I-7520U4

(Isolated RS-232 to 4-CH RS-485 Converter)

Introduction:

RS-485 Active Hub

The I-7520U4 is isolated RS-232 to 4-ch RS-485 active star wiring hub, it has 4 independent RS-485 output channels and one RS-232 input channel. Each output channel is equipped with an individual driver. The data from a master to the input channel will simultaneously be forwarded to all the four output channels.

Baud Rate Setting

The I-7520U4 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.

RS-485 Short-Circuit

The Short-circuit protection can automatically shut off the breakdown channel, this kind of design can suffice to protect the communication system. When connected RS-485 equipment breaks down, the breakdown channel will be isolated to ensure that other equipments work normally.

Features:

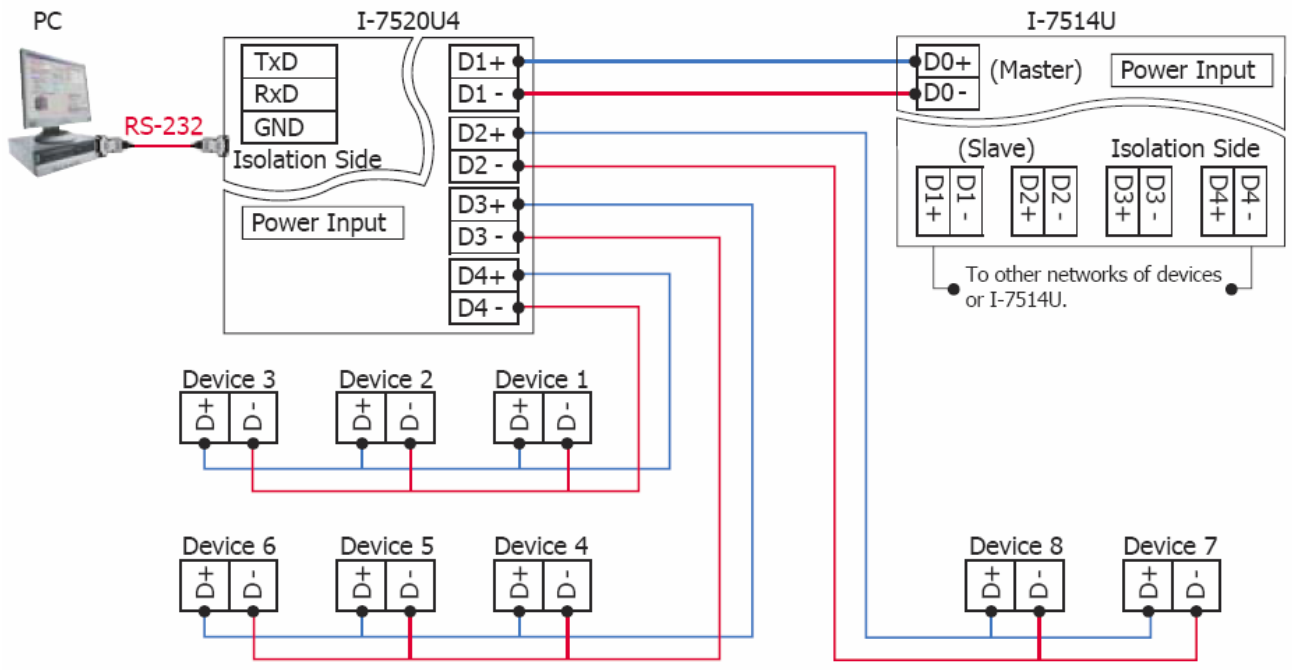
True RS-485 Star Wiring Hub
Independent RS-485 driver for each channel
LEDs for indicating TxD/RxD activity
Self-tuner baud rate, 300 ~ 115200 bps and fixed baud rate setting via rotary switch, 1200 ~ 115200 bps
120Ω termination resistor for each channel
Power Input, +10 ~ +30 VDC
Operating Temperatures, -25 °C ~ +75 °C
Supports operating temperatures from –30 ~ +80°C
DIN-Rail

Specifications:

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Interface	
Input	1 RS-232 Channel: TxD, RxD and GND
Output	4 RS-485 Channels: 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 (Each channel)
Self-Tuner Asic Inside	Yes
Speed	300 ~ 115200 bps via self-tuner mode; 1200 ~ 115200 bps via Fixed Baud Rate mode
4 kV ESD Protection	Yes
2500 VDC isolation on RS-232	Yes
Connection	Removable 10-Pin Terminal Block x 1; 9-Pin Female D-Sub x 1
LED Indicators	
Power/Communication	Yes
Power	
Input Voltage Range	+10 VDC ~ +30 VDC (Non-isolated)
Power consumption	1.2 W
Power reverse polarity protection	Yes
Mechanical	
Casing	Plastic (Flammability UL 94V-0)
Dimensions (W x H x D)	72 mm x 118 mm x 35 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

Application for RS-485 Star type Networking:



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Selecting the I-75204U's Data Formats: Fixed baud rate mode

DSW 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.

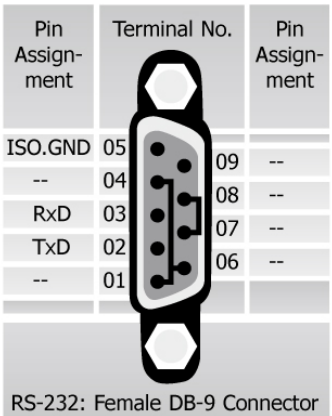
Data format settings (DSW) for Fixed Baud Rate mode		
NO.	1	2
09-Bit	On	On
10-Bit	On	Off
11-Bit	Off	On
12-Bit	Off	Off

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 (RSW)			
NO.	Speed		
0	Self-Tuner (Default)		
NO. (1 ~ 8 for Fixed Baud Rate mode)			
1	1200 bps	5	19.2 kbps
2	2400 bps	6	38.4 kbps
3	4800 bps	7	57.6 kbps
4	9600 bps	8	115.2 kbps

Pin assignment:

Terminal No.		Pin Assignment	
RS-485	01	D1+	CH1
	02	D1-	
	03	D2+	CH2
	04	D2-	
	05	D3+	CH3
	06	D3-	
	07	D4+	CH4
	08	D4-	
	09	(R)+Vs	
	10	(B)GND	





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LED Indicator Functions:

The I-7520U4 has 6 LED to indicate the power status and network traffic.

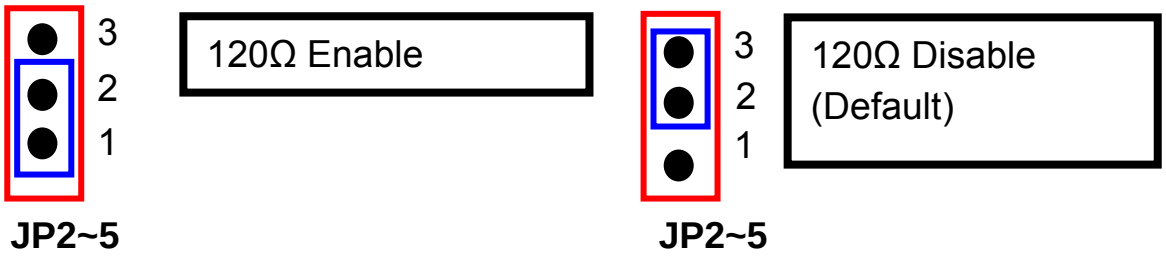
The TxD/RxD LED will flash when the unit is being sent out or received data.

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 4 (CH1 ~ CH4)	Orange	LED will flash when the unit is being received data.

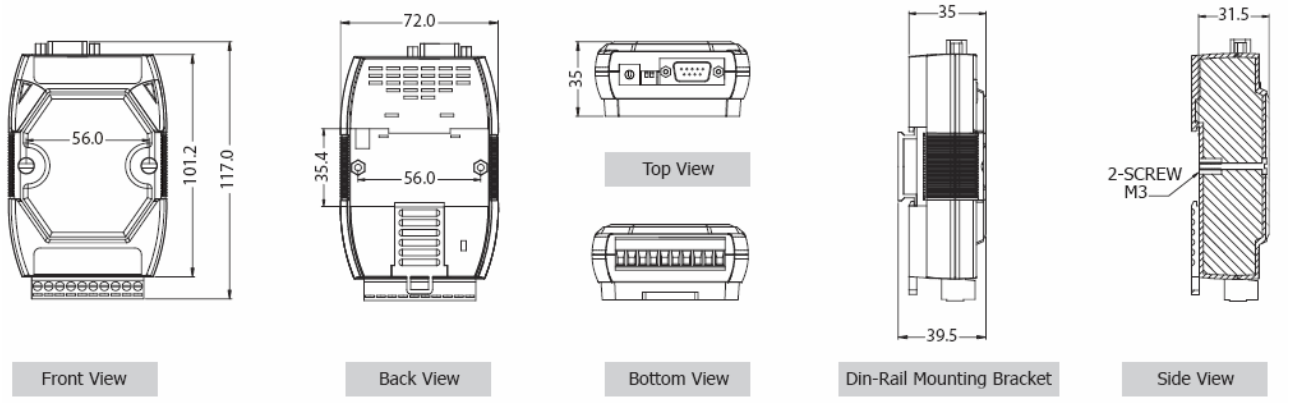
Termination resistors setting:

In some critical environments, you may need to add termination resistors to prevent the reflection of serial signals.

The I-7520U4 includes a 120Ω termination resistor for each channel by jumper selectable (Default disable).



Dimensions: Unit = mm



Ordering information:

I-7520U4-G CR	Isolated RS-232 to 4-CH RS-485 Converter (Gray Cover) (RoHS)
I-7520U4-CA-G CR	I-7520U4-G CR with CA-0915 cable x 1

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