

## 4-2 RS-422/485 Repeaters

tM-7510U **NEW**

Isolated RS-485 Repeater



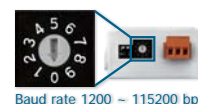
### Features ▶▶▶

- 2-way 2500 V<sub>DC</sub> Isolation Protection
- ESD Protection for RS-485 Data Line
- Power Input, +10 ~ +30 V<sub>DC</sub>
- Low power consumption
- Long-cable application
- Power and data flow indicator for troubleshooting
- Easy-to-use rotary switch for baud rate setting, 1200 ~ 115200 bps
- Operating Temperatures, -25 °C ~ +75 °C
- Tiny packaging fits on your DIN-Rail Mounting

### Introduction

The tM-7510U repeater simply amplifies, or boosts, existing RS-485 signals to enable them to cover longer distances. It extends the communication distance by 4000 ft. (1200 m) or increases the maximum number of bus nodes. The module provides 2500 V<sub>DC</sub> of isolation allowing you to separate and protect critical segments of the system from the rest of the RS-485 network.

The tM-7510U provides 2 modes of baud rate setting, one is Self-Tuner mode and the other is Fixed baud rate mode. The Self-Tuner mode can support multiple baud rate and multiple data format. The Self-Tuner design is exactly the same as I-7510 series. The Fixed baud rate mode offers a better quality for data transmission over long or lossy lines or electrically noisy environments.



Baud rate 1200 ~ 115200 bps

### Comparison Table of Repeater

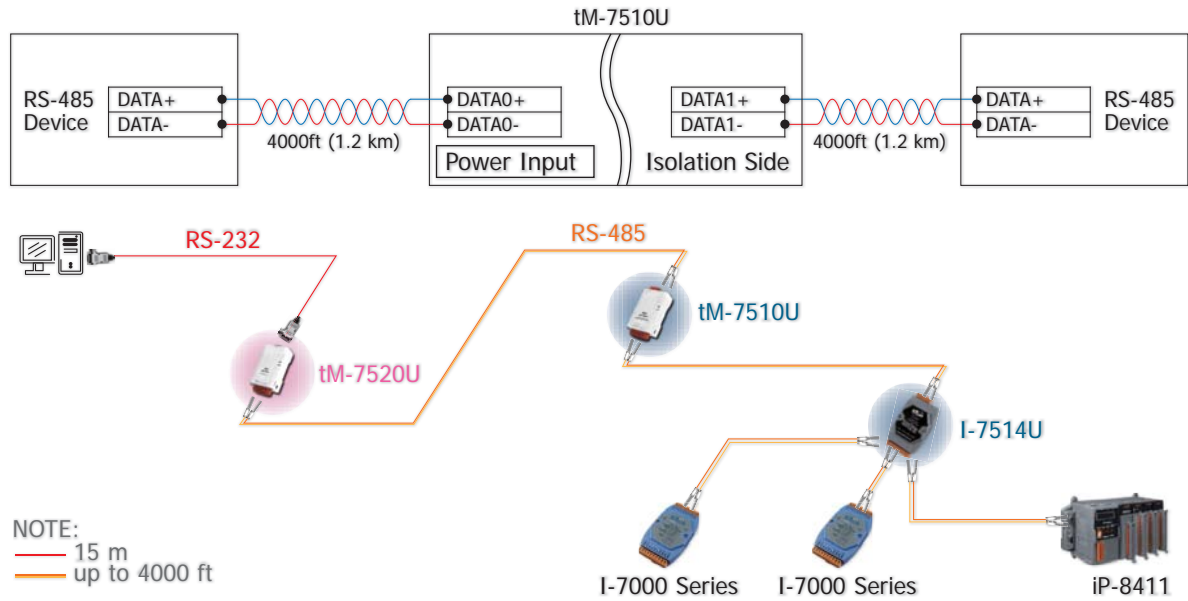
| Mode name                | tM-7510U   | I-7510  |
|--------------------------|--|---|
| RS-485 Direction Control | Fixed baud rate setting and Automatic RS-485 Direction Control (Self-Tuner, default) | Automatic RS-485 Direction Control (Self-Tuner) |
| Baud rate                | 300 ~ 115200 bps for Self-Tuner<br>1200 ~ 115200 bps for Fixed baud rate setting     | 300 ~ 115200 bps                                |
| Dimensions (W x H x D)   | 52 mm x 95 mm x 27 mm  | 72 mm x 122 mm x 35 mm                          |
| Remarks                  | Entry-level<br>Long-cable application  | Entry-level                                     |

### System Specifications

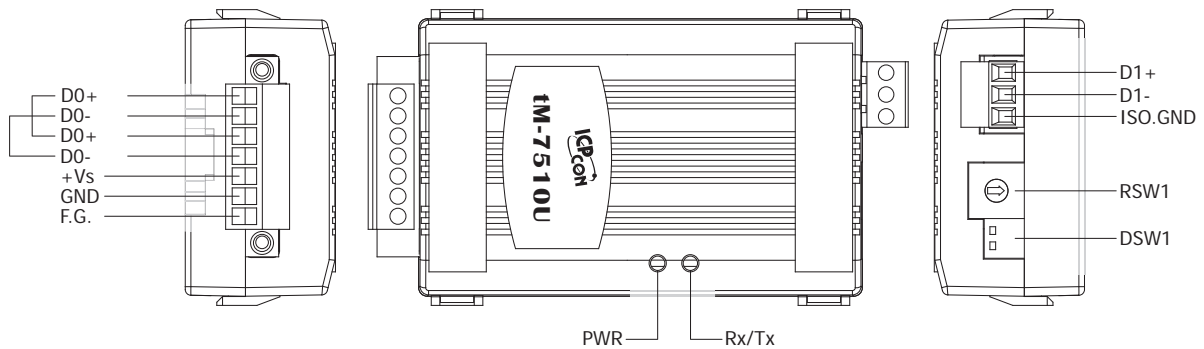
| Interface                             |        |   |
|---------------------------------------|--------|---|
| Serial Interface                      | RS-485 | Data+, Data-  |
| Transmission Distance                 |        | Max. 1,200 m at 9.6 kbps; Max. 400 m at 115.2 kbps<br>(Belden 9841 2P twisted-pair cable, if different cables are used, the transmission distance may change) |
| 2500 V <sub>DC</sub> Isolated Voltage |        | 2-way Isolation   |
| Connector                             |        | Removable 7-Pin Terminal Block x 1; Removable 3-Pin Terminal Block x 1  |
| LED Indicators                        |        |   |
| Power/Communication                   |        | Yes   |
| Power                                 |        |   |
| Input Voltage Range                   |        | +10 V <sub>DC</sub> ~ +30 V <sub>DC</sub> (Non-isolated)  |
| Power Consumption                     |        | 0.6 W   |
| Environment                           |        |   |
| Operating Temperature                 |        | -25 °C ~ +75 °C   |
| Storage Temperature                   |        | -30 °C ~ +75 °C   |
| Humidity                              |        | 10 ~ 90% RH, non-condensing   |

## Applications

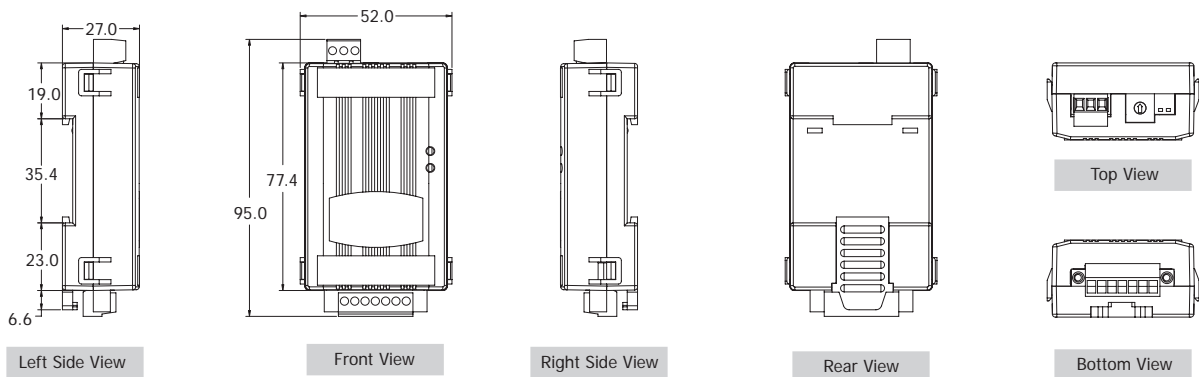
### RS-485 to RS-485 Repeater (Only for half duplex application)



## Pin Assignments



## Dimensions (Unit: mm)



## Ordering Information

|             |                                 |
|-------------|---------------------------------|
| tM-7510U CR | Isolated RS-485 Repeater (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 |