I-7510

Isolated RS-485 Repeater

I-7510A

Isolated RS-422/485 Repeater/Converter

I-7510AR

Three Way Isolated RS-422/485 Repeater/Converter

I-7510P

Three Way 5 kV Isolated 485 Repeater



Features

- Automatic RS-485 Direction Control
- 3-way 3000 VDC Isolation Protection for I-7510AR
- Transmission Speed of up to 115200 bps
- Operating Temperatures, -25 °C ~ +75 °C
- 2-way 3000 VDC Isolation Protection for I-7510/I-7510A
- ESD Protection for RS-485 Data Line
- Power Input, +10 ~ +30 VDC
- DIN-Rail Mounting
- 3-way 5000 VDC Isolation Protection for I-7510P (IEC 60664-1 section 6.1.2.2.1)

Introduction

The I-7510/I-7510A provides 2-way optical isolation between one piece of RS-422/RS-485 equipment and the rest of the system. It can also be used as a repeater to extend the transmission of an existing network. Additionally, an RS-485 system can be expanded beyond the 256 node limitation imposed by the standard. It can also be used to convert a four-wire RS-422 signal into a 2-wire RS-485 signal, and vice versa.

The I-7510AR is exactly the same as the I-7510A, except for the isolation side. The isolation side of the I-7510A is located in the input interface circuit, but the isolation side of the I-7510AR is located in the input and output interface circuit. In other words the I-7510AR is 3-way isolation repeater module.

System Specifications

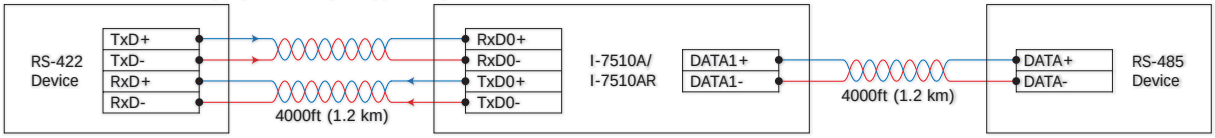
Models		I-7510	I-7510P	I-7510A	I-7510AR
Interface					
Serial Interface	RS-422	–		TxD+, TxD-, RxD+, RxD- The RS-422 and RS-485 cannot be used simultaneously	
	RS-485	Data+, Data-			
Transmission Distance		Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps (Belden 9841 2P twisted-pair cable, if different cables are used, the transmission distance may change)			
Self-Tuner Asic Inside		Yes			
Speed		300 ~ 115200 bps			
ESD Protection		Yes			
Isolated Voltage		2-way 3 kV Isolated	3-way 5 kV Isolated	2-way 3 kV Isolated	3-way 3 kV Isolated
Connector		Removable 10-Pin Terminal Block x 2			
LED Indicators					
Power/Communication		Yes			
Power					
Input Voltage Range		+10 VDC ~ +30 VDC			
Power Consumption		2.2 W			
Mechanical					
Casing		Plastic			
Dimensions (W x H x D)		72 mm x 122 mm x 35 mm			
Installation		DIN-Rail Mounting			
Environment					
Operating Temperature		-25 °C ~ +75 °C			
Storage Temperature		-30 °C ~ +75 °C			
Humidity		10 ~ 90% RH, non-condensing			

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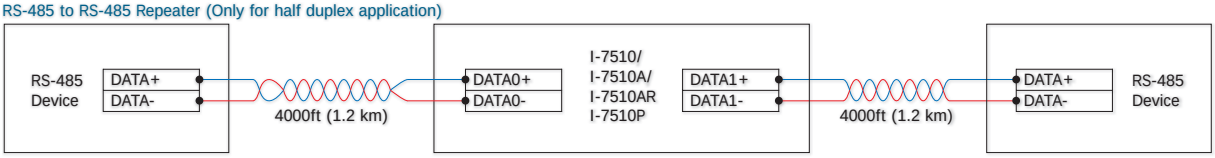
Applications

Applications for RS-422/485

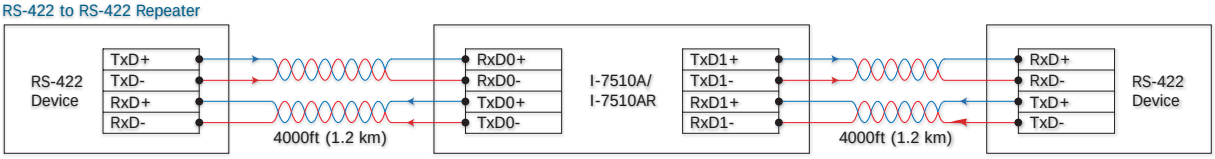
RS-422 to RS-485 Converter (Only for half duplex application)



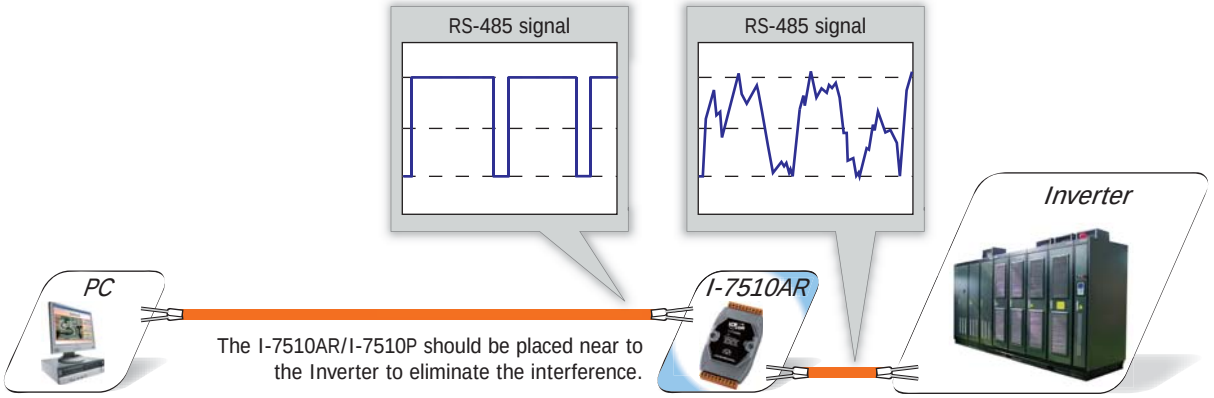
RS-485 to RS-485 Repeater (Only for half duplex application)



RS-422 to RS-422 Repeater



Application for 3-way isolation



Pin Assignments



I-7510/I-7510P

Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
01	DATA+	20	DATA1+
02	DATA-	19	DATA1-
03	--	18	--
04	--	17	--
05	--	16	--
06	--	15	--
07	--	14	--
08	--	13	--
09	(R)+Vs	12	--
10	(B)GND	11	--

I-7510A / I-7510AR

Terminal No.		Pin Assignment	Pin Assignment
RS-485	01	DATA0+	DATA0+
	02	DATA0-	DATA0-
	03	--	--
RS-422	04	RxD0+	TxD0+
	05	RxD0-	TxD0-
	06	TxD0+	RxD0+
	07	TxD0-	RxD0-
	08	--	--
	09	(R)+Vs	(R)+Vs
	10	(B)GND	(B)GND

I-7510A/7510AR

Terminal No.		Pin Assignment
RS-485	20	DATA1+
	19	DATA1-
	18	--
RS-422	17	TxD1+
	16	TxD1-
	15	RxD1+
	14	RxD1-
	13	--
	12	--
	11	--

Ordering Information

I-7510 CR	Isolated RS-485 Repeater (RoHS)	I-7510-G CR	Isolated RS-485 Repeater (Gray Cover) (RoHS)
I-7510A CR	Isolated RS-422/485 Repeater/Converter (RoHS)	I-7510A-G CR	Isolated RS-422/485 Repeater/Converter (Gray Cover) (RoHS)
I-7510AR CR	Three Way Isolated RS-422/485 Repeater/Converter (RoHS)	I-7510AR-G CR	Three Way Isolated RS-422/485 Repeater/Converter (Gray Cover) (RoHS)
I-7510P CR	Three Way 5 kV Isolated 485 Repeater (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

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