

Data Sheet

RS232 RS485 Converters (C10 - C13)

| | |
|--|--|
| <p>C10 C11 C12 C13</p> <p>Image not found or type unknown</p> | <p>Features</p> <ul style="list-style-type: none">• Automatic RS485 direction control• ESD protection for the RS232/485 data line• Power supply: +12 to +30 VDC or 24 VAC• 3000 VDC isolation protection on the RS-485 side• Transmission speed up to 115200 bps• Tx, Rx and power LED indicators• RS485 embedded termination 120 ohm• Operating temperatures: -40°C to +75°C• DIN-rail mounting• Compact size - single module format (1M)• Dimensions: 90x56.4x17.5 mm• 3 years warranty• Customization of OEM is welcomed |
|--|--|

Introduction

Most industrial computer systems provide standard RS232 serial ports. Though widely accepted, RS232 has limited transmission speed, range, and networking capabilities.

The RS485 standards overcome these limitations by using differential voltage lines for data and control signals.

The C10 makes it easy to build an industrial-grade, long-distance communication system using standard PC hardware, as it converts RS232 signals into isolated RS485 signals without any need to change any hardware or software.

The design of the isolation between the C10 - C12 is different. If the user wants to supply power from the PLC/PC, the C10 or C12 should be used, otherwise, the isolation will be broken.

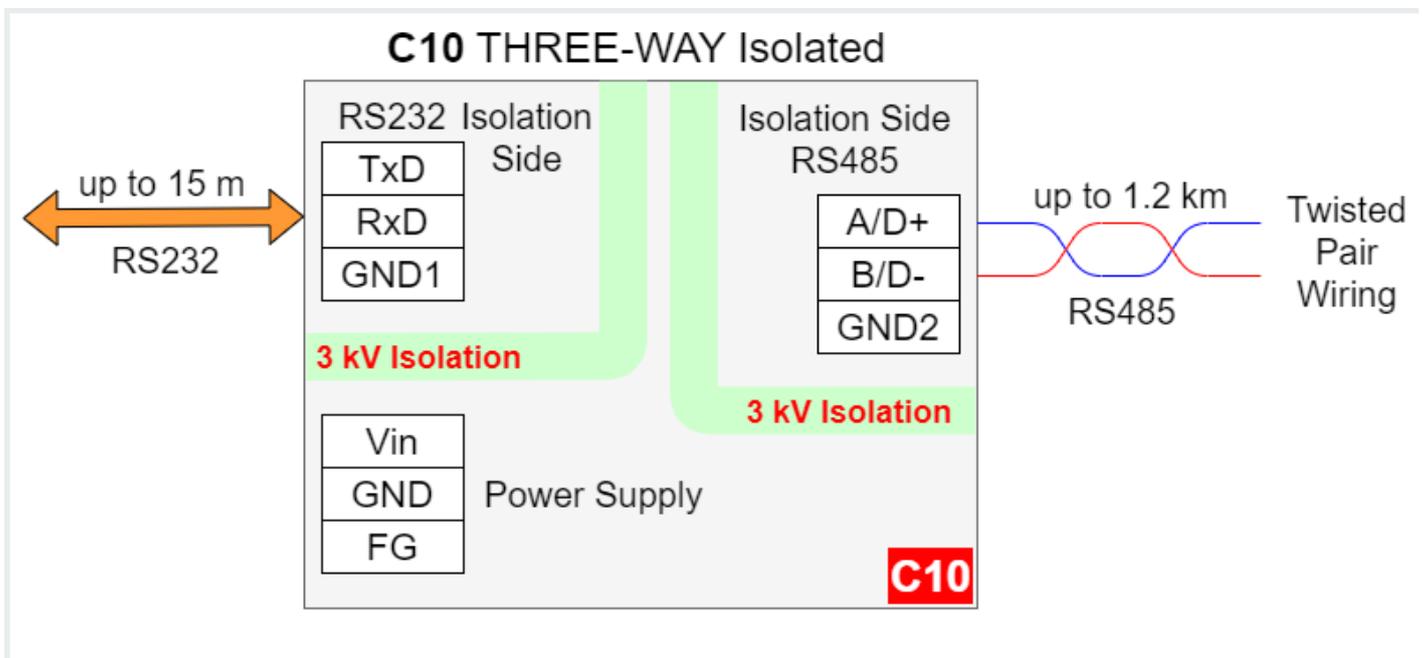
Specification

| Redisage PN | | C10 | C11 | C12 | C13 |
|-------------------------|---------|--|---------------|---------------|-----|
| Converter ports | | 1 x RS232 & 1 x RS485 | | | |
| Power | Voltage | 12-30 VDC / 24 VAC | 12-30 VDC | | |
| | Power | < 1 W | | | |
| Frame ground protection | | yes | | | |
| Serial interface | RS232 | TxD, Rx, GND | | | |
| | RS485 | A, B | | | |
| 3000 VDC isolation | | 3-way | on RS232 side | on RS485 side | N/A |
| Baud rate | | up to 115200 bps | | | |
| LED indicators | | communication Tx, Rx and power | | | |
| RS485 termination | | 120 ohm manually enabled | | | |
| Connector | RS232 | 3-pin terminal block max. 2.5 mm ² wire | | | |
| | RS485 | 3-pin terminal block max. 2.5 mm ² wire | | | |
| | Power | 3-pin terminal block max. 2.5 mm ² wire | | | |
| Transmission distance | RS485 | 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) | | | |
| | RS232 | max. 15 m at 115.2 kbps | | | |
| Mounting and enclosure | | DIN rail, plastic PA - UL 94 V0, black/green | | | |
| Temperatures | | -40°C to +75°C operating and storage | | | |

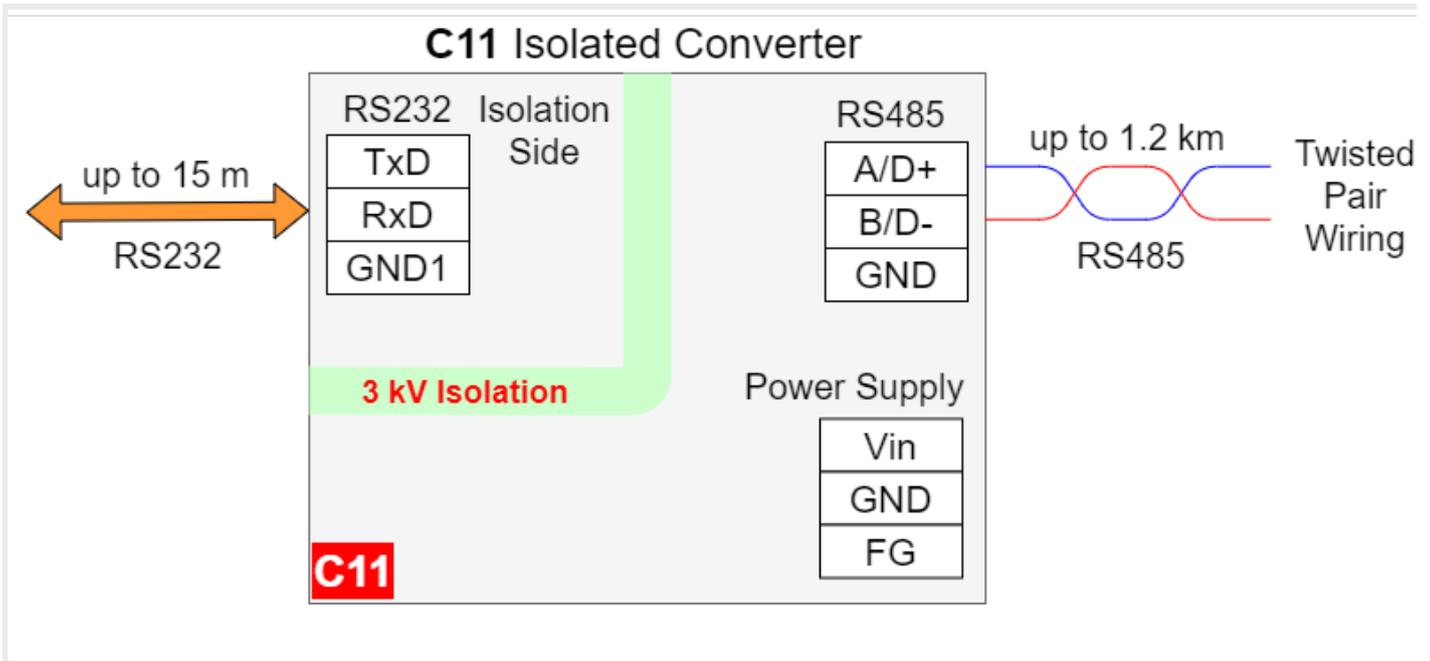
| Redisage PN | C10 | C11 | C12 | C13 |
|----------------|---|-----|-----|-----|
| Humidity | 10 - 90% RH, non-condensing | | | |
| ESD protection | ± 4 kV contact discharge / ± 8 kV air discharge | | | |
| Certification | CE, RoHS | | | |

Variants

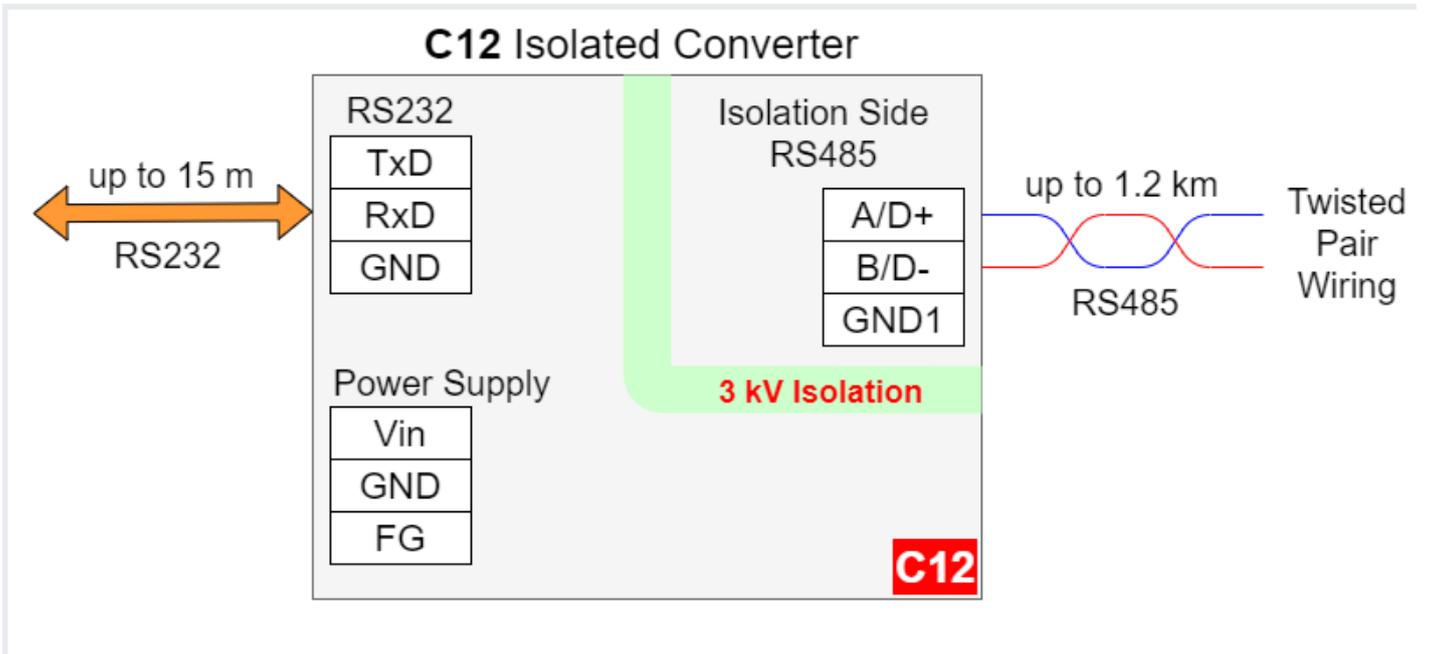
C10 - THREE-WAY Isolated



C11 - RS232 Isolated Side



C12 - RS485 Isolated Side



C13 - Non-isolated (Active)



Frame ground FG

Electronic circuits are constantly prone to electrostatic discharge ESD. Redisaige Electronics modules feature a design for the frame ground terminal block FG. The frame ground provides a

path for bypassing ESD, which provides enhanced static protection ESD abilities and ensures the module is more reliable. Connecting FG terminal block to the earth ground will bypass the ESD disturbances outside the device so will provide a better level of protection against ESD.

Frame Ground FG connection reference drawing is provided below.



If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

Pin assignments

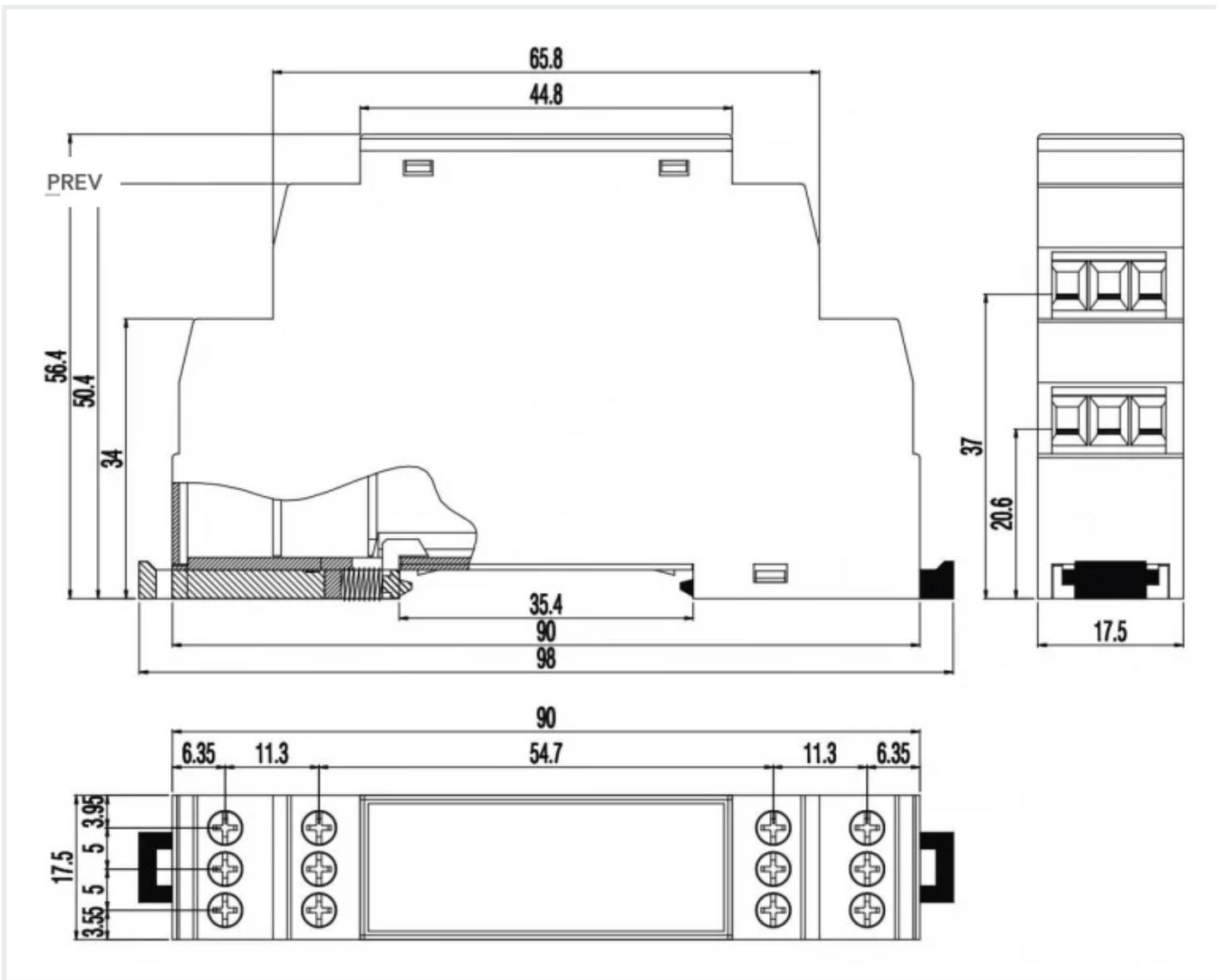
| | |
|--|--|
| C10 Image (1).webp or type unknown | C11 Image (2).webp or type unknown |
| C12 Image (3).webp or type unknown | C13 Image (4).webp or type unknown |

Enclosure dimensions

1U Module Enclosure

98 x 17.5 x 56.4

Units: mm



Additional notes

Related information and links

[Ordering information](#)

[Accessories](#)

[Similar products](#)

Products family sample photo



<https://redisage.com>

DISCLAIMER NOTES

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE

TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Datasheet-ID:

SC-D

Revision #21

Created 29 March 2024 14:32:09

Updated 26 July 2024 14:35:57 by Jan Górski