Release Note : I-2542-A25/I-2542-B25

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

General Description

The I-2542-A25/I-2542-B25 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-A25/I-2542-B25 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 25 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-A25, TX: 1550, RX: 1310 nm for I-2542-B25.
- Fiber Cable: 8.3/125, 8.7/125, 9/125 or 10/125 µm.
- Transmission Distance: 25 km, (9/125 µm 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 ℃ ~ +75 ℃.
- Power requirements: Unregulated +10 VDC ~ +30 VDC.
- Power consumption: 2 W max.
- ESD Protection:
    4KV Contact Discharge
    8KV Air-Gap Discharge

■ Connectors & Cables
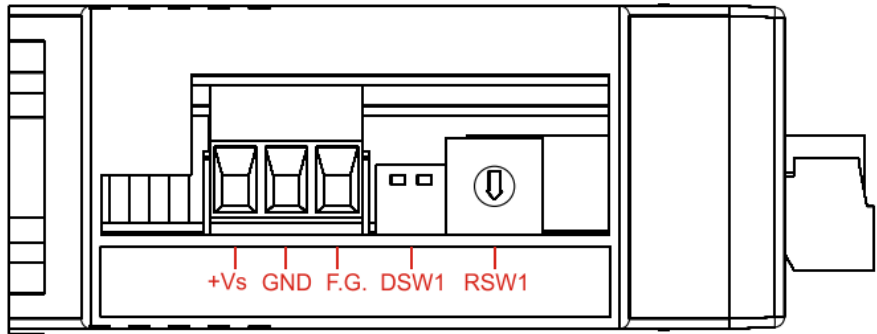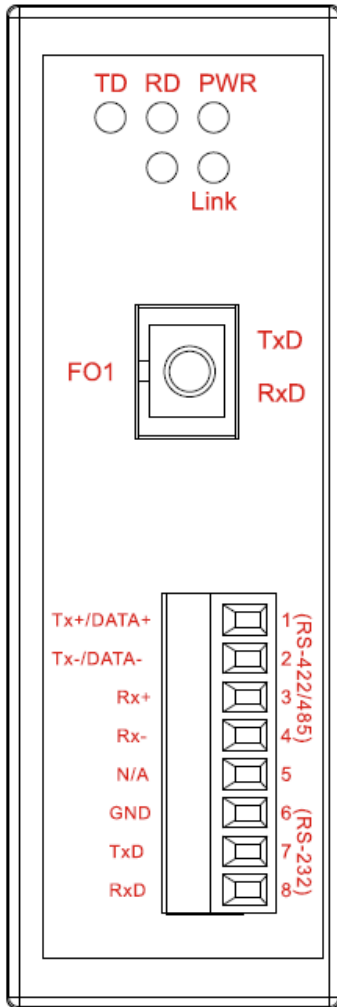
RS-232/422/485 Converter connection

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

Fiber Cables

A 9/125 µm cable is recommended.

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 flash when the Cable is being Link.

Selecting the I-2542-A25/I-2542-B25 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.
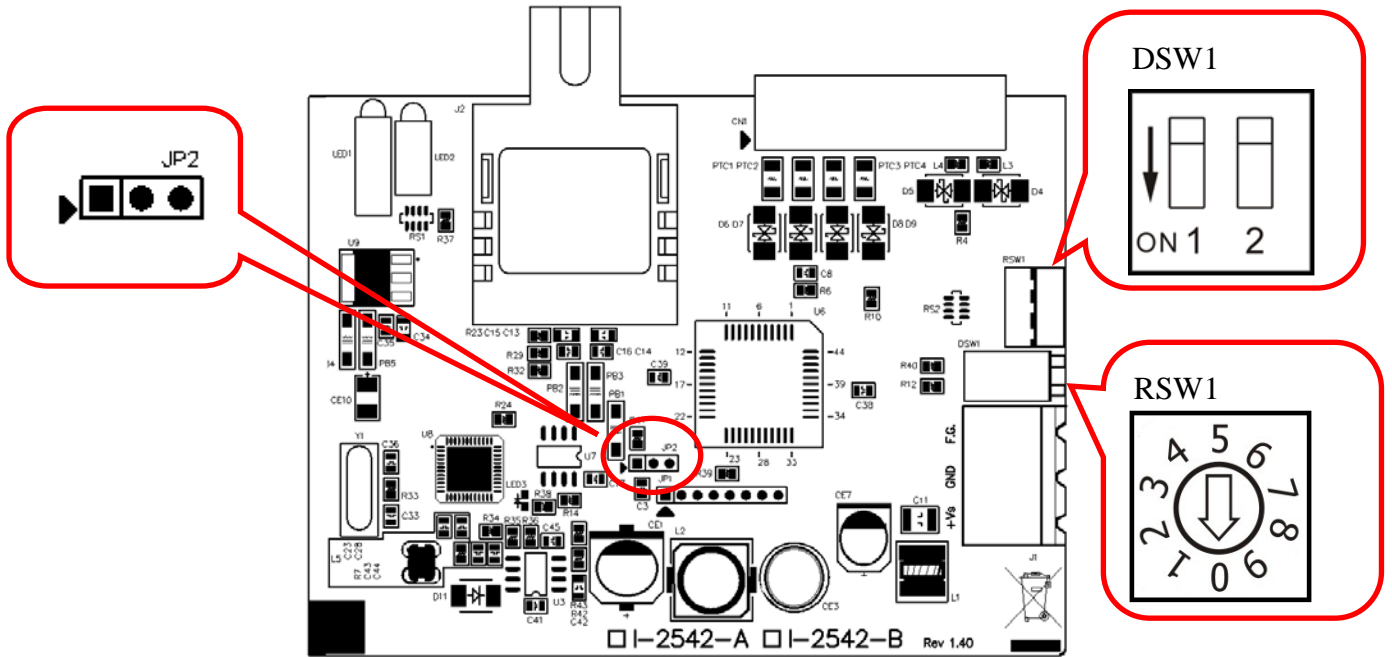
JP2 and DSW1 Setting

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	
E.8.1	1=OFF	2=ON	
E.8.2	1=OFF	2=OFF	
O.8.1	1=OFF	2=ON	Jumper to JP2-1 and JP2-2
O.8.2	1=OFF	2=OFF	

RSW1 Setting

Band Rate Setting (RSW1)	
0=1.2 kbps	4=19.2 kbps
1=2.4 kbps	5=38.4 kbps
2=4.8 kbps	6=57.6 kbps
3=9.6 kbps	7=115.2 kbps

■ Making Network Connections

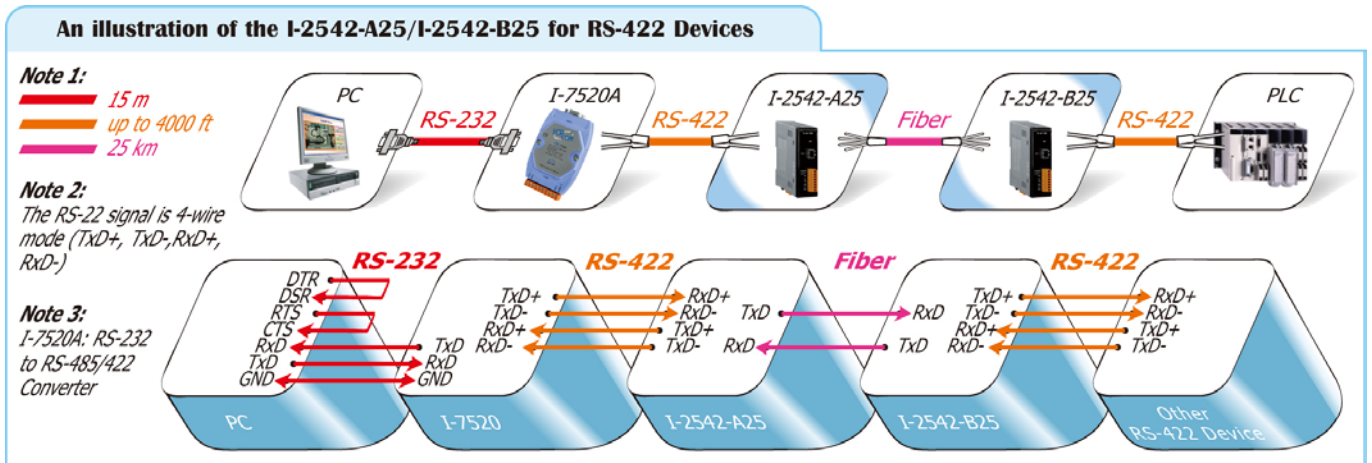**Important note:** RS-232/485/422 protocols cannot be used simultaneously.

The RS-485 pin assignment of the I-2542-A25/I-2542-B25

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

An illustration of the I-2542-A25/I-2542-B25 for RS-485 Devices
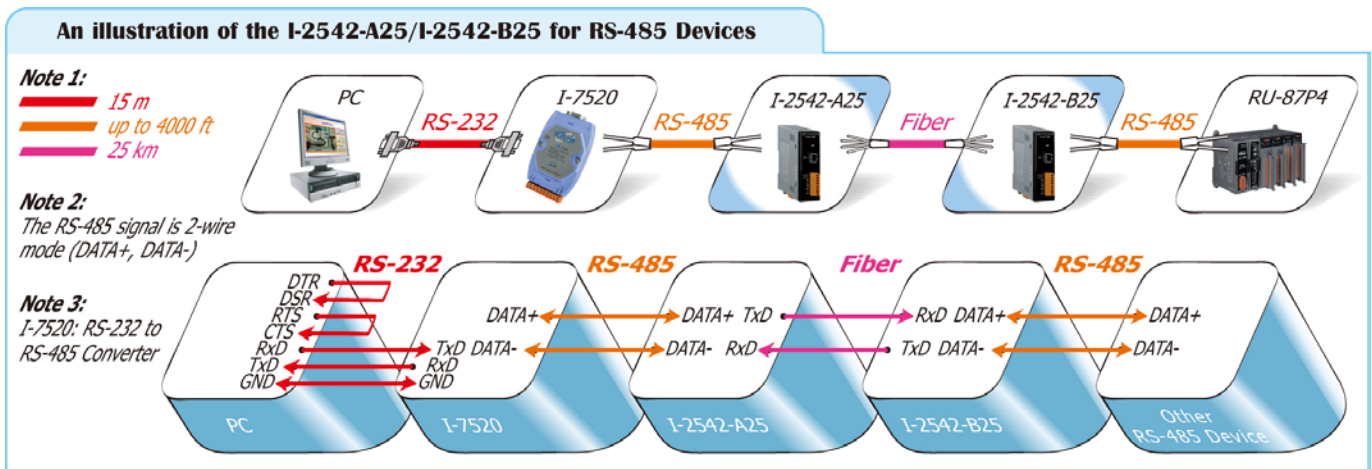
The RS-422 pin assignment of the I-2542-A25/I-2542-B25

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

An illustration of the I-2542-A25/I-2542-B25 for RS-422 Devices

The RS-232 pin assignment of the I-2542-A25/I-2542-B25

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

An illustration of the I-2542-A25/I-2542-B25 for RS-232 Devices
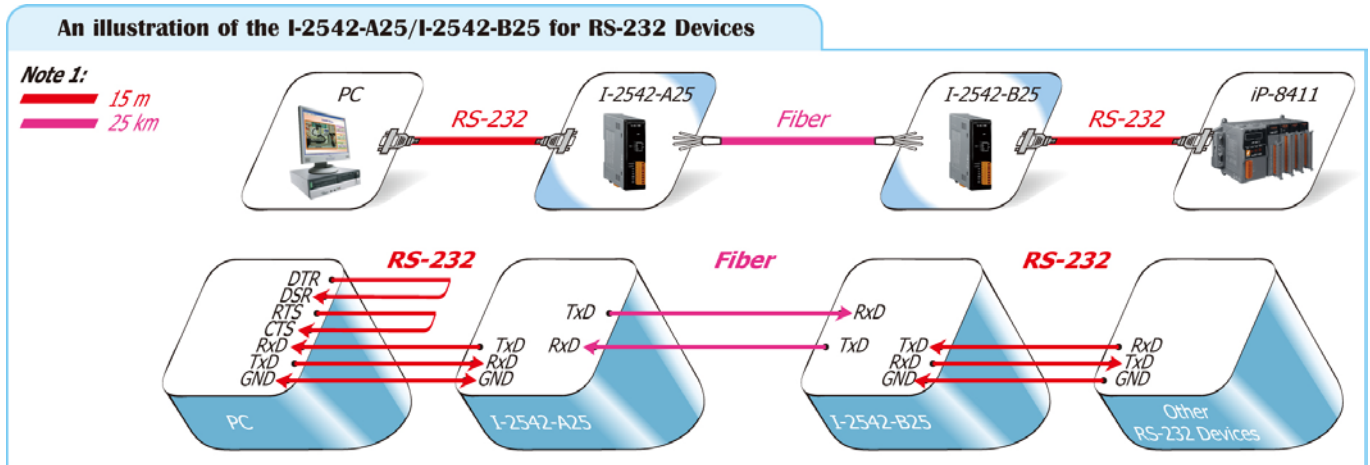
All pin assignments for the I-2542-A25/I-2542-B25

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

An illustration of the I-2542-A25/I-2542-B25 for RS-232/422/485 Devices
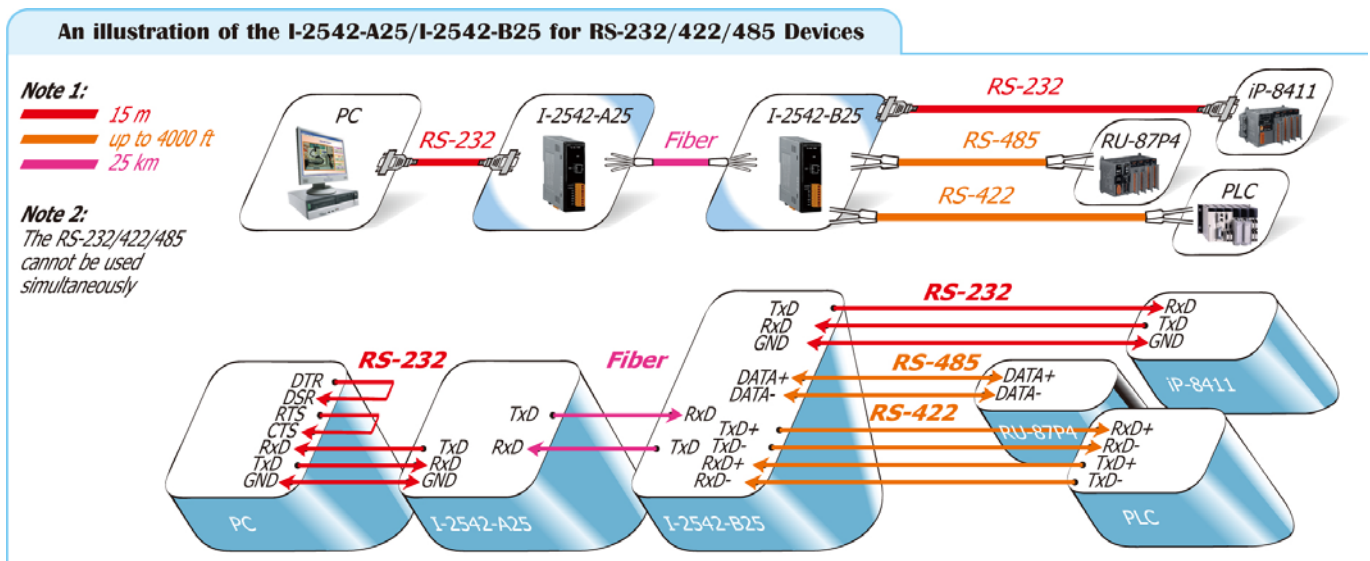
Note: RS-232/485/422 protocols cannot be used simultaneously.

Ordering Information

I-2542-A25 CR	RS-232/422/485 to Single-Mode 25 km, SC Fiber optic converter, TX 1310 nm, RX 1550 nm (RoHs)
I-2542-B25 CR	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-A25 and I-2542-B25 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