of bus nodes. The module provides 2500 V_{DC} of isolation allowing you to separate and protect critical segments of the system from the rest of the RS-485 network.

The tM-7510U 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-7510 series. The Fixed baud rate mode offers a better quality for data transmission over long or lossy lines or electrically noisy environments.

Features:

2-way 2500 V _{DC} Isolation Protection
ESD Protection for RS-485 Data Line
Power Input, +10 ~ +30 V _{DC}
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
Operating Temperatures, -25 °C ~ +75 °C
Tiny packaging fits on your DIN-Rail Mounting

Specifications:

Interface	
Input	1 RS-485 Channel: Data0+, Data0-
Output	1 RS-485 Channel: Data1+, Data1-
Transfer 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 used, the transmission distance may change)
2500 V _{DC} Isolation Voltage	2-way Isolation
Connection	Removable 7-Pin Terminal Block x 1; Removable 3-Pin Terminal Block x 1
LED Indicators	
Power/Communication	Yes
Power	
Input Voltage Range	+10 V _{DC} ~ +30 V _{DC} (Non-isolated)
Power consumption	0.6 W
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 ~ +75 °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.

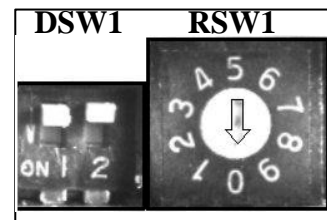
Selecting the tM-7510U's Data Formats: Fixed baud rate mode

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.

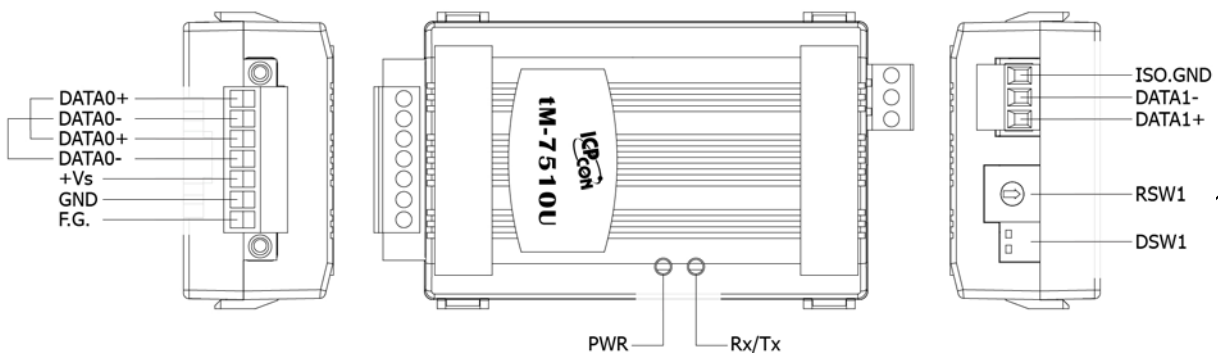
The option of changing to 9, 11 or 12 bits is for use with other modules (other than I-7000 series modules) that have different data formats. Should you change the data format, be aware that you will have to change the data format settings on all the other modules in the network.

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)

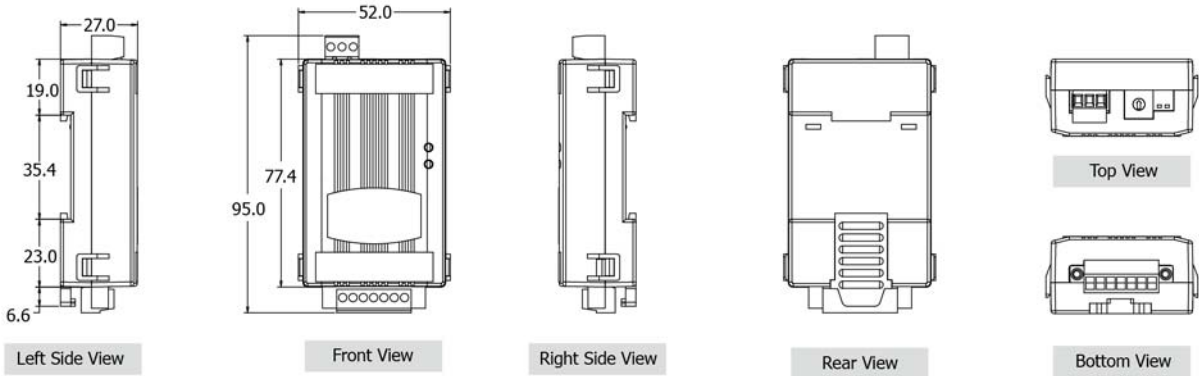
Data format settings (DSW1)		
Data Format	1	2
9 - Bit	ON	ON
10 - Bit	ON	OFF
11 - Bit	OFF	ON
12 - Bit	OFF	OFF



Pin assignment:

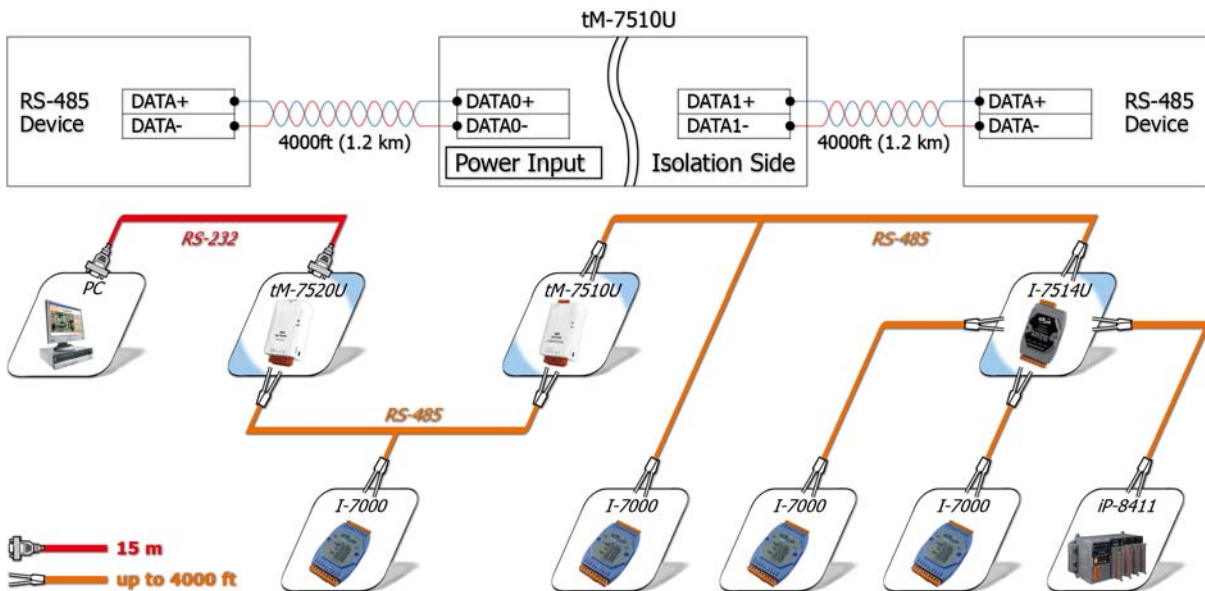


Dimensions: Unit = mm



Applications :

RS-485 to RS-485 Repeater (Only for half duplex application)



Ordering Information :

tM-7510U CR	Isolated RS-485 Repeater (RoHS)
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Accessories :

GPSU06U-6	24 V _{DC} /0.25 A, 6 W Power Supply
DIN-KA52F	24 V _{DC} /1.04 A, 25 W Power Supply with Din-Rail Mounting



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