

M031

Ethernet – RS485 data converter



Summary

M031 is a RS485 to 10/100 Mbit Ethernet converter, also called *terminal server*.

Application

- remote RS485 device to PC connection via an Ethernet network, connection of domat I/O modules for data transmission and signal readout. The usage depends on the communication protocol at the RS485; in some situations the Ethernet delays may not meet the timing requirements of the serial protocol driver.

Function

The M031 connects a RS485 bus to a PC over an Ethernet network. Part of delivery is the *RealPort COM/TTY port redirection* software which creates a virtual COM port at the PC. There may be up to 256 ports on a PC. This COM port is used by Windows programs to access the remote RS485 devices. The COM port redirector works with Microsoft Windows, UNIX, and Linux. Maximum communication speed is 115 200 bps.

Parameters and functions of the M031 are configured over SNMP or secured web interface (protocols HTTP / HTTPS). Power is indicated by a green LED close to the Ethernet connector. Another LEDs at the Ethernet socket indicate physical link (yellow) and network activity (green). The Ethernet interface provides automatic 10 / 100 Mbit/s detection.

To connect the RS485 bus there are 2 screw terminals. The RS485 data flow is indicated by LEDs: TxD (green) and RxD (red). The RS485 bus may be terminated by a pair of DIP switches (close to the RS485 terminals). Comm speed is set by DIP switches close to the Ethernet socket. The RS485 bus is galvanically isolated (insulation voltage 1000 V).

Technical data

Power supply	10 V ÷ 35 V DC, 14 V ÷ 24 V AC, any polarity
Consumption	1500 mW
Ambient temperature	0 ÷ 60°C
Communication	RS485 up to 115 200 bit/s
Ethernet	automatic 10 or 100 Mbit/s
IP addressing	fixed or assigned by a DHCP server
Protocols	TCP, UDP, DHCP, SNMP, SSL / TSL, HTTP, SMTP, ICMP, IGMP a ASR
Security	SSL V3.0 / TSL V1.0 (DES 56 bit, 3DES 168 bit, AES 128 / 256 bit)
Memory	2MB Flash, 8MB RAM
Dimensions	see below

Switches

Set of 4 switches at the Ethernet socket

Switches 1, 2, 3: Baud rate and data bits at RS485, see table

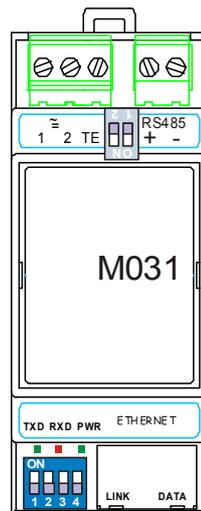
Switch 4 - OFF 8 bits

- ON 9 bits

Switch	1	2	3
1 200 bps	OFF	OFF	OFF
2 400 bps	ON	OFF	OFF
4 800 bps	OFF	ON	OFF
9 600 bps	ON	ON	OFF
19 200 bps	OFF	OFF	ON
38 400 bps	ON	OFF	ON
57 600 bps	OFF	ON	ON
115 200 bps	ON	ON	ON

Double switch at the RS485 terminals RS485 BUS END

Terminals, LEDs



- 1 power (G)
- 2 power (G0)
- TE shielding, technical earth
- K+ RS485, positive
- K- RS485, negative

Ethernet RJ45, 10/100 Mbps

- PWR power on
- RXD data receive at RS485
- TXD data transmit at RS485

Settings

The default network setting is:

IP address 192.168.1.37

network mask 255.255.255.0

All parameters inclusive network configuration are available at a web interface on TCP port 80. Default user is **root**, password is **dbps**. Find the detailed description of all settings in the *digi_manual.pdf*. If the IP address is unknown, use the detection utility *digi_detector.exe*; the program is free to download at <http://rcware.eu/public/download/software>, Digi Utility.

If there are problems with detection, switch off the firewall so that the network card is able to receive the broadcast responses.

Dimensions

