
Release Note : I-2542-A/I-2542-B

RS-232/422/485 to Single-Mode Fiber Optic converter

General Description

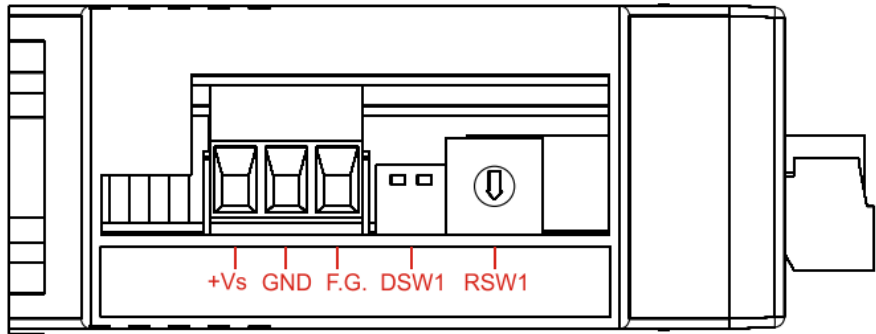
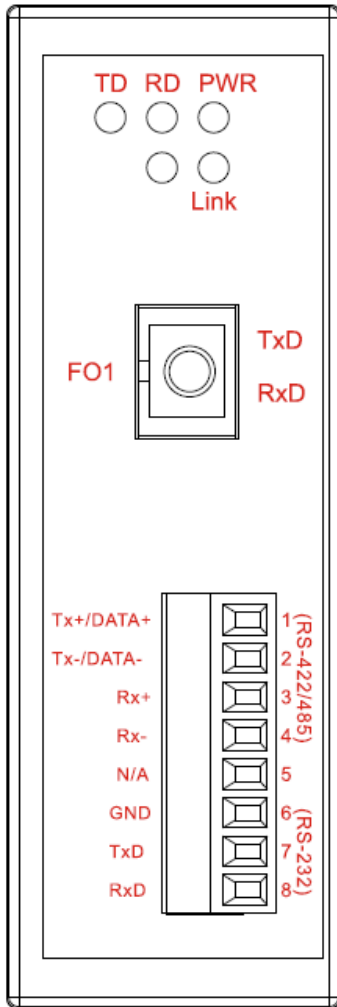
The I-2542-A/I-2542-B series of single-Strand fiber Converters supports Wavelength Division Multiplexing (WDM) technology that allows two independent data communication channels to transmit and receive over one standard, single mode and fiber optic line. This not only doubles your existing bandwidth,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

The I-2542-A/I-2542-B series are designed for RS-232/422 point-to-point connections and RS-485 multi-drop applications which require a signal to be transmitted for distances of up to 15 km, and is a perfect solution in applications where transmission must be protected from electrical exposure, power surges, lightning strikes or chemical corrosion.

Specifications

- Fiber Port: SC Connector (Single-mode).
- Wavelength: TX: 1310, RX: 1550 nm for I-2542-A, TX: 1550, RX: 1310 nm for I-2542-B.
- Fiber Cable: 8.3/125, 8.7/125, 9/125 or 10/125 μ m.
- Transmission Distance: 15 km, (9/125 μ m recommended).
- RS-422/485 Transfer Distance: Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps.
- Speed: Fixed baud rate setting via rotary switch, 1200 ~ 115200 bps.
- Provides LEDs for network and power monitoring.
- DIN rail mount for industrial usage.
- Flammability: Fire Retardant Materials (UL94-V0 Level)
- Dimensions (W x H x D): 33 mm x 89 mm x 107 mm.
- Operating Temperature: -25 $^{\circ}$ C ~ +75 $^{\circ}$ C.
- Power requirements: Unregulated +10V DC ~ +30V DC.
- Power consumption: 2 W max.
- ESD Protection:
 - 4KV Contact Discharge
 - 8KV Air-Gap Discharge

■ Connectors



RS-232/422/485 Converter connection

Serial communication	
RS-232 Signals	TxD, RxD, GND
RS-422 Signals	TxD+, TxD-, RxD+, RxD-
RS-485 Signals	Data+, Data-
Baud Rate	1200 ~ 115200 bps

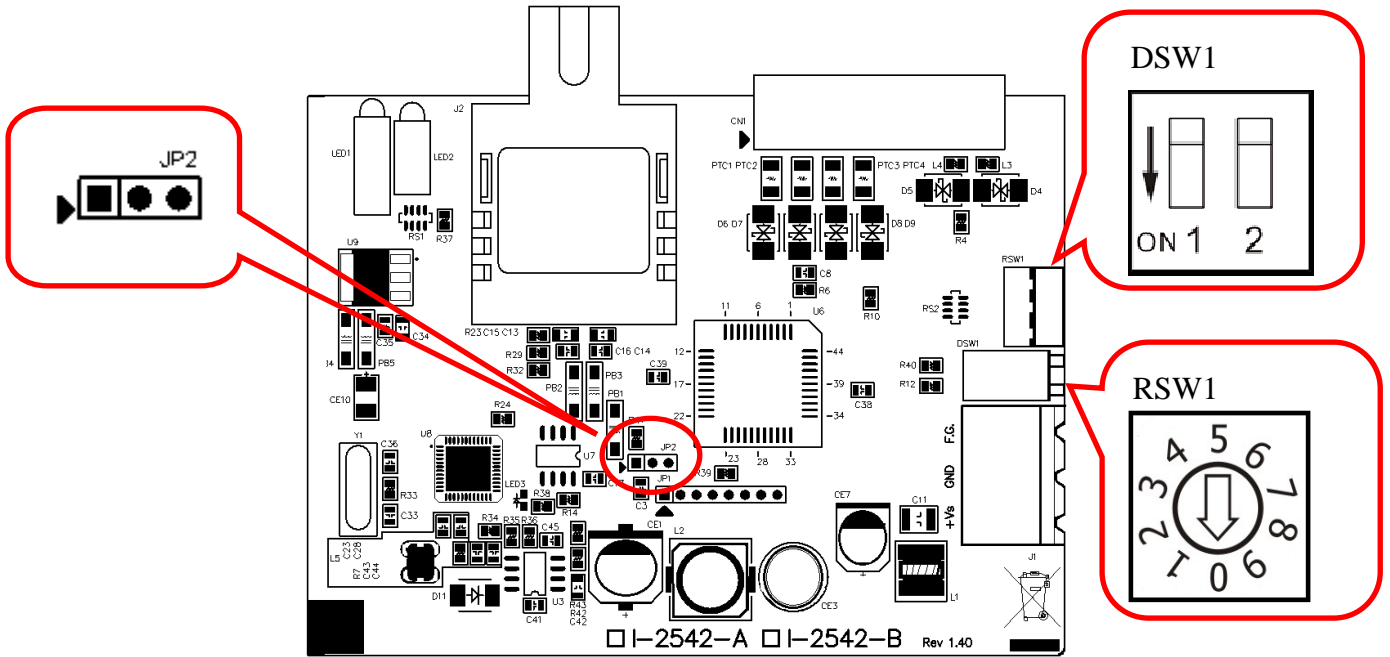
Interpreting the LED Indicators

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

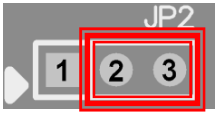
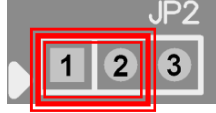
LED	Status	Color	Description
PWR	Power status	Red	LED will be ON solid when the power is On.
TD	Transit Data	Green	LED will flash when the unit is being sent out.
RD	Receive Data	Orange	LED will flash when the unit is being received data.
Link	Cable Link	Green	LED will be ON when the Fiber Cable connects each other.

Selecting the I-2542-A/I-2542-B Data Formats: Fixed bud rate mode

DSW1 and **JP2** control 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. 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.



JP2 and DSW1 Setting

Data Format	DSW1		JP2
N.7.1	1=ON	2=ON	Jumper to JP2-2 and JP2-3
N.8.1	1=ON	2=OFF	 Default Position
E.8.1	1=OFF	2=ON	
E.8.2	1=OFF	2=OFF	
O.8.1	1=OFF	2=ON	
O.8.2	1=OFF	2=OFF	

RSW1 Setting

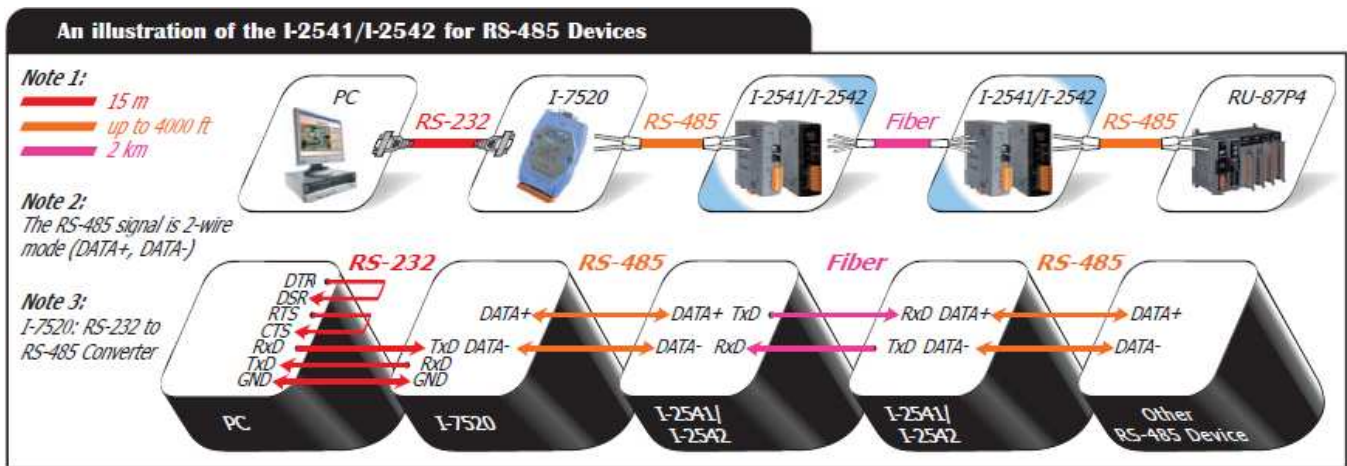
Band Rate Setting (RSW1)	
0=1200 bps	4=19200 bps
1=2400 bps	5=38400 bps
2=4800 bps	6=57600 bps
3=9600 bps	7=115200 bps

■ Making Network Connections

Important note: RS-232/485/422 protocols cannot be used simultaneously.

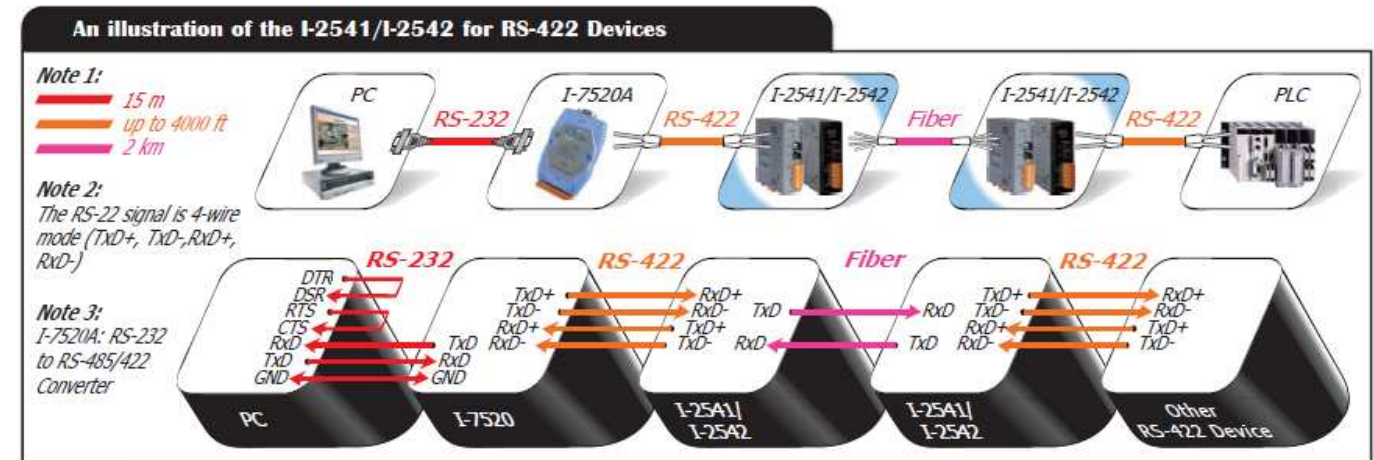
The RS-485 pin assignment of the I-2542-A/I-2542-B

Terminal Number	TxD	RxD	1	2	3	4	5	6	7	8
Pin Name	Fiber TxD	Fiber RxD	DATA+	DATA-	—	—	—	—	—	—



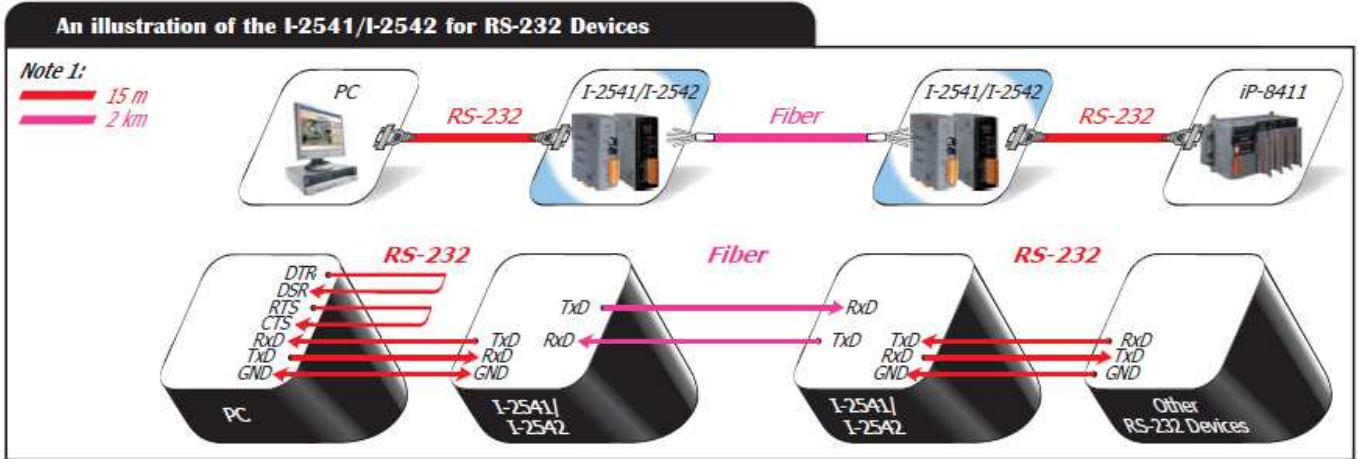
The RS-422 pin assignment of the I-2542-A/I-2542-B

Terminal Number	TxD	RxD	1	2	3	4	5	6	7	8
Pin Name	Fiber TxD	Fiber RxD	Tx+	Tx-	Rx+	Rx-	—	—	—	—



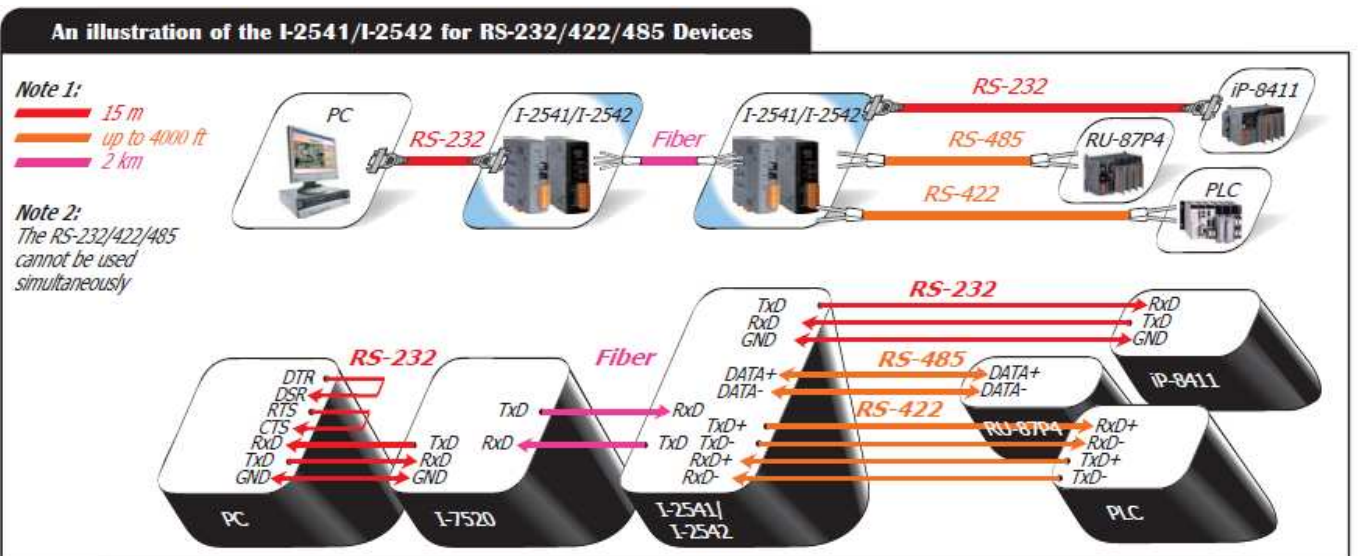
The RS-232 pin assignment of the I-2542-A/I-2542-B

Terminal Number	TxD	RxD	1	2	3	4	5	6	7	8
Pin Name	Fiber TxD	Fiber RxD	—	—	—	—	—	GND	TxD	RxD



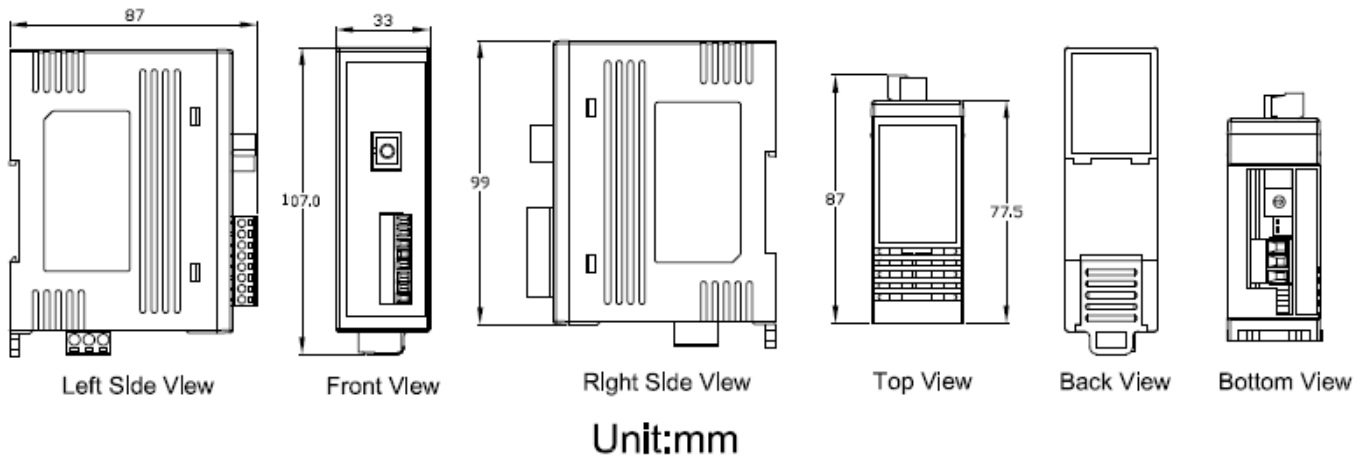
All pin assignments for the I-2542-A/I-2542-B

Terminal Number	TxD	RxD	1	2	3	4	5	6	7	8
Pin Name	Fiber TxD	Fiber RxD	Tx+ DATA+	Tx- DATA-	Rx+	Rx-	NC	GND	TxD	RxD



Note: RS-232/485/422 protocols cannot be used simultaneously.

Dimensions (Unit:mm)



Ordering Information

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)

Important Note:

You must purchase both I-2542-A and I-2542-B since these products work as a pair.

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