



## I-7520/I-7520A/I-7520R/I-7520AR

Isolated RS-232 to RS-422/485 Converter

### Features

- Automatic RS-485 Direction Control
- ESD Protection for the RS-232/422/485 Data Line
- Power Input, +10 ~ +30 VDC
- 3000 VDC Isolation Protection on the RS-485 side
- Transmission Speed of up to 115200 bps
- Operating Temperatures, -25 °C ~ +75 °C
- DIN-Rail Mounting



### Introduction

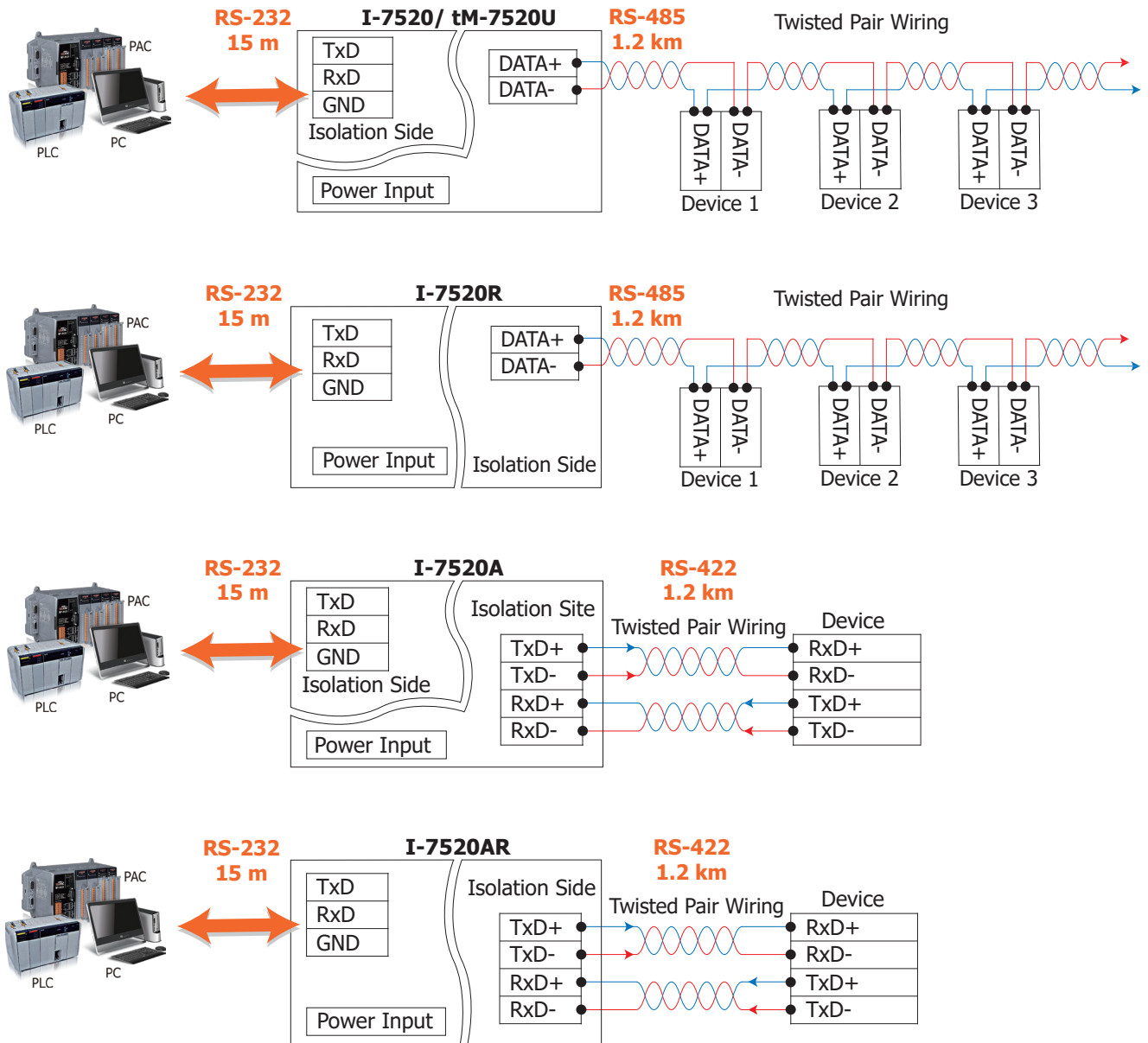
Most industrial computer systems provide standard RS-232 serial ports. Though widely accepted, RS-232 has limited transmission speed, range, and networking capabilities. The RS-422 and RS-485 standards overcome these limitations by using differential voltage lines for data and control signals, which transparently converts RS-232 signals into isolated RS-422 or RS-485 signal with no need to change any hardware or software. The I-7520AR lets you easily build an industrial grade, long-distance communication system using standard PC hardware.

The design of the isolation between the I-7520/A and the I-7520R/AR is different. If the user wants to supply power from the PLC/PC, the I-7520R/AR should be used, otherwise the isolation will be broken. Refer to the I-7000 bus converter manual for detailed information.

### System Specifications

| Models                    |            | I-7520  | I-7520R        | I-7520A        | I-7520AR  |
|---------------------------|------------|---|----------------|----------------|---|
| <b>Interface</b>          |            |   |                |                |   |
| Serial Interface          | RS-232     | TxD, RxD, GND   |                |                |   |
|                           | RS-422     | -   |                |                | TxD+, TxD-, RxD+, RxD-<br>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<br>(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 Vdc Isolated Voltage |            | on RS-232 side  | on RS-485 side | on RS-232 side | on RS-485 side  |
| Connector                 | RS-232     | 9-Pin Female D-Sub  |                |                |   |
|                           | RS-422/485 | Removable 10-Pin Terminal Block   |                |                |   |
| <b>LED Indicators</b>     |            |   |                |                |   |
| Power/Communication       |            | Yes   |                |                |   |
| <b>Power</b>              |            |   |                |                |   |
| Input Voltage Range       |            | +10 VDC ~ +30 VDC (Non-isolated)  |                |                |   |
| Power Consumption         |            | 1.2 W   |                |                |   |
| <b>Mechanical</b>         |            |   |                |                |   |
| Casing                    |            | Plastic   |                |                |   |
| Dimensions (W x H x D)    |            | 72 mm x 118 mm x 35 mm  |                |                |   |
| Installation              |            | DIN-Rail Mounting   |                |                |   |
| <b>Environment</b>        |            |   |                |                |   |
| Operating Temperature     |            | -25 °C ~ +75 °C   |                |                |   |
| Storage Temperature       |            | -30 °C ~ +75 °C   |                |                |   |
| Humidity                  |            | 10 ~ 90% RH, non-condensing   |                |                |   |

## Applications

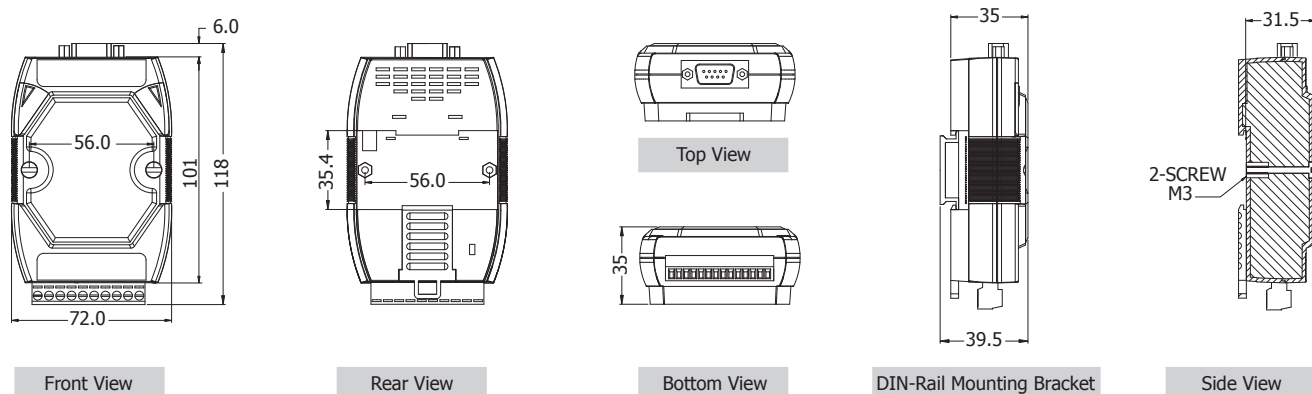


## Pin Assignments

| I-7520/I-7520R |                |                |              |                | I-7520A/I-7520AR |                |                |              |                |
|----------------|----------------|----------------|--------------|----------------|------------------|----------------|----------------|--------------|----------------|
| Terminal No.   | Pin Assignment | Pin Assignment | Terminal No. | Pin Assignment | Terminal No.     | Pin Assignment | Pin Assignment | Terminal No. | Pin Assignment |
| RS-485         | 01             | DATA+          | 01           | --             | RS-485           | 01             | DATA1+         | 01           | --             |
|                | 02             | DATA-          |              | 02             |                  | TxD            | 02             |              | DATA1-         |
|                | 03             | --             | 03           | RxD            | 03               | TxD+           | 03             | RxD          |                |
|                | 04             | --             | 04           | --             | 04               | TxD-           | 04             | --           |                |
|                | 05             | --             | 05           | GND            | 05               | RxD+/DATA2+    | 05             | --           |                |
|                | 06             | --             |              |                | 06               | RxD-/DATA2-    | 06             | --           |                |
|                | 07             | --             |              |                | 07               | GND            | 07             | --           |                |
|                | 08             | --             |              |                | 08               | --             | 08             | --           |                |
|                | 09             | (R)+Vs         |              |                | 09               | (R)+Vs         | 09             | --           |                |
|                | 10             | (B)GND         |              |                | 10               | (B)GND         | 10             | --           |                |

RS-232: Female DB-9 Connector

## ■ Dimensions (Units: mm)



## ■ Ordering Information

|               |   |
|---------------|---|
| I-7520 CR     | Isolated RS-232 to RS-485 Converter (Blue Cover) (RoHS)     |
| I-7520-G CR   | Isolated RS-232 to RS-485 Converter (Gray Cover) (RoHS)     |
| I-7520A CR    | Isolated RS-232 to RS-422/485 Converter (Blue Cover) (RoHS) |
| I-7520A-G CR  | Isolated RS-232 to RS-422/485 Converter (Gray Cover) (RoHS) |
| I-7520R CR    | RS-232 to Isolated RS-485 Converter (Blue Cover) (RoHS)     |
| I-7520R-G CR  | RS-232 to Isolated RS-485 Converter (Gray Cover) (RoHS)     |
| I-7520AR CR   | RS-232 to Isolated RS-422/485 Converter (Blue Cover) (RoHS) |
| I-7520AR-G CR | RS-232 to Isolated RS-422/485 Converter (Gray Cover) (RoHS) |

## ■ Accessories

|            |   |
|------------|---|
| GPSU06U-6  | Power Supply, 110~240VAC or 127~230VDC to 24VDC/0.25A, 6 W, two pins USA plug |
| I-7510 CR  | Isolated RS-485 Repeater (Blue Cover) (RoHS)                                  |
| I-7510A CR | Isolated RS-422/485 Repeater/Converter (Blue Cover) (RoHS)                    |
| CA-0915 CR | DB9 Male to DB9 Female Cable [RS-232; Pin1-Pin9], 1.5M (RoHS)                 |