RS232 RS485 Converters

C10 - C13 RS232 RS485 Converters documentation

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Data Sheet

RS232 RS485 Converters (C10 - C13)

C10 C11 C12 C13



Features

- Automatic RS485 direction control
- ESD protection for the RS232/485 data line
- Power supply: +12 to +30 VDC or 24 VAC
- 2000 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.

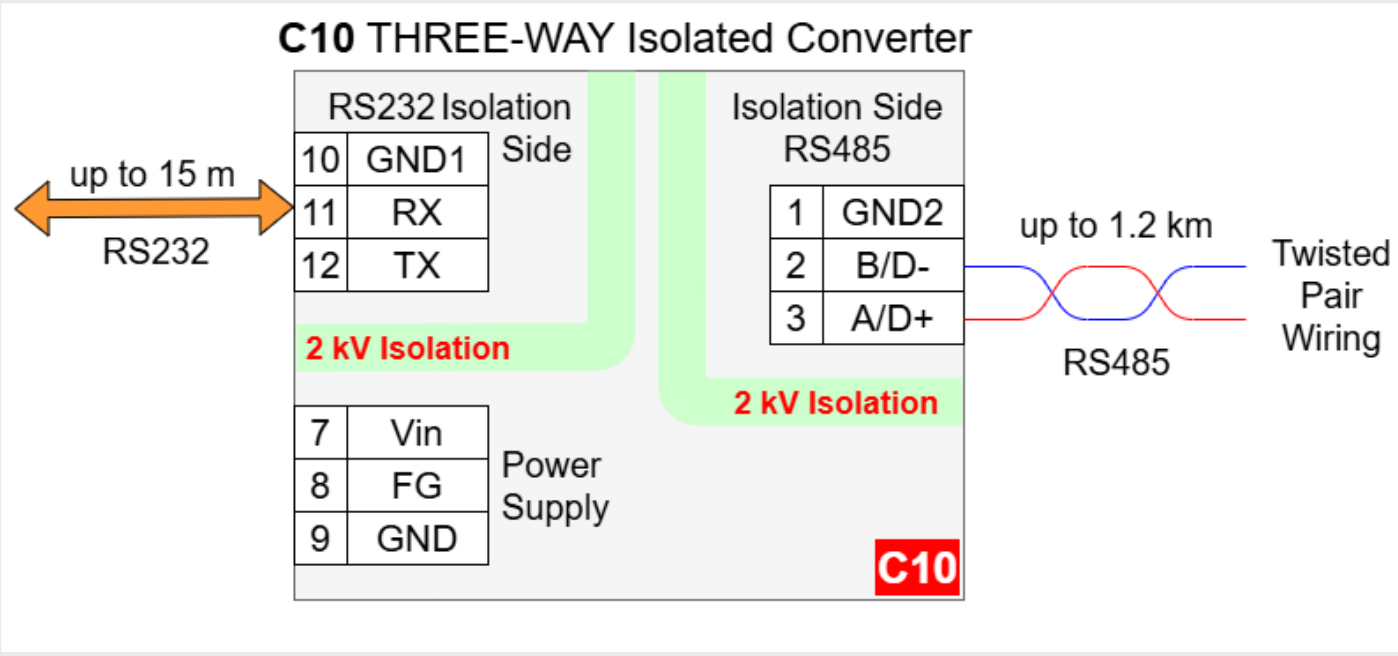
Specification

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					
2000 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					

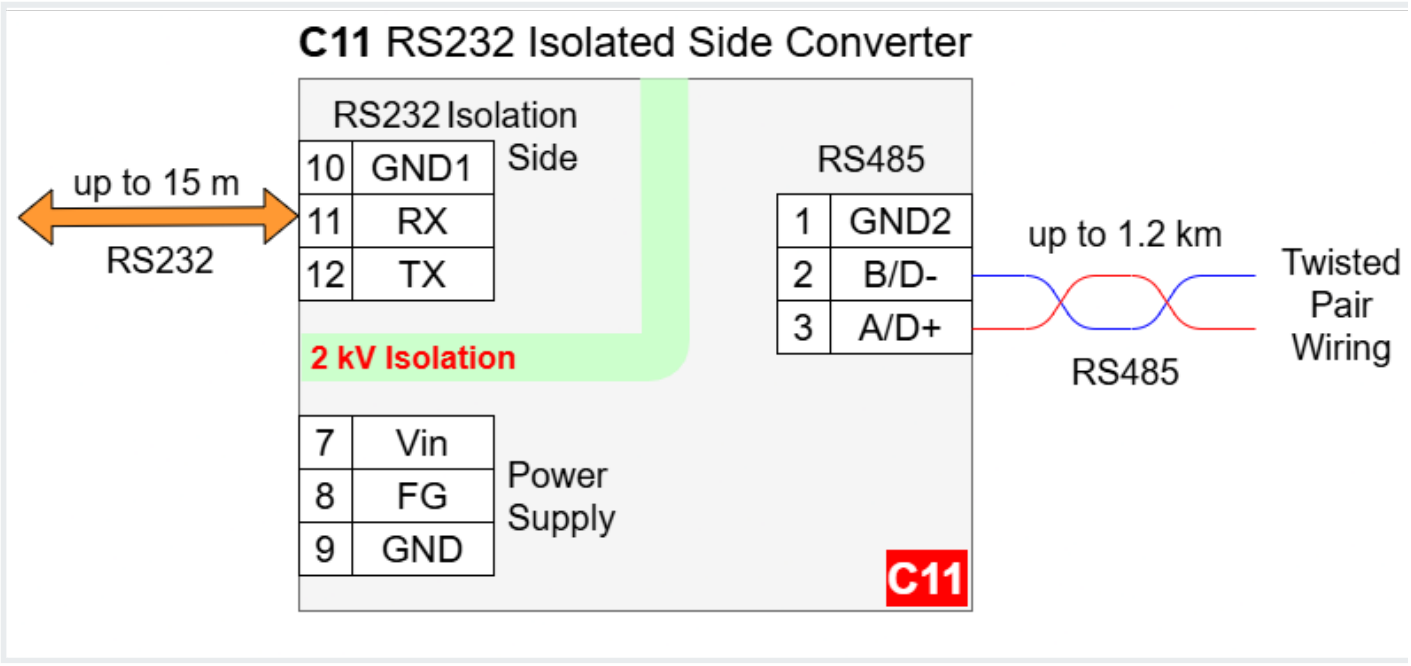
Redisage PN	C10	C11	C12	C13		
Humidity	10 - 90% RH, non-condensing					
ESD protection	±4 kV contact discharge / ±8 kV air discharge					
Certification	CE, RoHS, EMC, LVD					
Norms	61000-6-2 - Immunity standard for industrial environments 61000-6-4 - Emission standard for industrial environments					

Variants

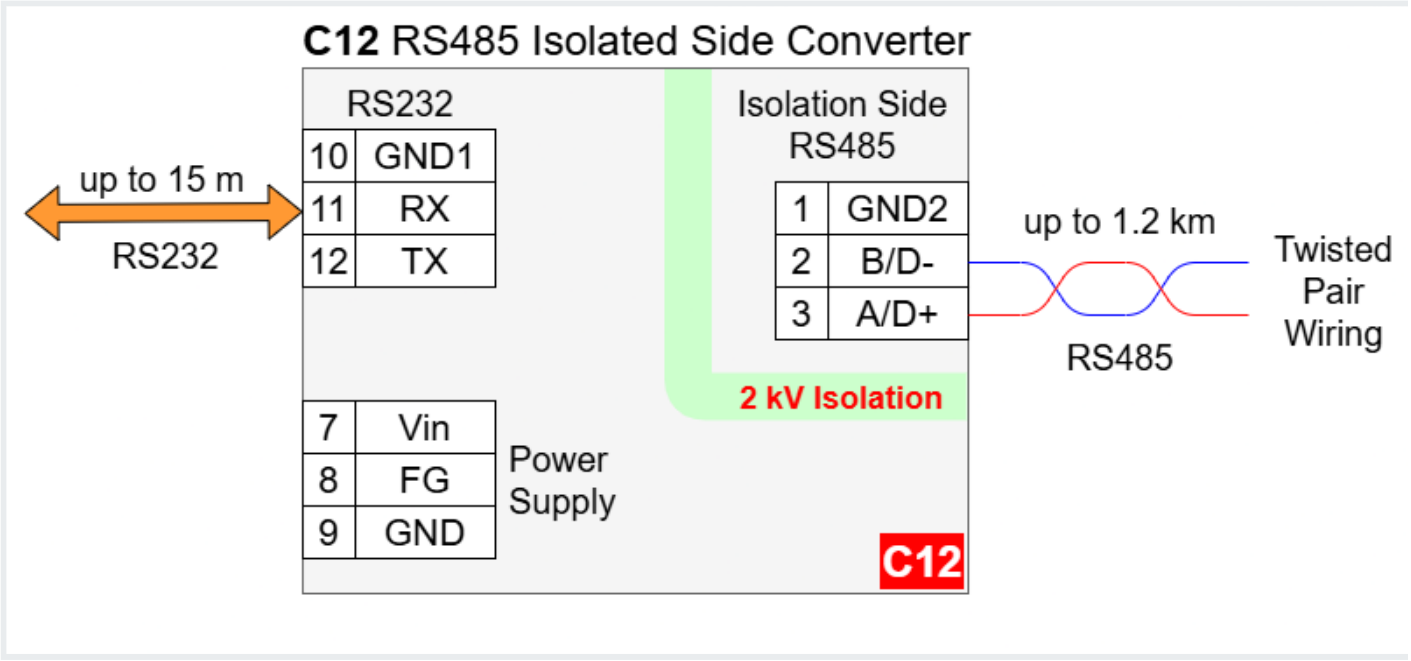
C10 - THREE-WAY Isolated



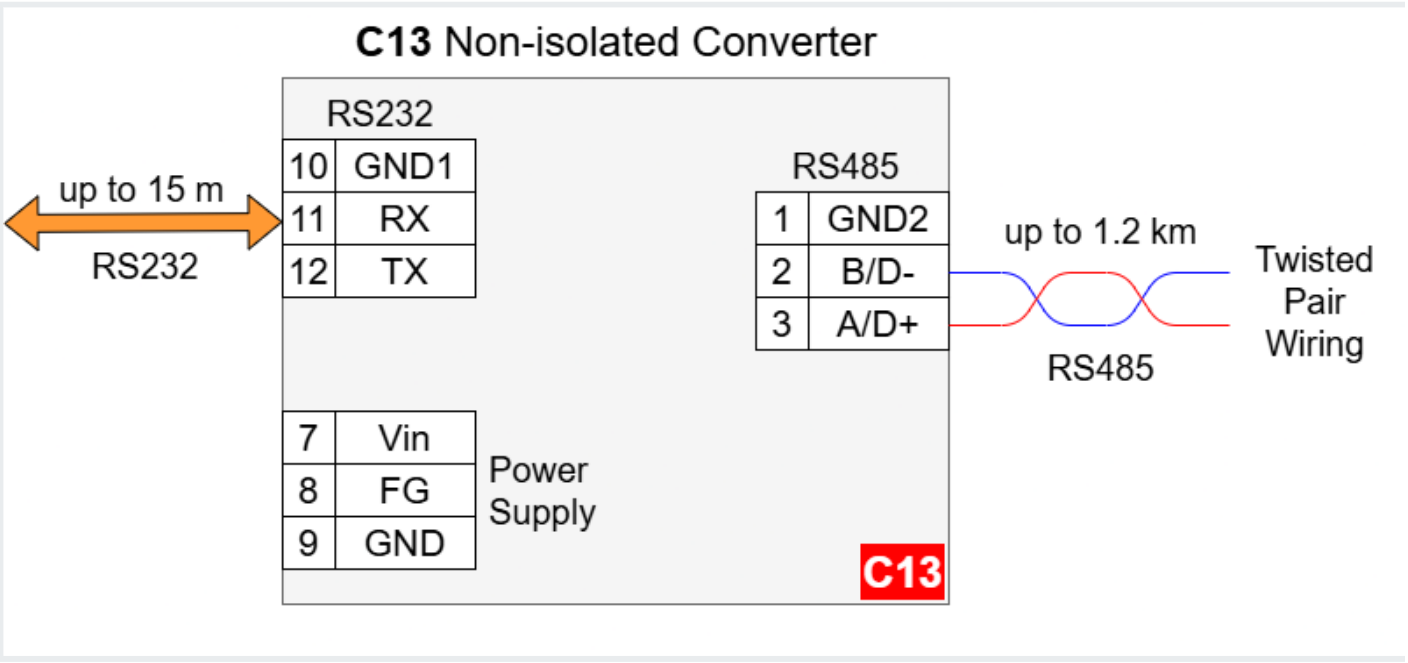
C11 - RS232 Isolated Side



C12 - RS485 Isolated Side



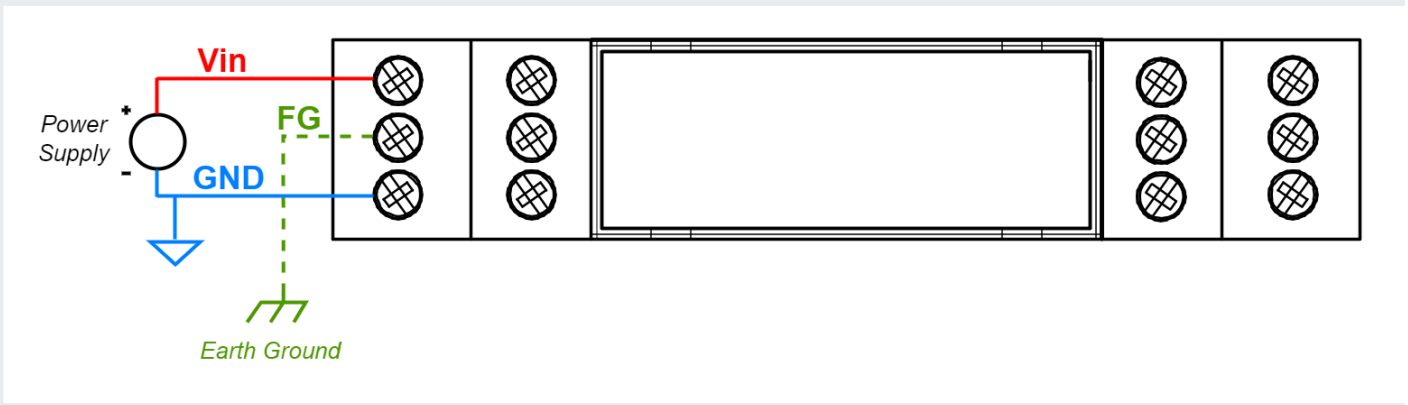
C13 - Non-isolated (Active)



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.

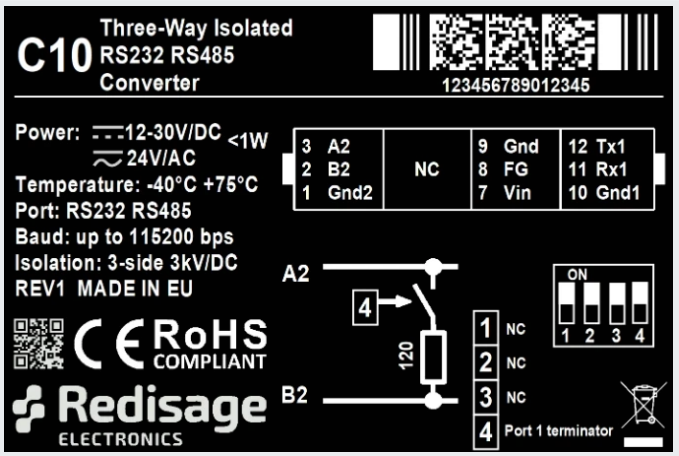
Frame Ground FG connection reference drawing is provided below.



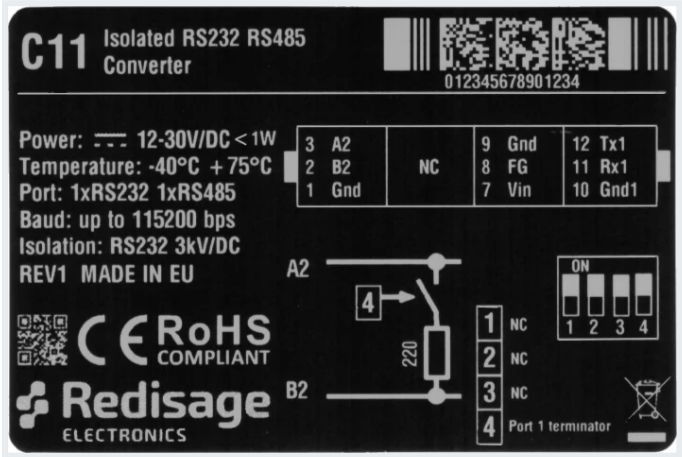
If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

Pin assignments

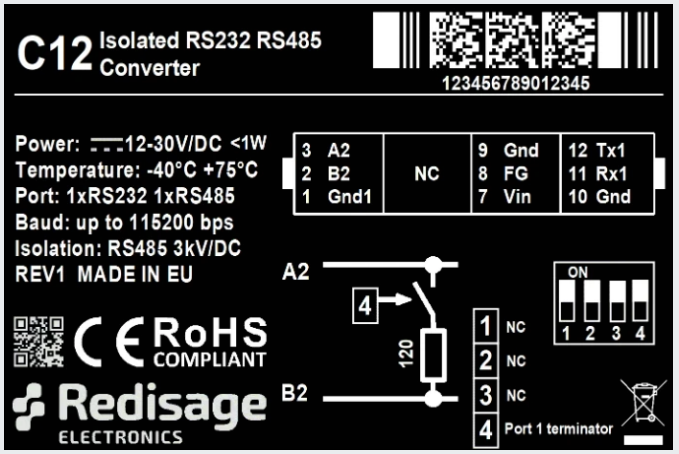
C10



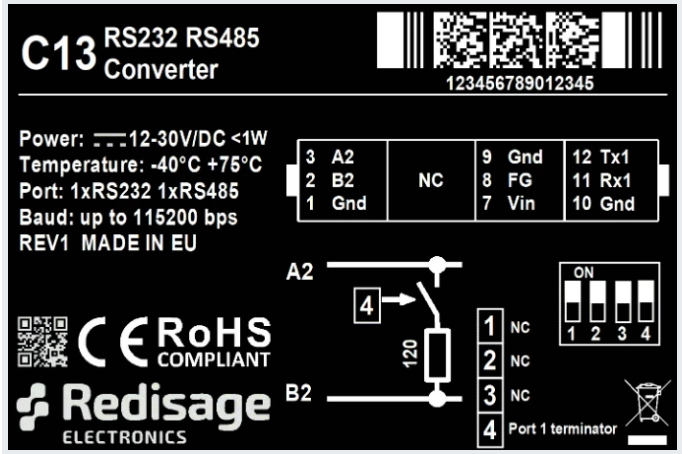
C11



C12

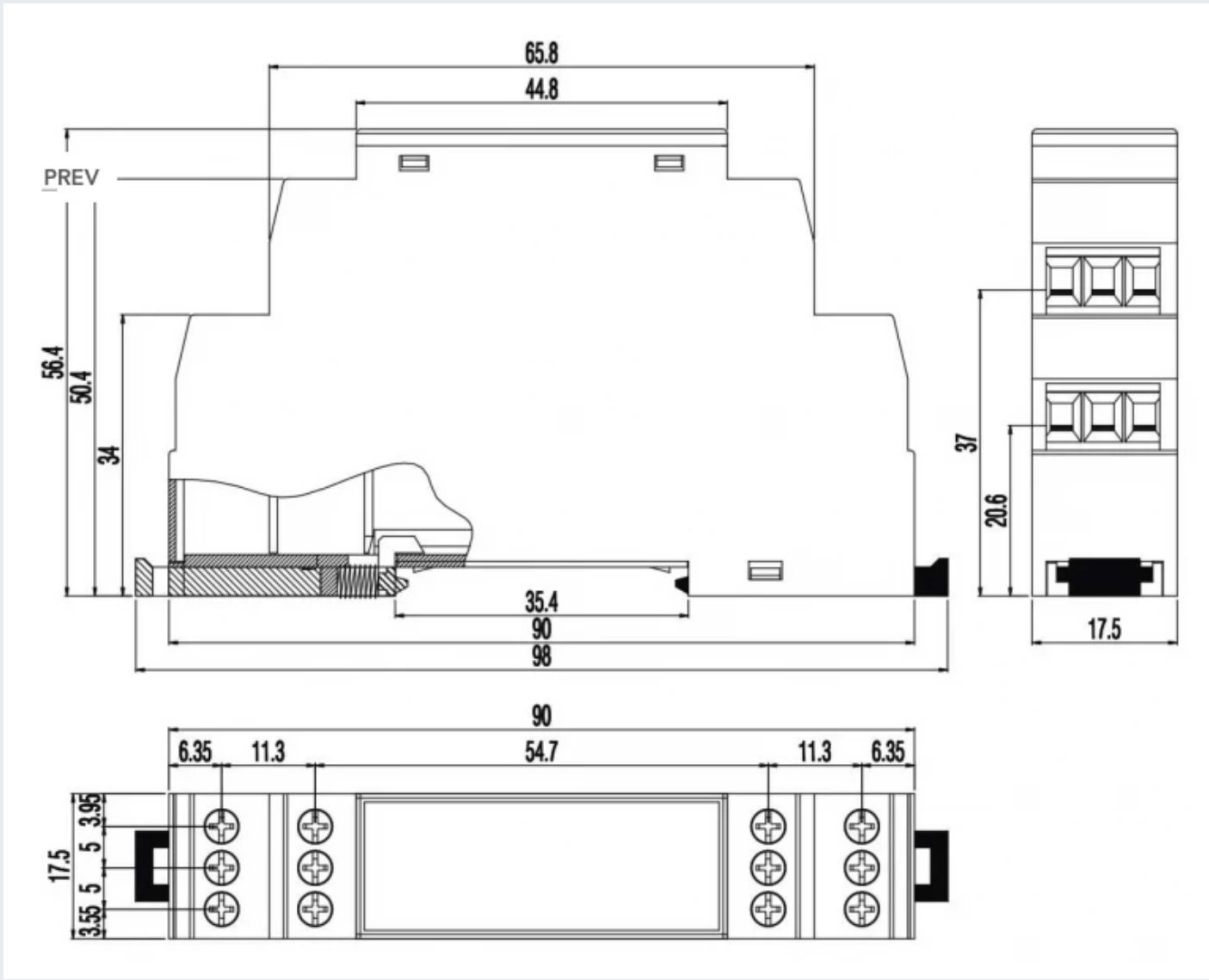


C13



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

DISCLAMER 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

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