

MM20-GSM

Interface converter

Highlights

- Transparent and simultaneous readout of M-Bus slave devices and communication with devices on RS-485 line over GSM network
- GPRS communication with control system
- Readout up to 20 M-Bus slave devices
- Short circuit protection of M-Bus line
- Galvanic isolation up to 1kV DC
- Conversion of Modbus TCP to Modbus RTU protocol at RS-485 port
- RS-232 interface for local device setup
- Remote device setup over SMS messages
- Remote device setup over telnet service
- Complete device state diagnostic over LED indications
- Power supply 9-30V DC or 230V AC
- 35mm DIN rail mounting

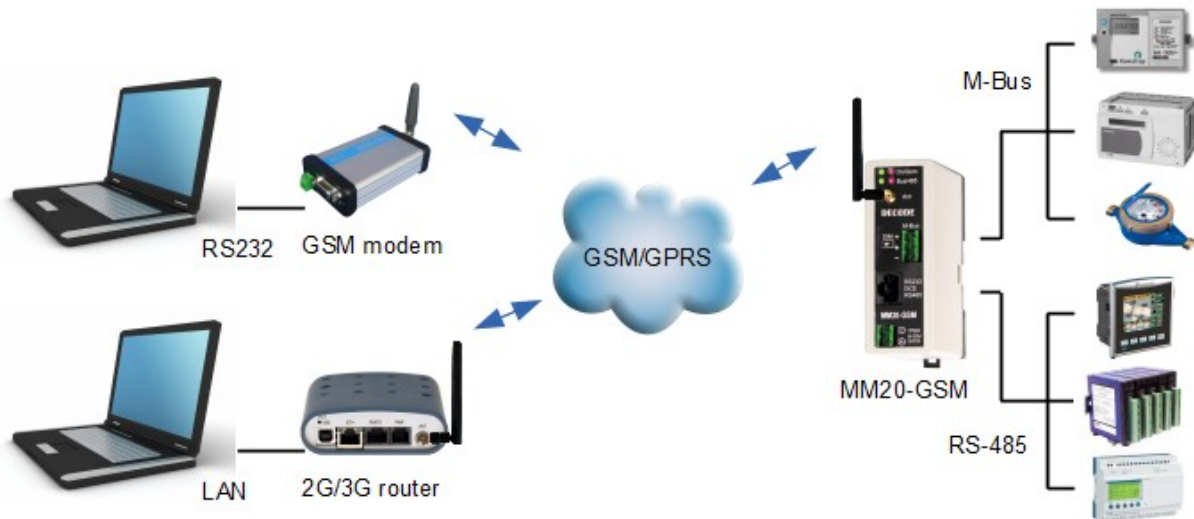


Description

MM20-GSM is communication device intended for remote readout over GSM/GPRS connection:

- devices on M-Bus line with M-Bus protocol (heat, water, electric, gas meters...)
- devices on RS-485 line with transparent or Modbus RTU protocol (PLCs, I/O modules, pumps...)

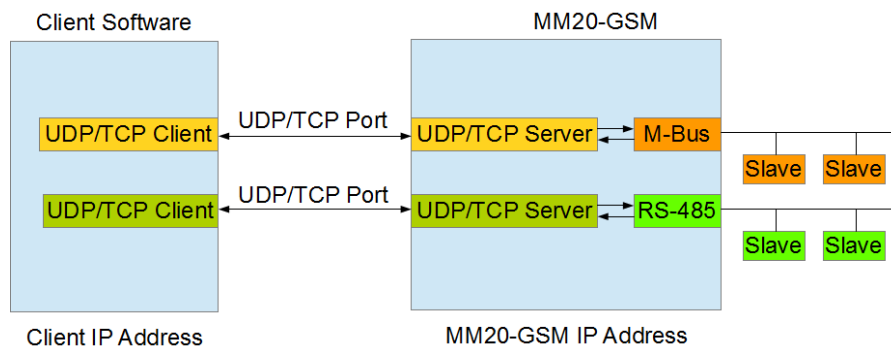
M-Bus port is galvanically isolated and designed to withstand short circuit on M-Bus line. RS-485 port can be configured to convert Modbus TCP to Modbus RTU protocol. Device setup can be done locally or remotely over SMS messages or telnet service using the TCP protocol on port 23. LED indications show device status and can be used for complete diagnostic. Depending on version, power supply is 9-30V DC or 230V AC. Device is prepared for 35mm DIN rail mounting and it is fully adjusted for industrial communications, automation processes and telemetry.



Application

MM20-GSM acts on M-bus line as standard M-Bus master device which can sustain up to 20 M-Bus slave devices. Simultaneously with readout of M-Bus slave devices, it can communicate with devices on RS-485 line. GSM/GPRS communication is carried out via microcontroller controlled GSM module which enables multiple UDP/TCP server connections. M-Bus and RS-485 ports can be assigned to one of these connections. MM20-GSM is designed to work with fixed IP addresses in VPN (Virtual Private Network).

PC, over serial connection and GSM modem, or LAN connection and 2G/3G router, connects to GSM/GPRS VPN network. Client software sends UDP/TCP packets with requests for RS-485 and M-Bus devices. MM20-GSM converter extracts serial requests from UDP/TCP packets and sends it to RS-485 and M-Bus ports. Responses from serial ports are packed by MM20-GSM device in to UDP/TCP packets and sent back to client software.



Technical specification

GSM module	uBlox SARA G340, Dual-band GSM/GPRS
GSM antenna connection	SMA jack
SIM card	Standard (1.8V/3.0V) SIM card
Remote connection	Over GPRS, multiple TCP/UDP/IP servers
Remote setup	Over SMS messages or telnet service
Serial interface	Connection: RJ45 RS-232 DCE – device setup, firmware update speed 115200bps, data format 8N1 RS-485 – transparent or Modbus RTU protocol speed and data format adjustable for RS-485 interface
M-Bus interface	Connection: pluggable screw terminal, max 2.5mm ² M-Bus master – transparent protocol up to 20 M-Bus slave devices speed (300–9600bps) and data format adjustable quiescent current: 0-30mA short circuit: 50-70mA with restart function, line voltage: 30.5V ± 5%, internal resistance <100 Ohm overvoltage protection: tranzorb > 12km@300bps, > 4km@2400bps, > 1km@9600bps cable JYSTY nx2x0.8
LED indications	On, Gsm, Bus, 485
Power supply	Connection: pluggable screw terminal, max 2.5mm ² 9-30V DC 10W, reverse polarity and overvoltage protection 230 AC 0.2A, optional, with galvanic isolation
Protection	IP30
Temperature range	from -20°C to +50°C, humidity <90% non condensing
Dimension	95x35x77mm
Mounting	35mm DIN rail

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