

# Tables

## 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  |     |     |         |     |     |
|                         | 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   |     |     |         |     |     |

| Redisage PN            |       | G01   | G02 | G03 | G14 | G15 | G16 |
|------------------------|-------|---|-----|-----|-----|-----|-----|
| Transmission distance  | RS485 | max. 1,200 m at 9.6 kbps; max. 400 m at 115.2 kbps<br>(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  |     |     |     |     |     |

## Pin assignments

|  |   |   |
|--|---|---|
| <p><b>G01</b></p> <p><b>G01</b> Modbus Gateway<br/>2xRS232</p> <p>Power: --- 12-30V/DC &lt;1W<br/>Temperature: -40°C +75°C<br/>Port: 2xRS232 ETHERNET<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Vin 8 Tx2<br/>3 Gnd 7 Rx2<br/>2 Din 6 Tx1<br/>1 FG 5 Rx1</p> <p>NC Ethernet RJ45</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p>                    | <p><b>G02</b></p> <p><b>G02</b> Modbus Gateway<br/>1xRS485</p> <p>Power: --- 12-30V/DC &lt;1W<br/>Temperature: -40°C +75°C<br/>Port: 1xRS485 ETHERNET<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Vin 12 NC<br/>3 Gnd 11 NC<br/>2 Din 10 A1<br/>1 FG 9 B1</p> <p>A1 B1</p> <p>SC - Software Control</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p>  | <p><b>G03</b></p> <p><b>G03</b> Modbus Gateway<br/>2xRS232/RS485</p> <p>Power: --- 12-30V/DC &lt;1W<br/>Temperature: -40°C +75°C<br/>Port: 2xRS232/RS485 ETH<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Vin 8 Tx2 12 A2<br/>3 Gnd 7 Rx2 11 B2<br/>2 Din 6 Tx1 10 A1<br/>1 FG 5 Rx1 9 B1</p> <p>A1 B1 A2 B2</p> <p>SC - Software Control</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p> |
| <p><b>G14</b></p> <p><b>G14</b> Modbus Gateway<br/>4xRS232</p> <p>Power: --- 12-30V/DC<br/>Temperature: -40°C +75°C<br/>Port: 4xRS232 ETHERNET<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Gnd 8 Tx2 12 Rx4<br/>3 FG 7 Rx2 11 Tx4<br/>2 Vin2 6 Tx1 10 Tx3<br/>1 Vin1 5 Rx1 9 Rx3</p> <p>Ethernet RJ45</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p> | <p><b>G15</b></p> <p><b>G15</b> Modbus Gateway<br/>2xRS232 2xRS485</p> <p>Power: --- 12-30V/DC &lt;1W<br/>Temperature: -40°C +75°C<br/>Port: 2xRS232 2xRS485 ETH<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Gnd 8 Tx2 12 B4<br/>3 FG 7 Rx2 11 A4<br/>2 Vin2 6 Tx1 10 B3<br/>1 Vin1 5 Rx1 9 A3</p> <p>A3 B3 A4 B4</p> <p>SC - Software Control</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p> | <p><b>G16</b></p> <p><b>G16</b> Modbus Gateway<br/>4xRS485</p> <p>Power: --- 12-30V/DC &lt;1W<br/>Temperature: -40°C +75°C<br/>Port: 4xRS485 ETHERNET<br/>Ethernet: 10/100BaseT<br/>MAC: 1a2b3c4d5e6f<br/>REV1 MADE IN EU</p> <p>4 Gnd 8 A2 12 B4<br/>3 FG 7 B2 11 A4<br/>2 Vin2 6 A1 10 B3<br/>1 Vin1 5 B1 9 A3</p> <p>A3 B3 A4 B4</p> <p>SC - Software Control</p> <p>RoHS COMPLIANT</p> <p>Redisage ELECTRONICS</p> <p>1a2b3c4d5e6f</p>          |

## Configuration by the Web Page

## Ports page

| Item                         |          | Description  |
|------------------------------|----------|--|
| Internal Modbus Address      |          | Internal Modbus Address is qualified by the Gateway/Router as a request for internal resources. The Internal Modbus Address has a higher priority than the Gateway Slave Address.  |
| Idle Time [s]                |          | Determine a time thread waits for the TCP connection. If time expired, the connection and thread are closed.<br><b>Used only in Gateway Mode.</b>  |
| UART Mode                    | Gateway  | Define the port's role in the system. In the Gateway Mode the port is used to communicate with Modbus Slave.   |
|                              | Router   | Define the port's role in the system. In the Router Mode the port is used to communicate with Modbus Master. Note the Routing Configuration section below if the Router Mode is chosen.  |
|                              | Disabled | Disable the port.  |
| UART Protocol                |          | Determine a protocol used for a communication.   |
| Gateway Slaves               |          | Addresses of Modbus Slave Devices connected to Gateway UART ports. Multiple addresses can be written in one field, e.g. 9;11;14-17;80. This field is available only in the Gateway Mode. Use * to select all not assigned addresses. |
| Slaves Response Timeout [ms] |          | Specify how long the device will wait for response from Modbus Slave.  |
| Baud Rate                    |          | Determine the port's transmission speed over the data channel.   |
| Data Bits                    |          | Determine the number of data bits in the port's message frame.   |
| Parity                       |          | Enable/disable the parity check in the port's message frame.   |
| Stop Bits                    |          | Determine the number of stop bits in the port's message frame.   |
| Termination                  |          | Enable/disable termination on RS line.   |

| Item                         | Description  |
|------------------------------|--|
| Routing Slaves               | Addresses of Modbus Slaves connected to Modbus Router. Multiple addresses can be written in one field, e.g. 9;11;14-17;80. Use * to select all not assigned addresses. |
| Slaves Response Timeout [ms] | Specify how long the device will wait for response from Modbus Slave.  |
| IP/Hostname                  | Determine IP address or Hostname of Modbus Slave.  |
| TCP Port                     | Determine TCP port of Modbus Slave.  |

## Network page

| Item                      | Description  |
|---------------------------|--|
| Hostname                  | Label that is assigned to the device.  |
| Configuration Method      | Enable/disable the DHCP server. If the DHCP server is disabled, the IP address of the device has to be set manually. |
| IP Address                | IP address of the device.  |
| Netmask                   | Netmask associated with the IP address.  |
| Gateway                   | Gateway address currently used by the device.  |
| DNS Address               | Domain Name System used by the device.   |
| MAC Settings              | Allow setting the default MAC address or typing it manually.   |
| MAC Address               | Allow changing the physical address of the device.   |
| HTTP Port                 | Determine the port of the control panel.   |
| Telnet Port               | Allow connection with the device via Telnet.   |
| Modbus TCP Listening Port | Used as an entry point for new Modbus TCP connections.   |

## Device page

| Item            | Description   |
|-----------------|---|
| Firmware Update | Update firmware.  |
| Factory Reset   | Restore default ports settings and default network configuration. |
| Reboot          | Reboot the device.  |
| About           | Basic information about the device.                               |

# Configuration by the Serial Console

## List of all commands

| Command         | Description                                      |
|-----------------|--|
| help            | Print the help.                                  |
| conn            | Print active TCP connections.                    |
| net_stat        | Print lwIP statistics.                           |
| eth_mac         | Print or change MAC address.                     |
| ipconfig        | Print or change the network configuration.       |
| http_port       | Print or change default http port.               |
| telnet_port     | Print or change default telnet port.             |
| modbus_tcp_port | Print or change modbus port.                     |
| ping            | Check internet connection with the desired host. |
| restart         | Restart the system.                              |
| user            | Print or change user configuration.              |
| sys_heap_usage  | Print current heap usage.                        |
| modbus          | Print or changes modbus settings.                |
| modbus_ports    | Print or changes modbus ports settings.          |
| modbus_routing  | Print or change modbus routing settings.         |
| exit            | Exit console.                                    |

## List of commands in the service mode

| Command    | Description  |
|------------|--|
| help       | Print the help.                                    |
| credits    | Print current credits value for this device.       |
| dev_ident  | Print the device identification value.             |
| restart    | Restart the system.                                |
| serial_num | Print the serial number of this device.            |
| version    | Display the bootloader version.                    |
| xmodem     | Download image to the internal flash using xmodem. |
| defaults   | Reset application variables to defaults.           |
| ipconfig   | Print or change the network configuration.         |

| Command    | Description                     |
|------------|---------------------------------|
| flash_read | Read bytes from flash memory.   |
| md         | Read bytes from memory address. |

In the service mode, the “ipconfig” command can only show a last static IP address.

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