RS-485 Star Wiring Hub

I-7514U

Isolated 4 Channels RS-485 Active Hub

Features

- True RS-485 Star Wiring Hub
- Independent RS-485 driver for each channel
- LEDs for indicating RS-485 TxD/RxD activity
- Auto Switching 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 V$_{DC}$
- Operating Temperatures, -25 °C ~ +75 °C
- DIN-Rail

CE FC RoHS

Introduction

RS-485 Active Hub
The I-7514U is a 4-ch RS-485 active star wiring hub, it has 4 independent RS-485 output channels and one RS-485 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-7514U 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-7513 and I-7510 series.
The Fixed baud rate mode offers a better quality for data transmission over long or lossy 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 a connected RS-485 equipment breaks down, the breakdown channel will be isolated to ensure that other equipments work normally.

Termination resistors
In some critical environments, you may need to add termination resistors to prevent the reflection of serial signals.
The I-7514U includes a 120Ω termination resistor for each channel by jumper selectable (Default disable).
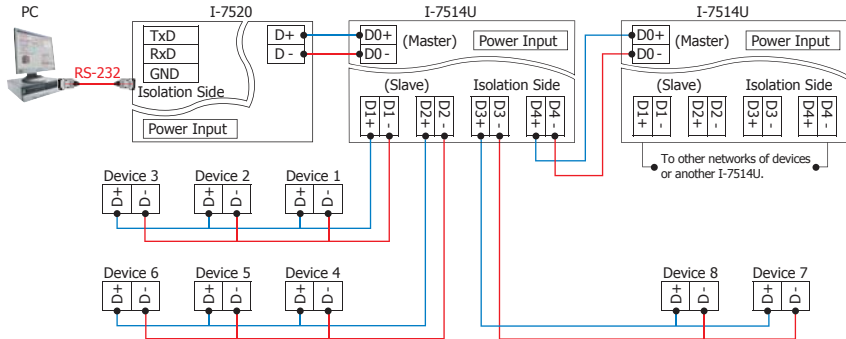
LED Indicators
The I-7514U has 6 LED to indicate the power status and network traffic.
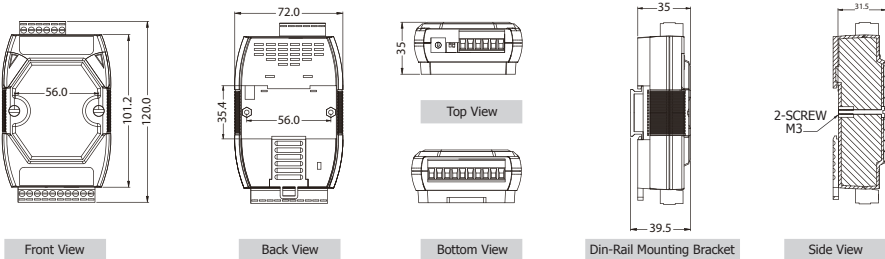The TxD/RxD LED will flash when the unit is being sent out or received data.

Specifications

Interface	
Input (Master)	1 RS-485 Channel: Data+, Data-
Output (Slave)	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
Max. Devices Supported	256 (Each channel)
Self-Tuner Asic Inside	Yes
Speed	300 ~ 115200 bps via Auto Switching mode; 1200 ~ 115200 bps via Fixed Baud Rate mode
ESD Protection	Yes
2500 V$_{DC}$ isolation on CH1~CH4	Yes
Connection	Removable 10-Pin Terminal Block x 1; Removable 6-Pin Terminal Block x 1
LED Indicators	
Power/Communication	Yes
Power	
Input Voltage Range	+10 V$_{DC}$ ~ +30 V$_{DC}$ (Non-isolated)
Power Consumption	1.2 W
Mechanical	
Casing	Plastic
Flammability	Fire Retardant Materials (UL94-V0 Level)
Dimensions (W x H x D)	72 mm x 122 mm x 35 mm
Installation	DIN-Rail
Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +80 °C
Humidity	10 ~ 90% RH, non-condensing

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Applications

Dimensions (Unit: mm)

Front View

Back View

Top View

Bottom View

Din-Rail Mounting Bracket

Side View

72.0
56.0
35.4
56.0
101.2
120.0
35
35
39.5
31.5
2-SCREW M3

Pin Assignments

Terminal No.	Pin Assignment	
11	D0-	CH0
12	D0+	
13	D0-	
14	D0+	
15	(R)+Vs	
16	(B)GND	

I-7514U

Terminal No.	Pin Assignment	
01	D1+	CH1
02	D1-	
03	D2+	CH2
04	D2-	
05	D3+	CH3
06	D3-	
07	D4+	CH4
08	D4-	
09	N.C.	
10	ISO.GND	

Internal I/O Structure
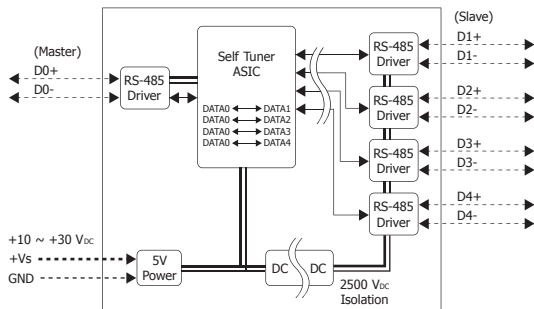
Active transmission control is provided by the hub for outbound messages from the Master input. All channels transmit simultaneously.

Ordering Information

I-7514U-G CR	Art. No. 124220	Isolated 4 Channels RS-485 Active Hub (Gray Cover) (RoHS)

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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