


# RS232 RS485 Converters

**C10 - C13 RS232 RS485 Converters documentation**

- [Data Sheet](#)
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# Data Sheet

## RS232 RS485 Converters (C10 - C13)

<div>C10 C11 C12 C13</div> <div></div>	<div>Features</div> <ul style="list-style-type: none"><li>• Automatic RS485 direction control</li><li>• ESD protection for the RS232/485 data line</li><li>• Power supply: +12 to +30 VDC or 24 VAC</li><li>• 3000 VDC isolation protection on the RS-485 side</li><li>• Transmission speed up to 115200 bps</li><li>• Tx, Rx and power LED indicators</li><li>• RS485 embedded termination 120 ohm</li><li>• Operating temperatures: -40°C to +75°C</li><li>• DIN-rail mounting</li><li>• Compact size - single module format (1M)</li><li>• Dimensions: 90x56.4x17.5 mm</li><li>• 3 years warranty</li><li>• Customization of OEM is welcomed</li></ul>
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## 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.

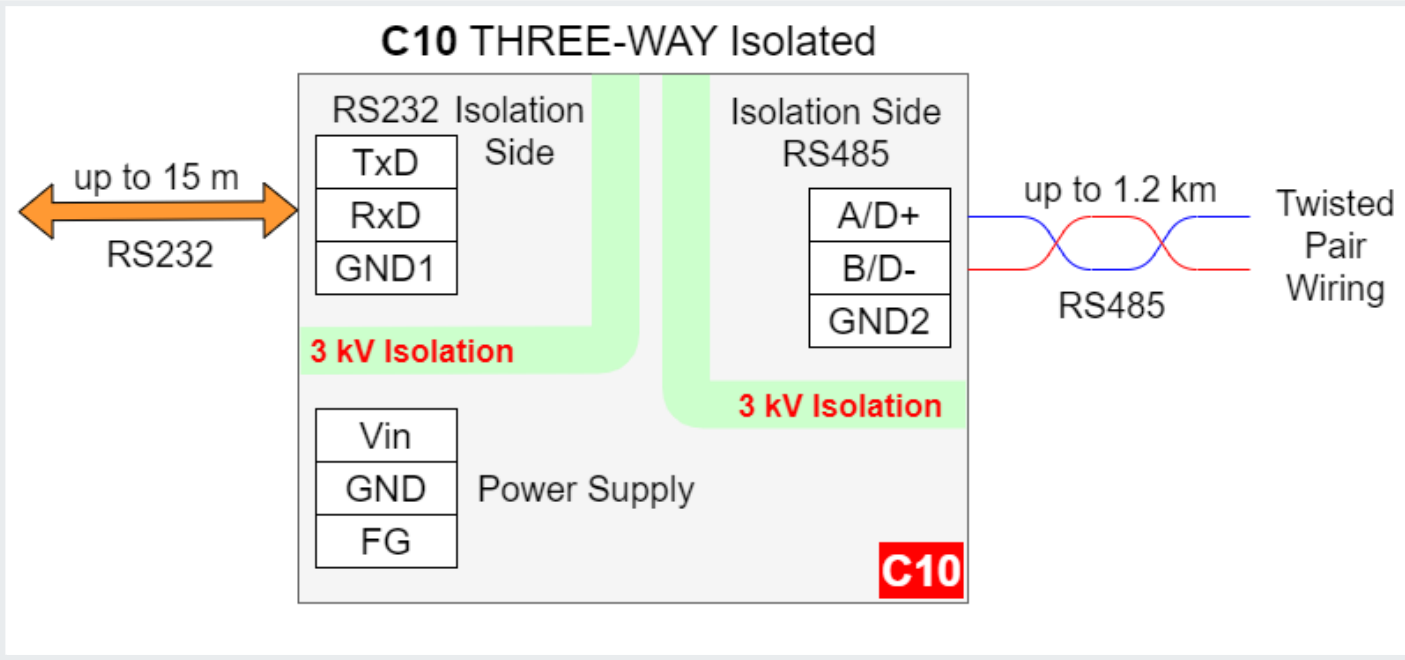
## Specification

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 <sup>2</sup> wire			
	RS485	3-pin terminal block max. 2.5 mm <sup>2</sup> wire			
	Power	3-pin terminal block max. 2.5 mm <sup>2</sup> 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			
Humidity		10 - 90% RH, non-condensing			

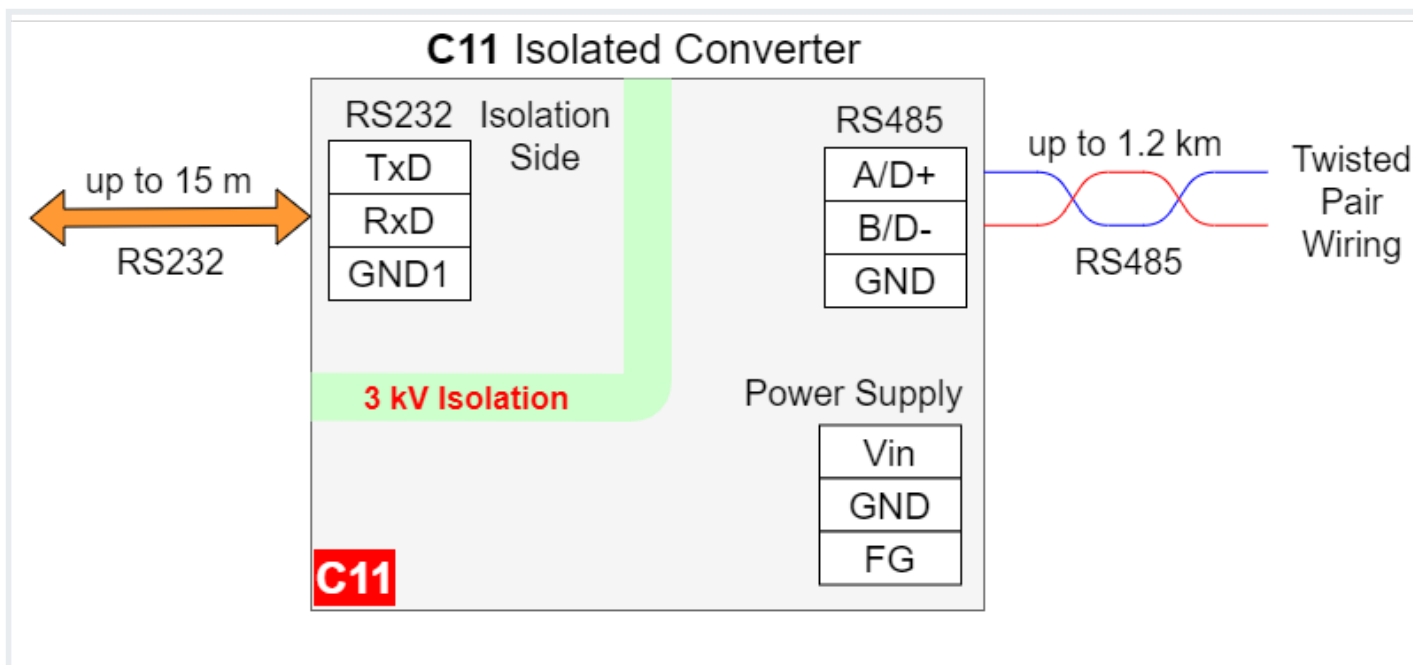
Redisage PN	C10	C11	C12	C13
ESD protection	±4 kV contact discharge / ±8 kV air discharge			
Certification	CE, RoHS			

# Variants

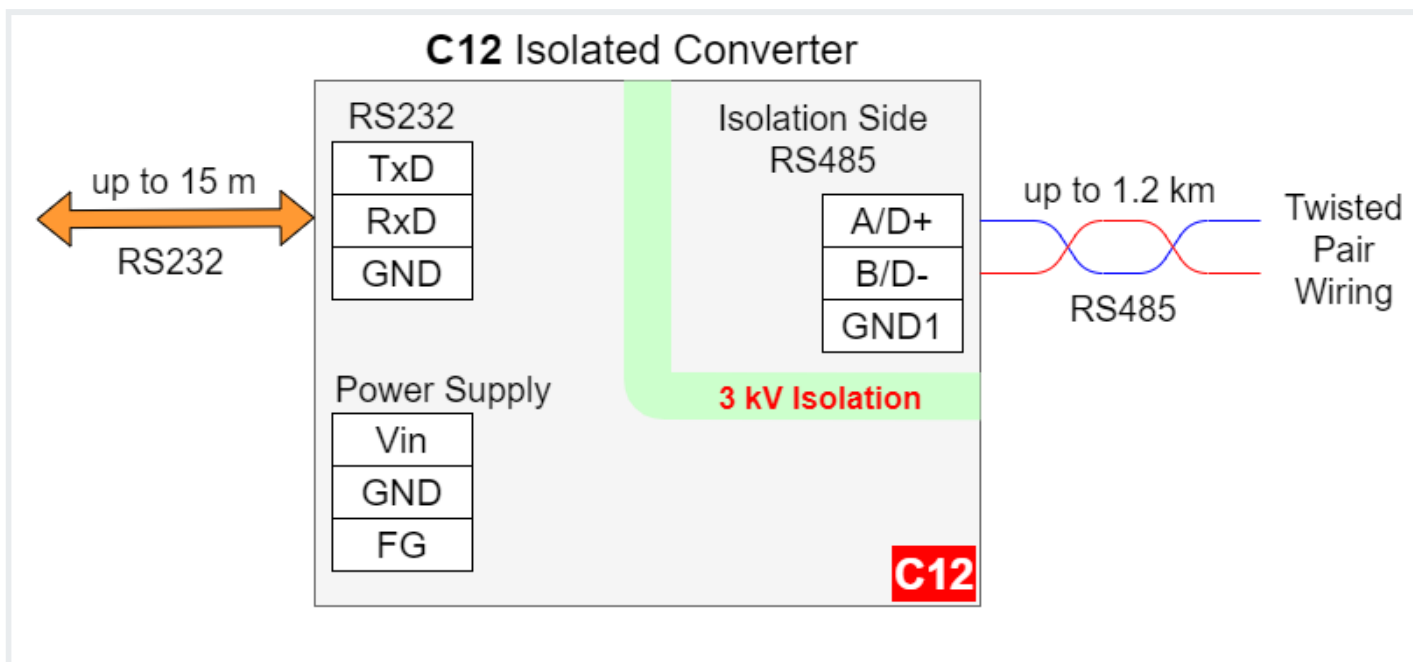
## C10 - THREE-WAY Isolated



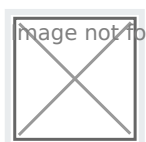
## C11 - RS232 Isolated Side



## C12 - RS485 Isolated Side



## C13 - Non-isolated (Active)

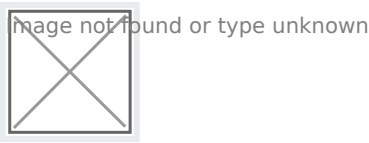


## Frame ground FG

Electronic circuits are constantly prone to electrostatic discharge ESD. Redisage 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.



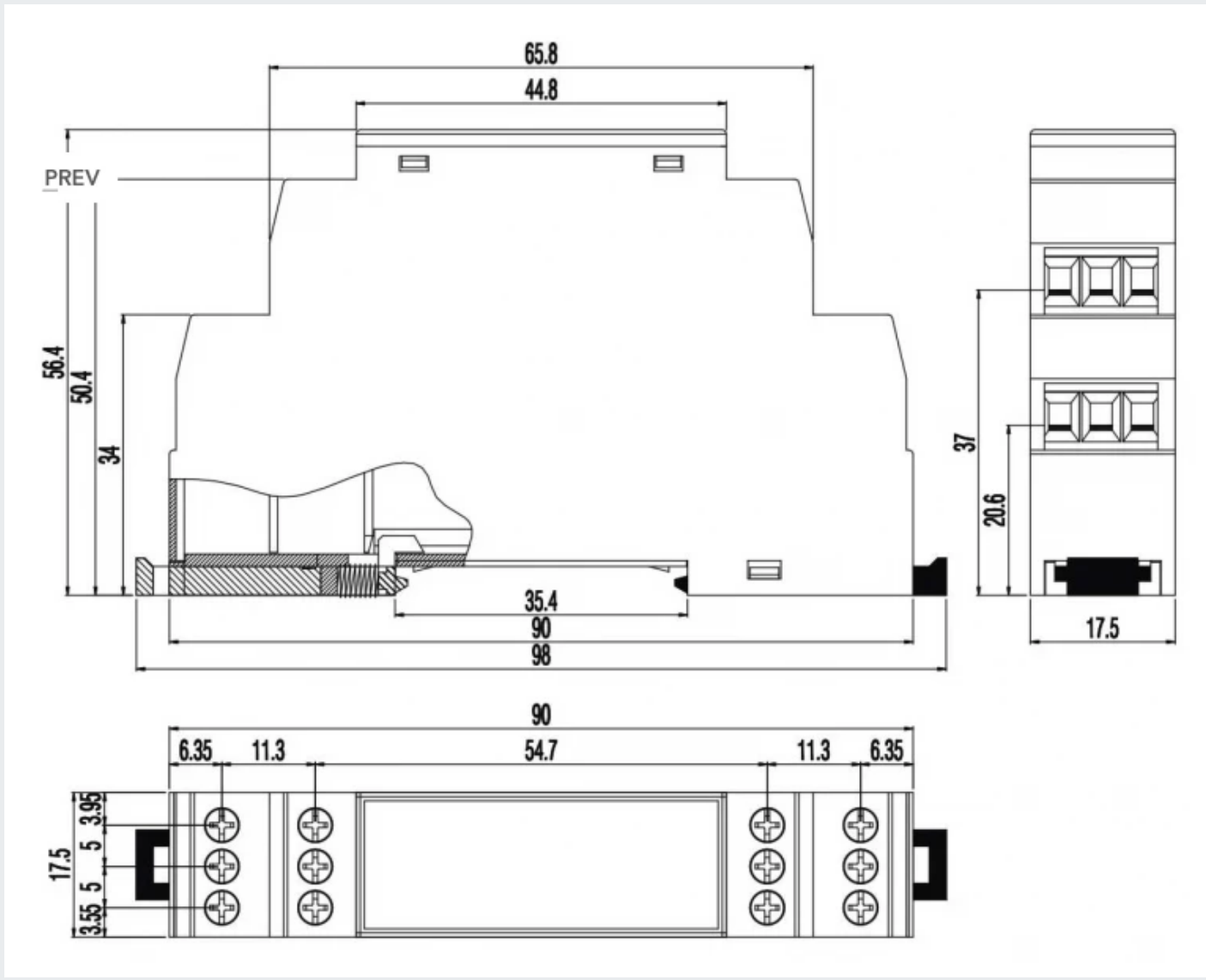
If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

## Pin assignments

<div>C10</div> <div>Image (1).webp or type unknown</div>	<div>C11</div> <div>Image (2).webp or type unknown</div>
<div>C12</div> <div>Image (3).webp or type unknown</div>	<div>C13</div> <div>Image (4).webp or type unknown</div>

## Enclosure dimensions

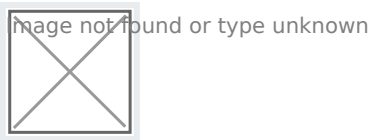
1U Module Enclosure  
98 x 17.5 x 56.4  
Units: mm



# Additional notes

Related information and links		
<a href="#">Ordering information</a>	<a href="#">Accessories</a>	<a href="#">Similar products</a>

# Products family sample photo



<https://redisage.com>

## DISCLAIMER NOTES

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TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

**Datasheet-ID:**

SC-D



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