Data Sheet

RS232 RS485 Repeaters (R01 - R04)

R01 R02 R03 R04



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 RS485 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

The R01 provides 3-way optical isolation between both RS485 sides and power supply. It can also be used as a repeater to extend the transmission of an existing network. Additionally, an RS485 system can be expanded beyond the 256 nodes limitation imposed by the standard.

The R02 is exactly the same as the R01, except for the isolation range. The R02 has one RS485 side isolation.

The R03 separator module provides a complete full-duplex, 3-way electrical isolation channel between two RS232 devices. This isolation is an important consideration if a system uses different power sources, has noisy signals or must operate at different ground potentials.

The R04 is exactly the same as the R03, except for the isolation range. The R04 has one RS232 side isolation.

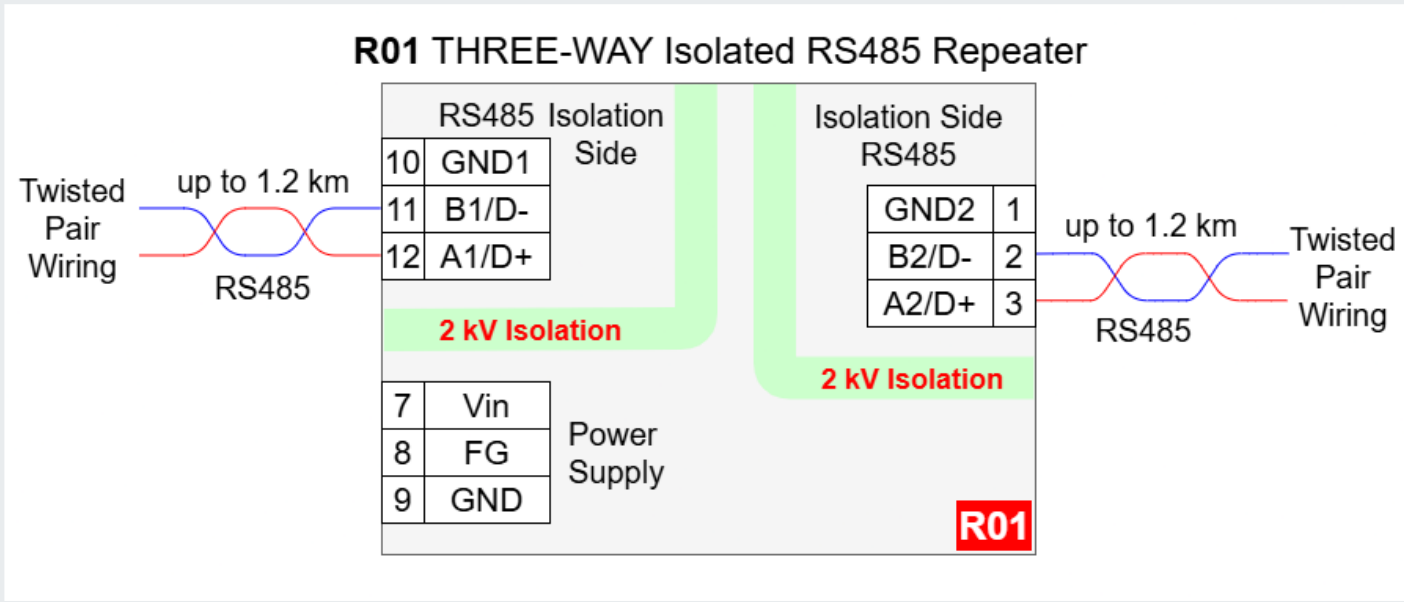
Specifications

Redisage PN		R01	R02	R03	R04		
Repeater ports		2 x RS485		2 x RS232			
Power	Voltage	12-30 VDC / 24 VAC	12-30 VDC	12-30 VDC / 24 VAC	12-30 VDC		
	Power	< 1 W					
Frame ground protection		yes					
Serial interface	RS232	N/A		TxD, RxD, GND			
	RS485	A, B		N/A			
2000 VDC isolation		3-way	single side	3-way	single side		
Baud rate		up to 115200 bps					
LED indicators		communication Tx, Rx and power					
RS485 Termination		120 ohm manually enabled		N/A			
Connector	RS232	N/A		3-pin terminal block max. 2.5 mm^2 wire			
	RS485	3-pin terminal block max. 2.5 mm^2 wire		N/A			
	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					

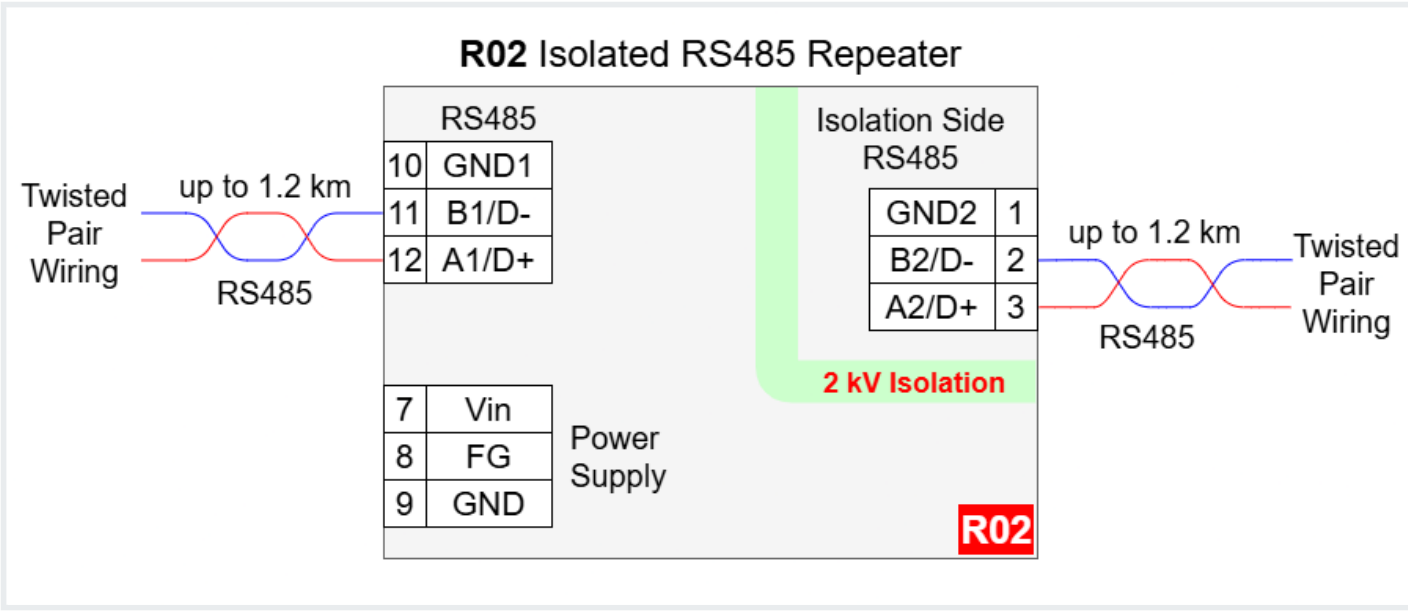
Redisage PN	R01	R02	R03	R04		
Mounting and enclosure	DIN rail, plastic PA - UL 94 V0, black/green					
Temperatures	-40°C to +75°C operating and storage					
Humidity	10 - 90% RH, non-condensing					
ESD protection	±4 kV contact discharge / ±8 kV air discharge					
Certification	CE, RoHS, EMC, LVD					
Norms	61000-6-2 - Immunity standard for industrial environments 61000-6-4 - Emission standard for industrial environments					

Variants

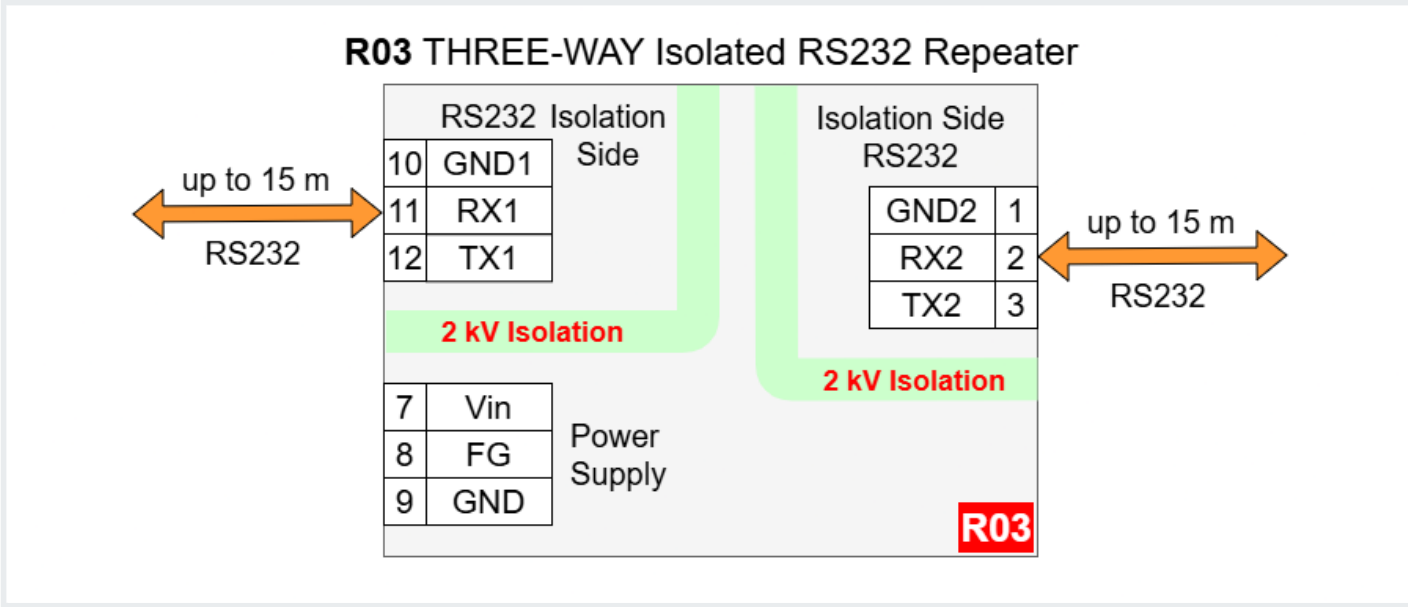
R01 - THREE-WAY Isolated RS485 Repeater



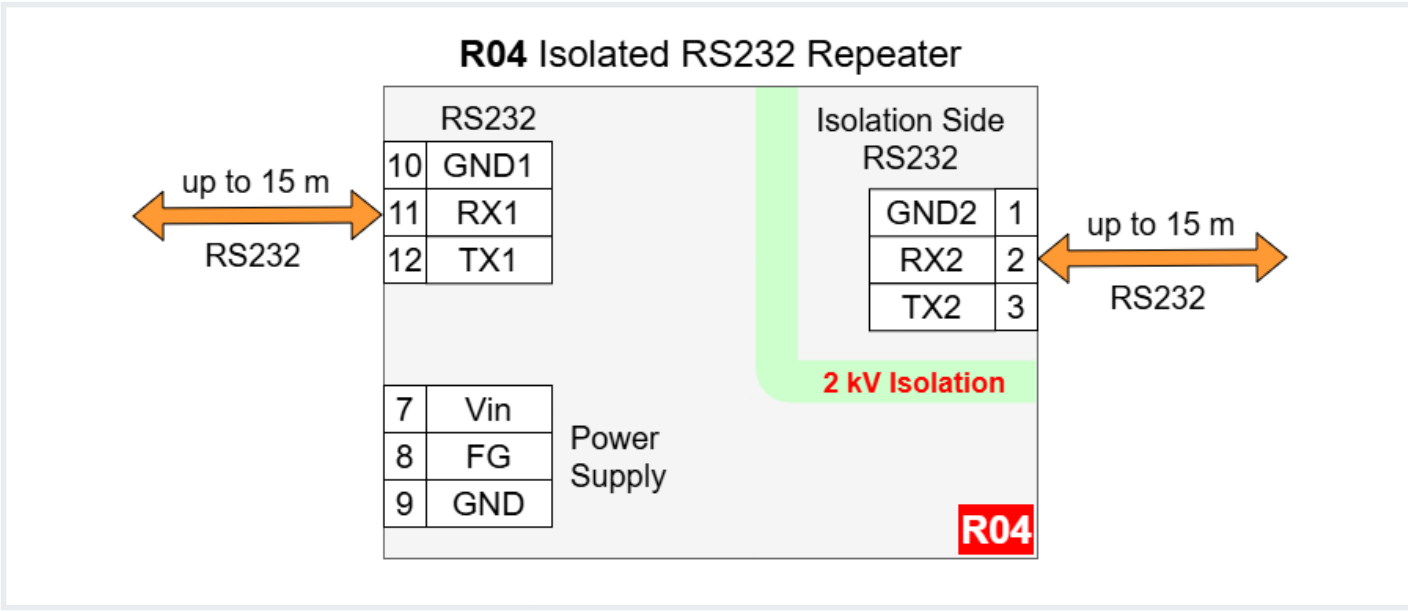
R02 - Isolated RS485 Repeater



R03 - THREE-WAY Isolated RS232 Separator Repeater



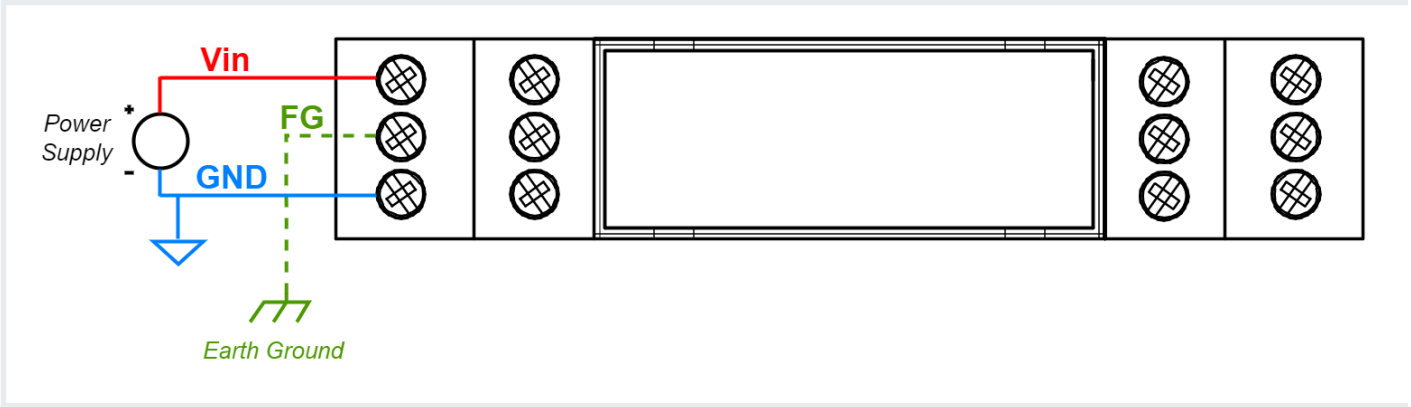
R04 - Isolated RS232 Separator Repeater



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.

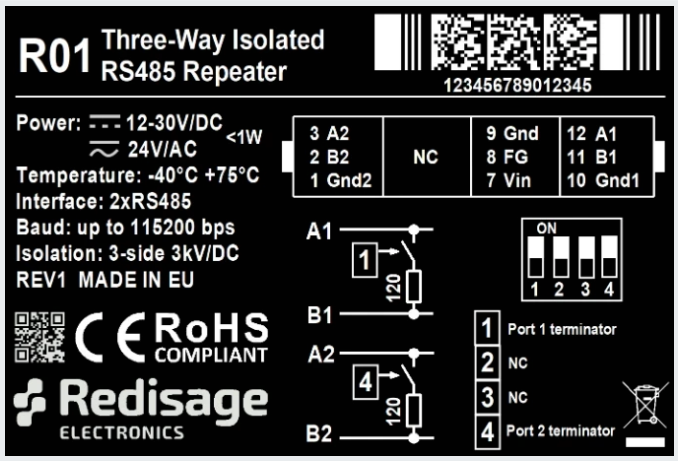
Frame Ground FG connection reference drawing is provided below.



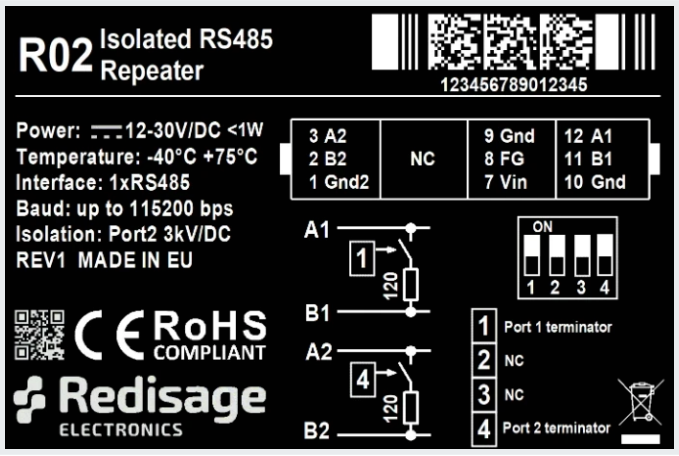
If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

Pin assignments

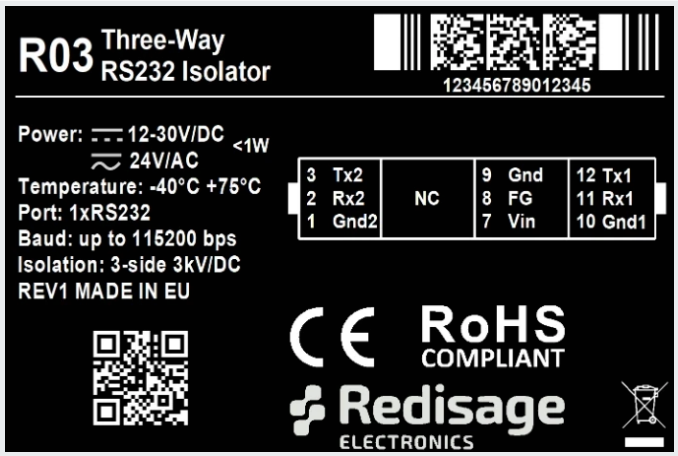
R01



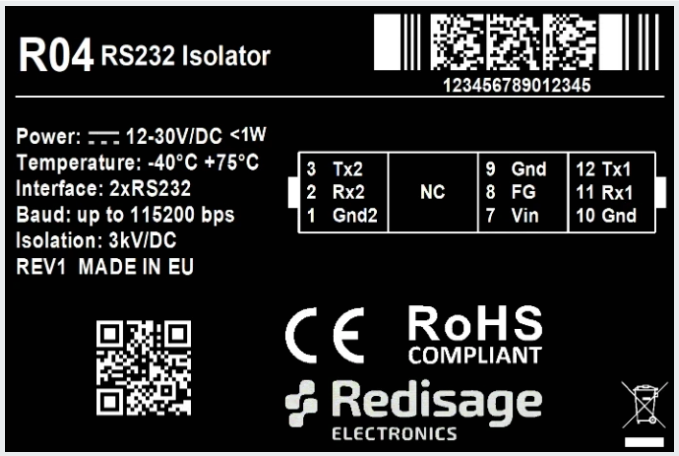
R02



R03

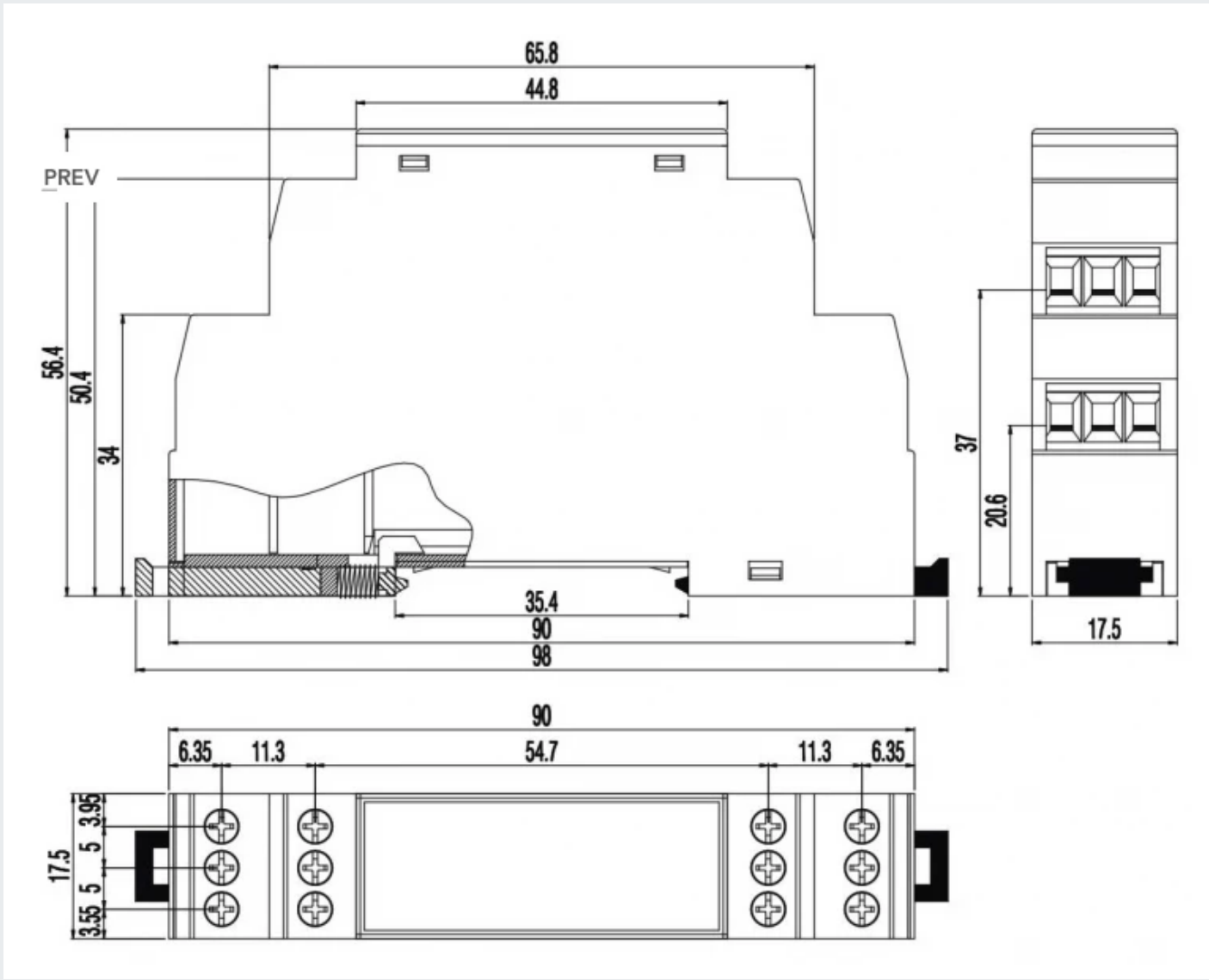


R04



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:

SR-D

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