

# Hardware

## Modbus Ethernet Gateways (G01 - G03 & G14 - G16)

Modbus Gateway can be installed on any device from Redisage G01 - G03 and G14 - G16 Modbus Gateways family.

### Features

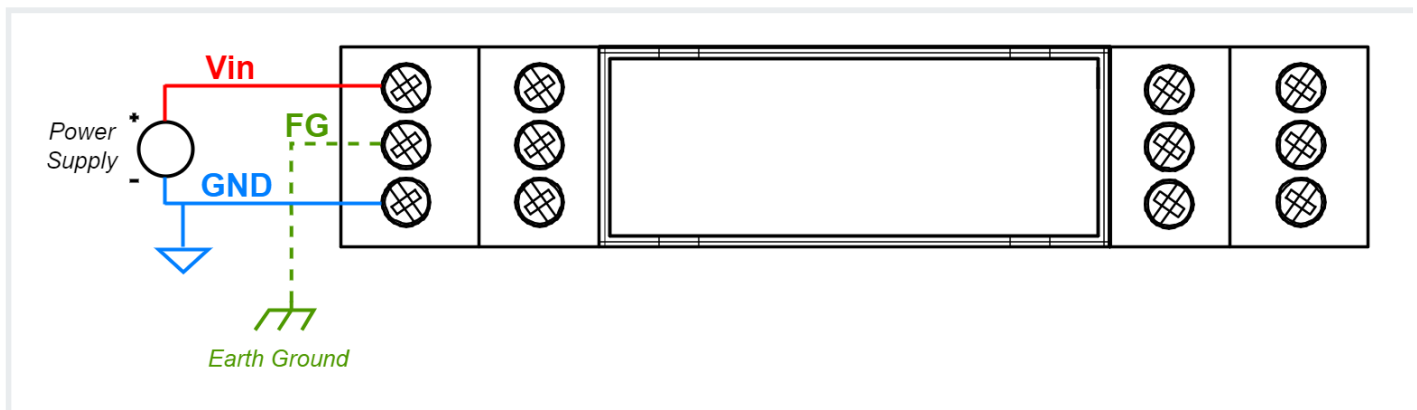
Features
2-mode Ethernet Modbus Gateway
ESD protection for the RS485 data line
Power supply: +12 to +30 VDC
Transmission speed up to 115200 bps
Tx, Rx and power LED indicators
RS485 embedded termination 120 ohm
Operating temperatures: -40°C to +75°C
DIN rail mounting
Dimensions: 90x56.4x22.5 mm
<b>3 years warranty</b>



# 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.



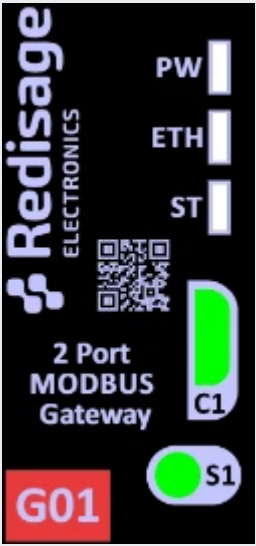
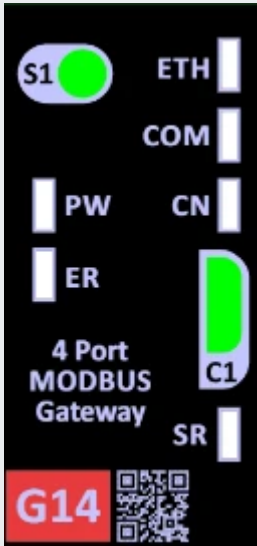
If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

## Specification

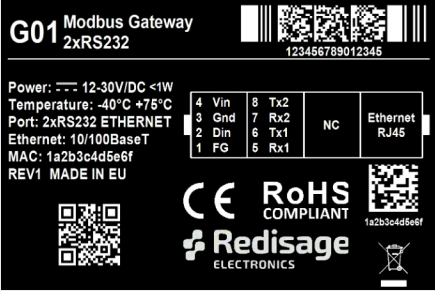
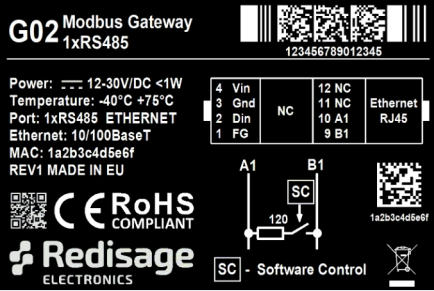
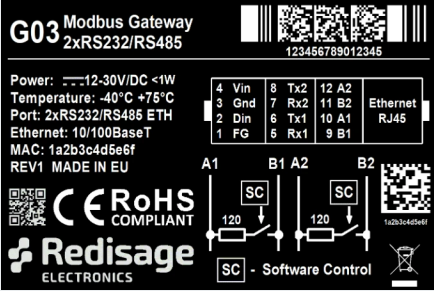
Redisage PN		G01	G02	G03	G14	G15	G16
Ports	RS232	2x	-	-	4x	2x	-
	RS485	-	1x	-	-	2x	4x
	RS232/RS485	-	-	2x	-	-	-
Microcontroller		ESP32			STM32F4		
WiFi		N/A					
Power	Voltage	12-30 VDC					

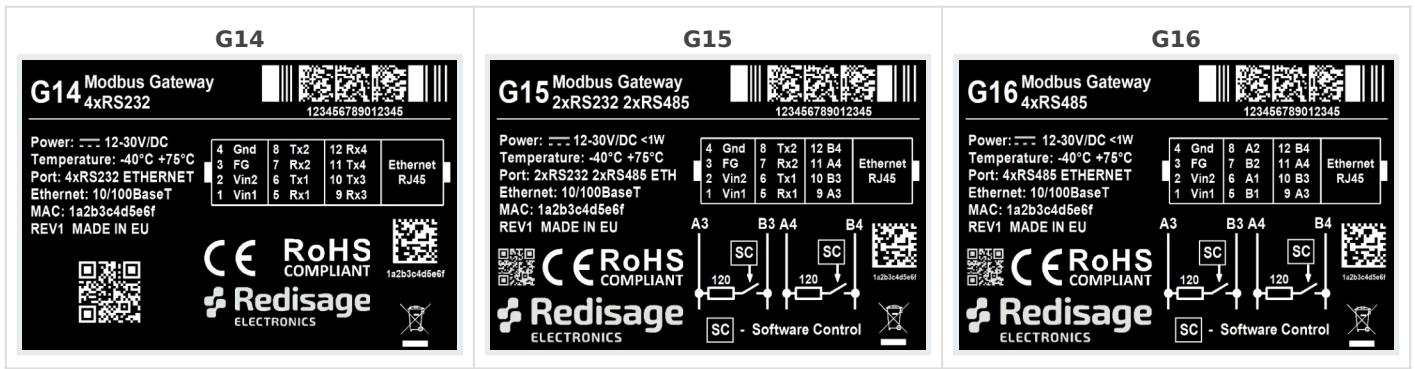
Redisage PN		G01	G02	G03	G14	G15	G16
Power	< 1 W						
Frame ground connection		yes					
Baud rate		up to 115200 bps					
LED indicators		communication Tx, Rx and power					
RS485 termination		120 ohm manually enabled					
Connector	RS232/RS485	8-pin terminal block max. 2.5 mm <sup>2</sup> wire					
	Power	3-pin terminal block max. 2.5 mm <sup>2</sup> wire					
	Ethernet	RJ45					
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					
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					

## LED indicators

Modbus Gateways G01 - G03			Modbus Gateways G14 - G16		
					
LED indicator	Color	Function	LED indicator	Color	Function
PW	Blue	Power	PW	Blue	Power
ETH	Green	Network activity	ETH	Green	Network activity
ST	Orange	Console mode	CN	Yellow	Console mode
	Red	Service mode	COM	Green	RS232/RS485 activity
			SR	Red	Service mode
			ER	Yellow	Error

## Pin assignments

G01	G02	G03
		



In the G03 gateway user should use only RS232 or only RS485 interface of one port as they occupy the same internal bus of the device.

Revision #7

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Updated 9 May 2024 11:16:37 by Jan Górski