

#### I-7510

Isolated RS-485 Repeater

#### I-7510A

Isolated RS-422/485 Repeater/Converter

#### I-7510AR

Three Way Isolated RS-422/485 Repeater/Converter



#### Features ▶▶▶▶

- Automatic RS-485 Direction Control
- 3-way 3000 V<sub>dc</sub> Isolation Protection for I-7510AR
- Transmission Speed of up to 115200 bps
- Operating Temperatures, -25 °C ~ +75 °C
- 2-way 3000 V<sub>dc</sub> Isolation Protection for I-7510/I-7510A
- ESD Protection for RS-485 Data Line
- Power Input, +10 ~ +30 V<sub>dc</sub>
- DIN-Rail

#### 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.

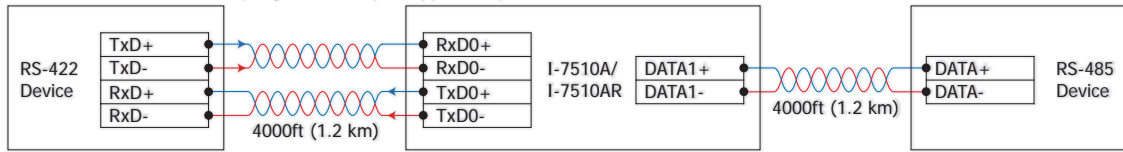
The I-7510AR is exactly the same as the I-7510A, except for the isolation site. The isolation site of the I-7510A is located in the input interface circuit, but the isolation site of the I-7510AR is located in the input and output interface circuit. In other words the I-7510AR is 3-way isolation repeater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

#### System Specifications

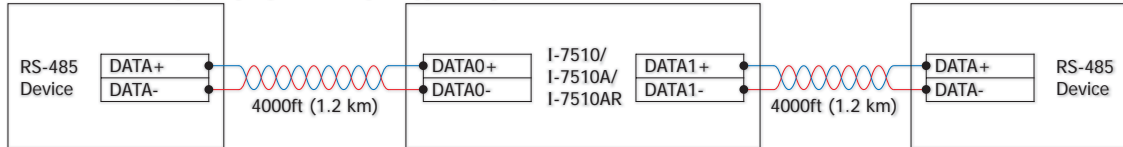
Models	I-7510	I-7510A	I-7510AR
<b>Interface</b>			
Serial Interface	RS-422	-	TxD+, TxD-, RxD+, RxD- The RS-422 and RS-485 cannot be used simultaneously
	RS-485	Data+, Data-	
Transfer Distance	Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps (Belden 9841 2P twisted-pair cable, if different cables are used, the transmission distance may change)		
Self-Tuner Asic Inside	Yes		
Speed	300 ~ 115200 bps		
ESD Protection	Yes		
3000 V <sub>dc</sub> Isolated Voltage	2-way Isolated		3-way Isolated
Connection	Removable 10-Pin Terminal Block x 2		
<b>LED Indicators</b>			
Power/Communication	Yes		
<b>Power</b>			
Input Voltage Range	+10 V <sub>dc</sub> ~ +30 V <sub>dc</sub> (Non-isolated)		
Power Consumption	2.16 W		
<b>Mechanical</b>			
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		
<b>Environment</b>			
Operating Temperature	-25 °C ~ +75 °C		
Storage Temperature	-30 °C ~ +75 °C		
Humidity	10 ~ 90% RH, non-condensing		

## Applications

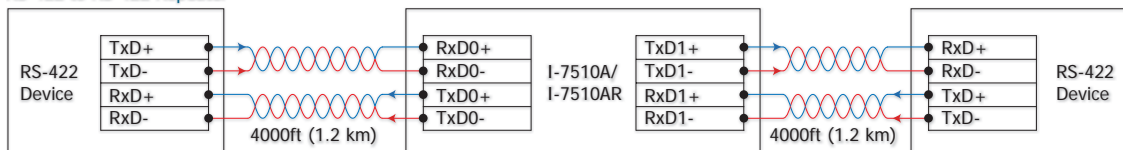
RS-422 to RS-485 Converter (Only for half duplex application)



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



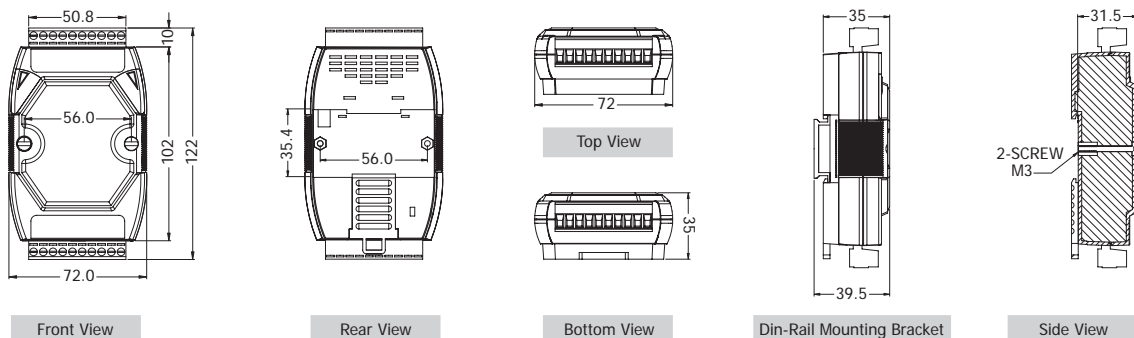
RS-422 to RS-422 Repeater



## Pin Assignments

I-7510				I-7510A		I-7510AR		I-7510A/7510AR	
Terminal No.	Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
01	DATA+	20	DATA1+	RS-485 01	DATA0+	DATA0+	RS-485 20	DATA1+	
02	DATA-	19	DATA1-	02	DATA0-	DATA0-	19	DATA1-	
03	--	18	--	03	--	--	18	--	
04	--	17	--	RS-422 04	RxD0+	TxD0+	RS-422 17	TxD1+	
05	--	16	--	05	RxD0-	TxD0-	16	TxD1-	
06	--	15	--	06	TxD0+	RxD0+	15	RxD1+	
07	--	14	--	07	TxD0-	RxD0-	14	RxD1-	
08	--	13	--	08	--	--	13	--	
09	(R)+Vs	12	--	09	(R)+Vs	(R)+Vs	12	--	
10	(B)GND	11	--	10	(B)GND	(B)GND	11	--	

## Dimensions (Unit: mm)



## Ordering Information

I-7510 CR	Isolated RS-485 Repeater (RoHS)
I-7510A CR	Isolated RS-422/485 Repeater/Converter (RoHS)
I-7510AR CR	Three Way Isolated RS-422/485 Repeater/Converter (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