



I-2541/I-2542 Series

RS-232/422/485 to Fiber Optic Converter

Features

- Automatic RS-485 Direction Control
- Avoids lightning strikes and EMI/RFI interference
- Supports +10 VDC ~ +30 VDC
- Optical fibers enable transmission: 2 km for I-2541
15 km for I-2542-A/I-2542-B
25 km for I-2542-A25/I-2542-B25
- ESD Protection for the RS-232/422/485 Data Line
- Supports operating temperatures from -25 °C ~ +75 °C
- DIN-Rail Mounting



Introduction

The I-2541 is an RS-232/422/485 to fiber optic converter that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. The I-2541 is used for RS-232/422 point-to-point connections and RS-485 multi-drop applications for transmitting a signal up to 2 km and is the perfect solution for applications where transmission must be protected from electrical exposure, surges or chemical corrosion.

The I-2542 series of Single-Strand Fiber Converters supports Wavelength Division Multiplexing (WDM) technology that allows two independent data communication channels to transmit and receive over one standard, single mode, fiber optic line. This not only doubles your existing bandwidth, but also effectively reduces the cost of creating a new fiber optic infrastructure. The I-2542-A and I-2542-B is a pair.

System Specifications

Models	I-2541	I-2542 series	
Interface			
Fiber Interface	Fiber Port	Multi-Mode; ST connector	Single-Mode; SC connector
	Wavelength	850 nm	TX: 1310, RX: 1550 nm for I-2542-A/I-2542-A25 TX: 1550, RX: 1310 nm for I-2542-B/I-2542-B25
	Fiber Cable	50/125, 62.5/125, 100/140 μm	8.3/125, 8.7/125, 9/125 or 10/125 μm
	Distance	2 km, (62.5/125 μm recommended)	15 km for I-2542-A/I-2542-B 25 km for I-2542-A25/I-2542-B25 (9/125 μm recommended)
Serial Interface	RS-232	The RS-232, RS-422 and RS-485 cannot be used simultaneously	TxD, RxD, GND
	RS-422		TxD+, TxD-, RxD+, RxD-
	RS-485		Data+, Data-
RS-422/485 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	1200 ~ 115200 bps	
ESD Protection	Yes		
RS-232/422/485 Connector	Removable 8-Pin Terminal Block		
LED Indicators			
Power	Yes		
Power			
Input Voltage Range	+10 Vdc ~ +30 Vdc (Non-isolated)		
Power Consumption	1.5 W	2 W	
Mechanical			
Casing	Plastic		
Dimensions (W x L x H)	33 mm x 89 mm x 107 mm	33 mm x 88 mm x 107 mm	
Installation	DIN-Rail Mounting		
Environment			
Operating Temperature	-25 °C ~ +75 °C		
Storage Temperature	-30 °C ~ +75 °C		
Humidity	10 ~ 90% RH, non-condensing		

Applications

An illustration of the I-2541 for RS-485 Devices

Note 1:

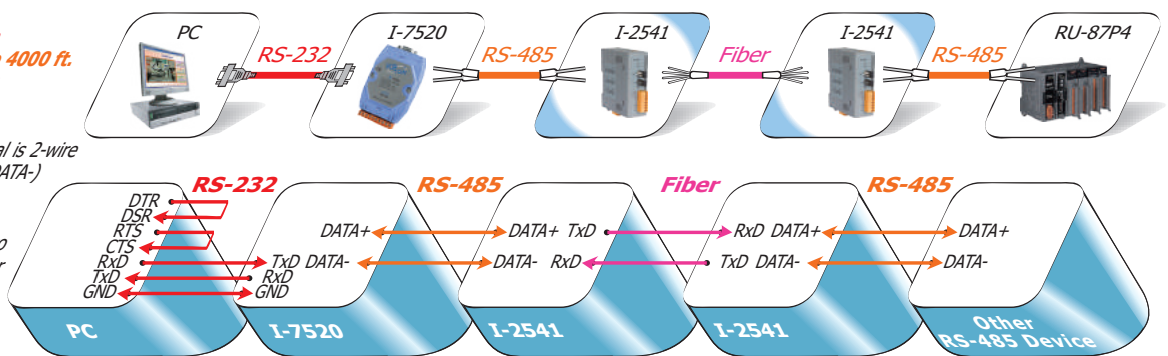
- 15 m
- up to 4000 ft.
- 2 km

Note 2:

The RS-485 signal is 2-wire mode (DATA+, DATA-)

Note 3:

I-7520: RS-232 to RS-485 Converter



An illustration of the I-2541 for RS-422 Devices

Note 1:

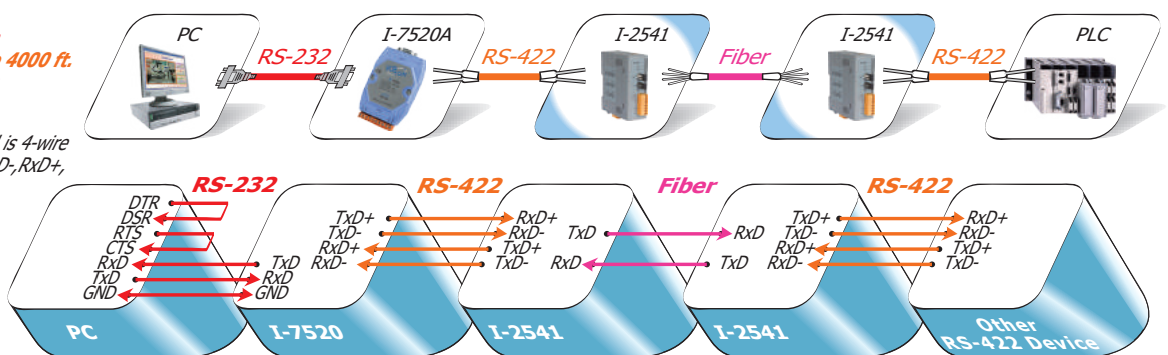
- 15 m
- up to 4000 ft.
- 2 km

Note 2:

The RS-422 signal is 4-wire mode (TxD+, TxD-, RxD+, RxD-)

Note 3:

I-7520A: RS-232 to RS-485/422 Converter



An illustration of the I-2542 for RS-485 Devices

Note 1:

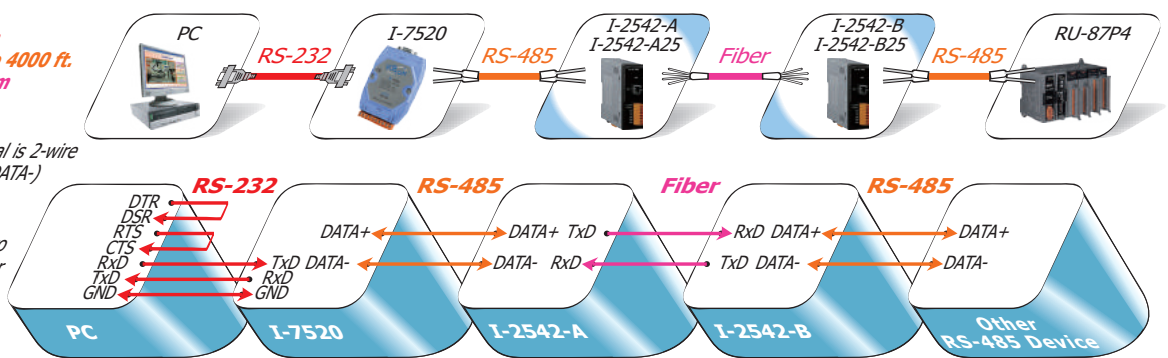
- 15 m
- up to 4000 ft.
- 15 km

Note 2:

The RS-485 signal is 2-wire mode (DATA+, DATA-)

Note 3:

I-7520: RS-232 to RS-485 Converter



An illustration of the I-2542 for RS-422 Devices

Note 1:

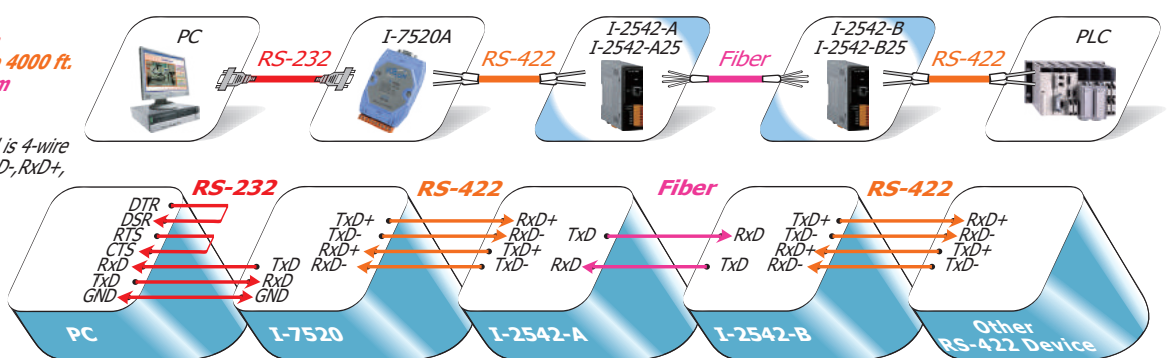
- 15 m
- up to 4000 ft.
- 15 km

Note 2:

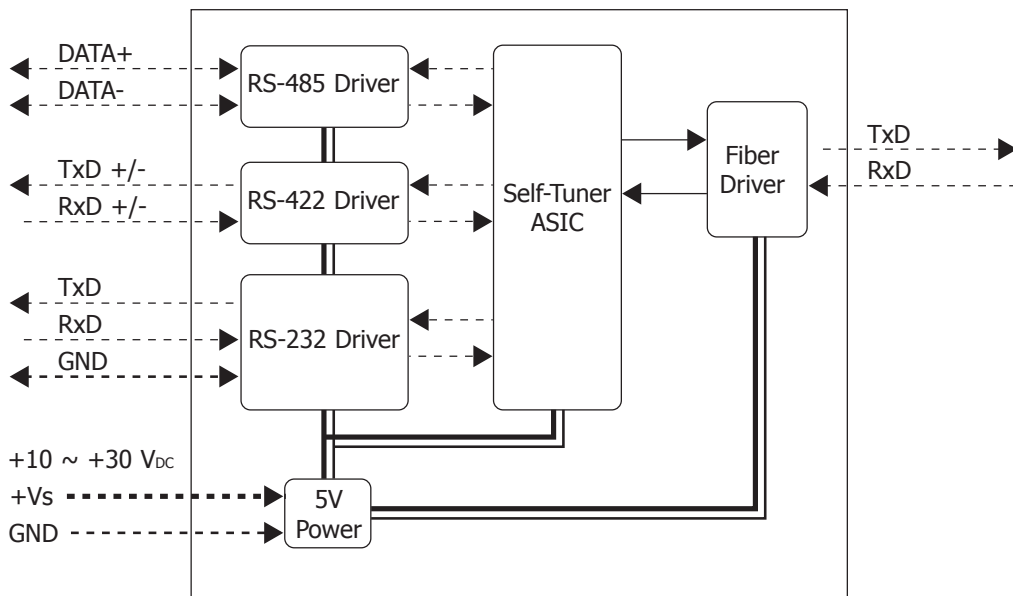
The RS-422 signal is 4-wire mode (TxD+, TxD-, RxD+, RxD-)

Note 3:

I-7520A: RS-232 to RS-485/422 Converter

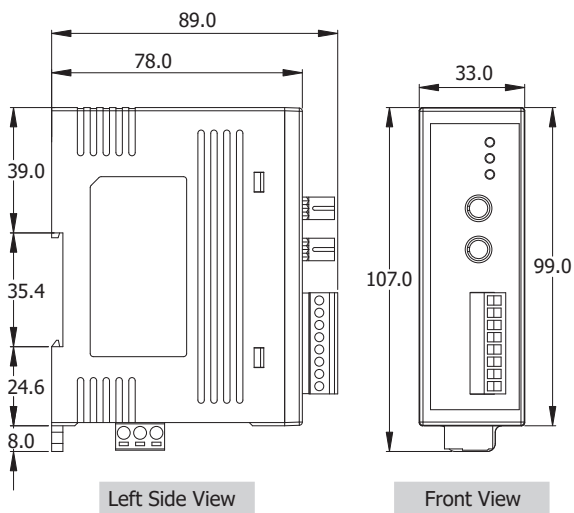


Internal I/O Structure

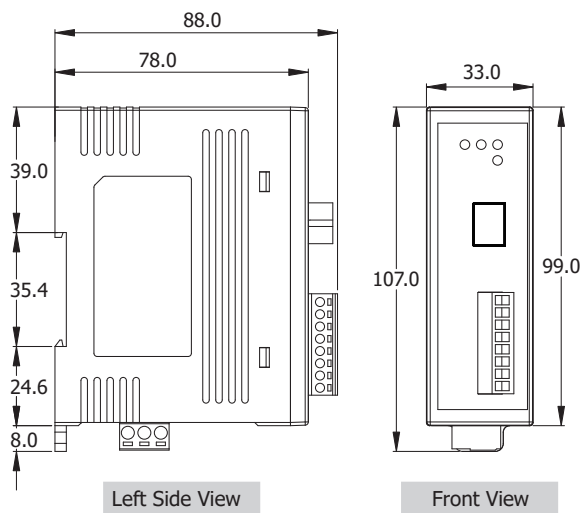


Dimensions (Units: mm)

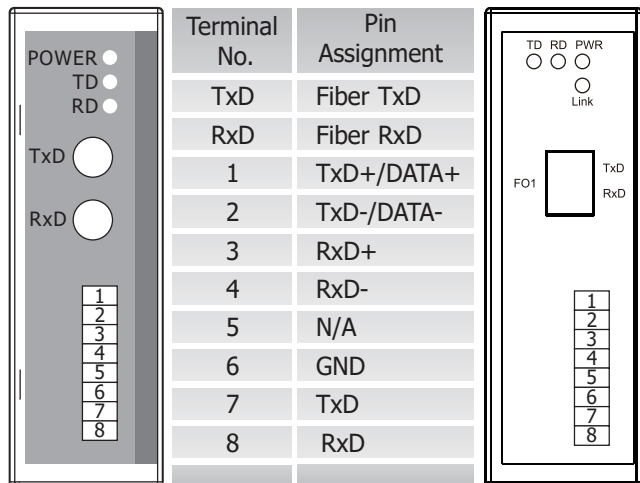
I-2541



I-2542 Series



Pin Assignments



Ordering Information

I-2541 CR	RS-232/422/485 to Multi-Mode 2 Km, ST Fiber optic converter
I-2542-A CR	RS-232/422/485 to Single-Mode 15 Km, SC Fiber optic converter, TX 1310 nm, RX 1550 nm (RoHS)
I-2542-B CR	RS-232/422/485 to Single-Mode 15 Km, SC Fiber optic converter, TX 1550 nm, RX 1310 nm (RoHS)
I-2542-A25	RS-232/422/485 to Single-Mode 25 Km, SC Fiber optic converter, TX 1310 nm, RX 1550 nm (RoHS)
I-2542-B25	RS-232/422/485 to Single-Mode 25 Km, SC Fiber optic converter, TX 1550 nm, RX 1310 nm (RoHS)

Important Note:
You must purchase both **I-2542-A/I-2542-A25** and **I-2542-B/I-2542-B25** since these products work as a pair.

Accessories

GPSU06U-6	Power Supply, 110~240VAC or 127~230VDC to 24VDC/0.25A, 6 W, two pins USA plug
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