# Data Sheet

# Modbus TCP/RTU M-bus Gateways (G20, G30)

**G20 G30**


**Features**

- Serial ports RS232 and RS485
- Up to 10 simultaneously connected M-Bus slave devices
- ESD protection for the RS232/RS485 data line
- 1000 VDC isolation protection
- Power supply: +12 to +30 VDC or 24 VAC
- M-Bus Transmission speed up to 9600 bps
- Fast Ethernet 10/100 Mb/s
- Wi-Fi® 802.11b/g/n 150 Mbps / 2.4 GHz (**G30 only**)
- Tx, Rx and power LED indicators
- RS485 embedded termination 120 Ω
- Operating temperatures: -40°C to +75°C
- DIN-rail mounting
- Dimensions: 90 x 56,4 x 40 [mm]
- 3 years warranty
- Customization of OEM is welcomed

# Introduction

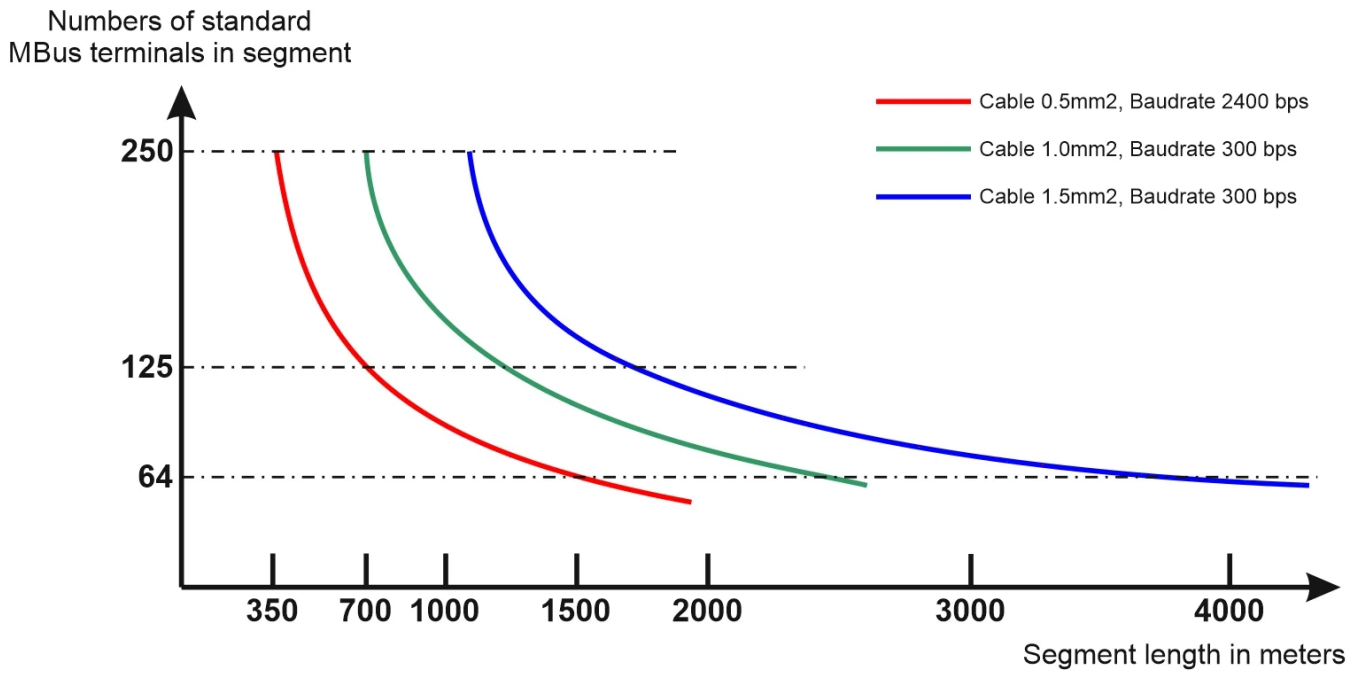
The G20 and G30 are reliable M-Bus to Modbus gateways. They enable seamless integration between M-Bus slave devices and Modbus-based systems. On the M-Bus side, the gateway communicates in master mode and supports up to 10 simultaneously connected slave devices. On the Modbus side, the collected data is made available via the Modbus protocol, ensuring easy and efficient integration with PLCs, SCADA systems, or building automation. Dedicated EMC integrated circuits guarantee stable operation and improved communication quality by reducing interferences typical of industrial environments.

# Specifications

| Redisage PN | | G20 | G30 |
|---|---|---|---|
| Converter ports | Serial | 1 x active RS232/RS485 | |
| | M-Bus | 1 x M-Bus master with up to 10 x slaves | |
| Microcontroller | | ESP32 | |
| Wi-Fi | | N/A | 802.11 b/g/n |
| Power | Voltage | 12-30 VDC | |
| | Power | < 1 W | |
| Frame ground connection | | yes | |
| Serial interface | RS232 | TxD, RxD, GND | |
| | RS485 | A, B | |
| | M-Bus | MBus+, MBus - | |
| Baud rate | | up to 9600 bps | |
| LED indicators | | communication Tx, Rx, power | |
| | | RS232 OK | |
| RS485 termination | | 120 Ω manually enabled | |
| 1000 VDC isolation side | | RS232/RS485 | |
| 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 | |
| | M-Bus | 3-pin terminal block max. 2.5 $mm^2$ wire | |

| Redisage PN | | G20 | G30 |
|---|---|---|---|
| Ethernet | RJ45 Fast Ethernet 10/100 Mb/s | | |
| 2.4G Antenna | SMA, External Antenna included (**G30 only**) | | |
| 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 | |
| | M-Bus | see: M-Bus max. transmission distance (below) | |
| 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, RED | |
| Norms | | • 61000-6-2 - Immunity standard for industrial environments<br>• 61000-6-4 - Emission standard for industrial environments | • 61000-6-2 - Immunity standard for industrial environments<br>• 61000-6-4 - Emission standard for industrial environments<br>• EN 300 328 – Data transmission equipment operating in the 2,4 GHz band |

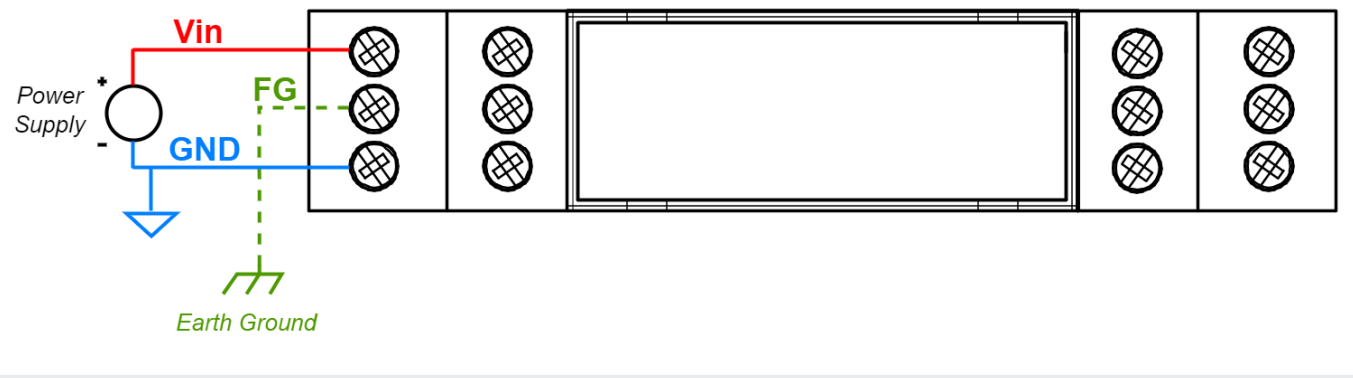
# M-Bus max. transmission distance




# 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.

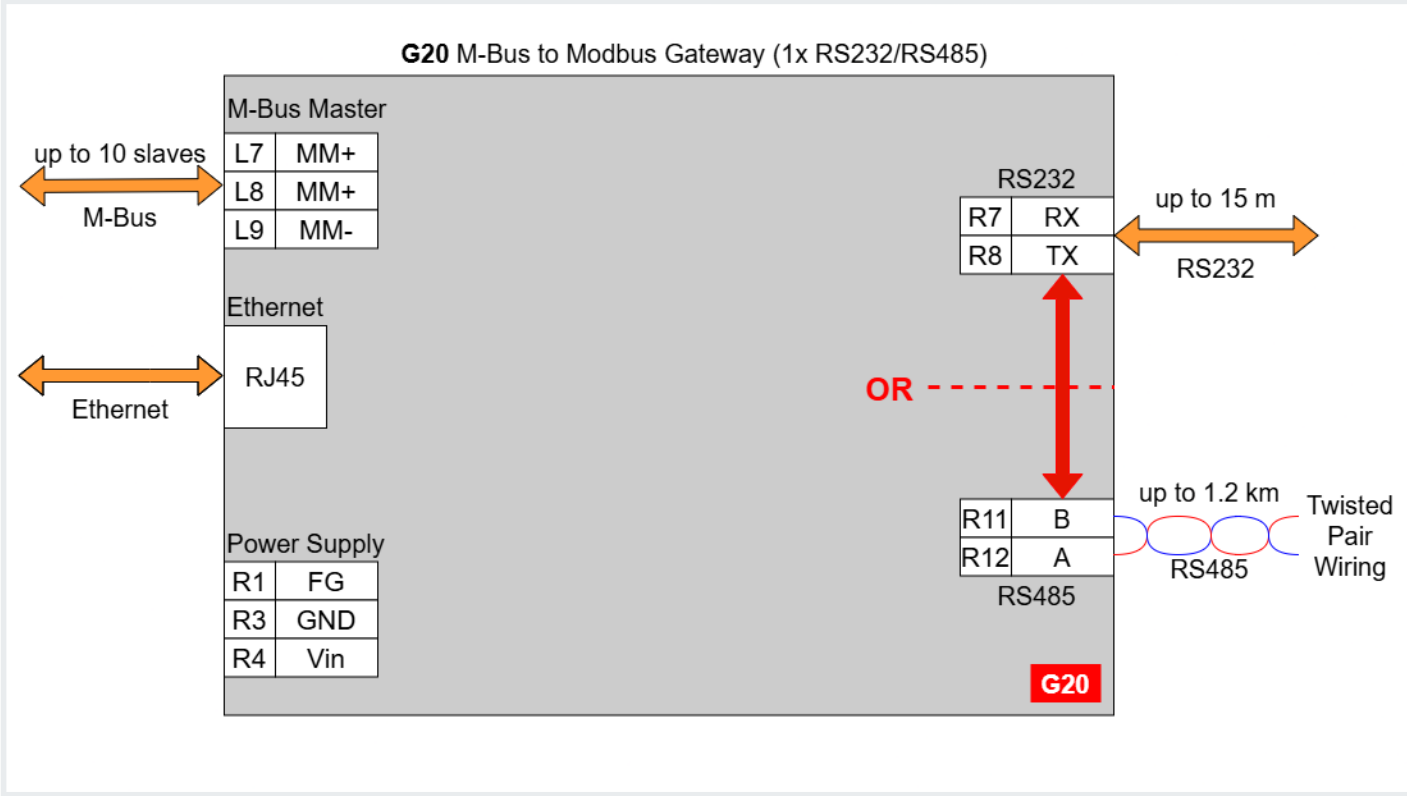
Frame Ground FG connection reference drawing is provided below.



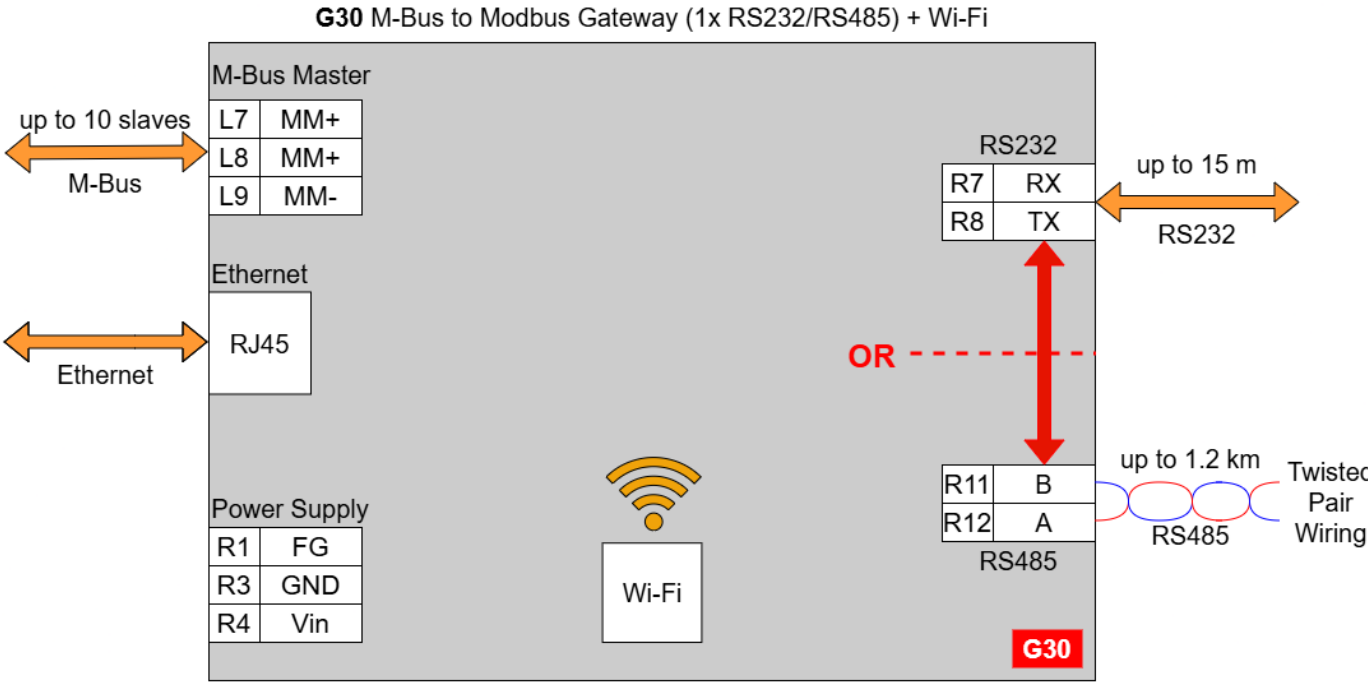

If earth ground is not available, FG can be left floating, or it can be connected with the power supply GND.

# Variants

## **G20** - M-Bus to Modbus Gateway (1x RS232/RS485)



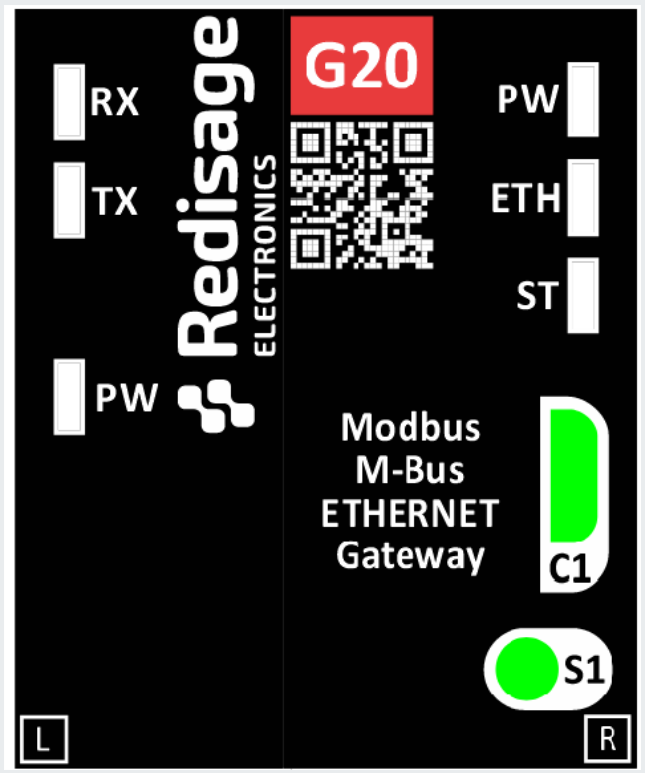

## **G30** - M-Bus to Modbus Gateway (1x RS232/RS485) + Wi-Fi ®

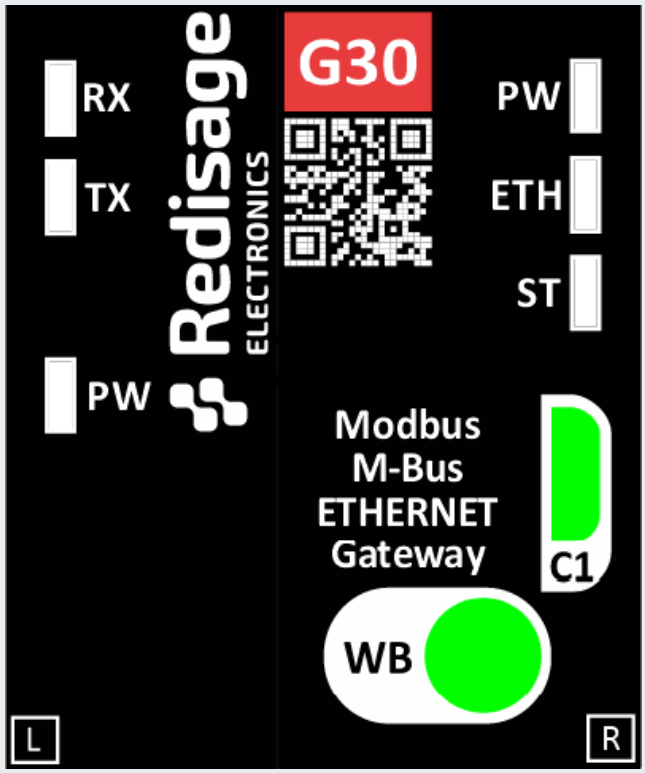



In the G20 and G30 gateways, user should use only RS232 or only RS485 interface of one port as they occupy the same internal bus of the device. It means, don't use RS232 & RS485 at the same time!

# LED indicators

| G20 | G30 |
| --- | --- |

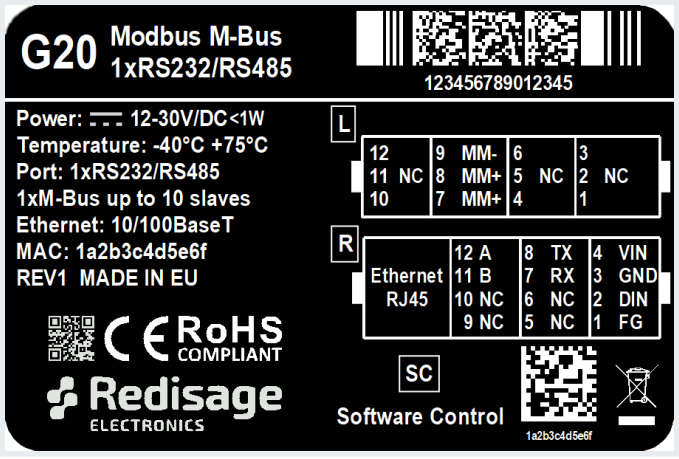
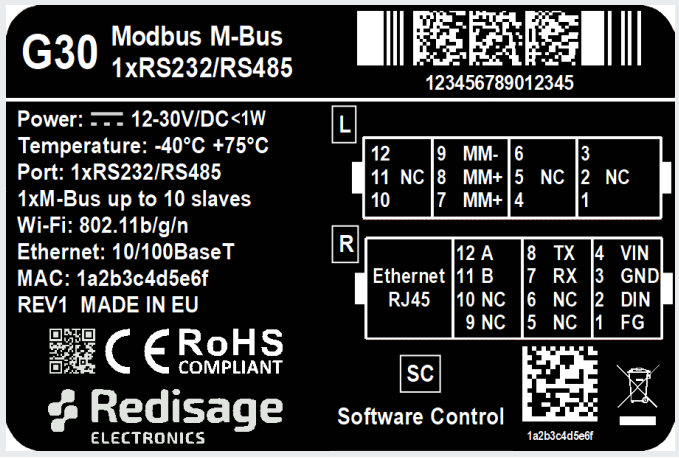



M-Bus to Modbus gateways G20 & G30 have 6 LED indicators:

- RX LED - Receiving data
- TX LED - Transceiving data
- PW LED - Power (M-Bus Converter)
- PW LED Blue - Power (Gateway)
- ETH LED Green - Network activity
- ST LED Orange - USB-UART Serial console mode

# Pin assignments

| G20 | G30 |
| --- | --- |
|  |  |

# Additional notes

Wi-Fi® is a registered trademark of Wi-Fi Alliance®.

| Related information and links | | |
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| Ordering information | Accessories | Similar products |

# Products family sample photo

https://redisage.com

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# Datasheet-ID:

SR-D

Revision #25
Created 11 August 2025 10:54:58 by Michał Grabski
Updated 3 March 2026 09:01:31 by Michał Grabski