MT-251 – GPRS/3G gateway with Ethernet port

- GSM/GPRS/EDGE and UMTS/HSDPA packet transmission
- Integral modem with 6-band UMTS (800/850/900/1700/1900/2100) and quad-band GPRS/EDGE (850/900/1800/1800)
- 2 binary inputs, 1 SSR NO output
- Ethernet port 10Base-T/100Base-TX
- 2 serial port to communicate with external devices (expanders): RS-232 with RTS/CTS handshaking, RS-485
- Built-in isolated power supply unit
- Programmable logic controller (PLC)
- Data logger with 0,1 sec resolution (microSD card support)
- Protocol converter (supports Modbus RTU, Modbus TCP, UDP)
- Built-in Master and Slave functionality
- Smart routing of packets
- SNMP ver. 1 protocol support (included traps and polling functionality)
- Diagnostic LEDs (module status, GSM transmission activity, GSM signal level, 2G/3G activity, serial and Ethernet communication activity)
- "Watchdog" circuitry – automatic reset in case of abnormal state

- Built-in event processor for data rules transmission and SMS messages sending
- Remote configuration, programming, diagnostics and firmware upgrade via 2G/3G network
- Option of soldered MIM card replaced SIM
- Battery buffered power supply (SLA battery support)
- Power supply 18 – 55 VDC
- Real Time Clock (RTC)
- Industrial design, DIN rail mounting, spring terminal blocks

MT-251 module has been designed for wireless integration over 2G/3G network of various remote devices (e.g. measuring units, PLC controllers, I/O stations, operator panels) equipped with serial port RS-232, RS-485 or Ethernet port. With compact, robust design, attractive technical features and easy to use configuration tools the MT-251 gateway is an optimal solution for demanding wireless telemetry, control, diagnostic, surveillance and alarm systems. Module is equipped with 3G modem and optionally can be produced with MIM (Machine Identification Module) soldered to PCB replacing or backing-up standard SIM card. It can be powered from DC voltage source (18 – 55 VDC) and additionally it equipped with intelligent charger designed to manage of external SLA backup battery.

MT-251 can be used as wireless, "transparent" serial and Ethernet port, but it can also play a role of local Master querying periodically an external device for user defined recourses. In such case MT-251 creates in memory a mirror of the external recourses and detects alarms, state changes and fulfilled logic conditions incorporating raw and calculated values. Data are transmitted via 2G/3G network according to user defined rules. Data may be logged with precise timestamp in non volatile Flash memory according to configured schedule or on event.

Resources:
- 2 binary inputs, 1 SSR NO output
- Ethernet port 10Base-T/100Base-TX
- RS-232 serial port with RTS/CTS handshaking

- RS-485 serial port
- USB port for local configuration and programming
- Interface for backup 12V SLA battery – charging support
- Internal flags and registers for user application program
- Firmware Flash memory with remote update capability
- Data logger supporting microSD card
- Option of soldered MIM card replaced SIM
- RTC with external synchronization functions

Functionality
- Transmission mode: 2G/3G packet transmission, SMS, Ethernet
- Access to remote recourses using standard protocols MODBUS RTU and MODBUS TCP
- Intelligent packet routing and Multimaster support in MODBUS mode
- Transmission of data from external devices connected to serial and Ethernet port
- External resources mapping (mirroring) for event detection and triggering
- MT2MT buffer for direct data sharing between other MT telemetry modules
- Multibroadcast for transparent mode
- SNMP ver. 1 protocol support (included traps and polling functionality). Module operates as a SNMP agent – device which can be polled by server and can send unsolicited information (traps) to server. External resources mapping (mirroring) for event detection and triggering
- Data logger recording on microSD card with 0,1 sec resolution

WARRANTY 3 YEARS

PLC

MIM

SMS
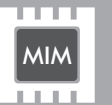
0-1DI
/0-1DO

DIN RAIL

RS-232

RS-485

3G

- Programmable control logic using I/Os, timers, counters, flags and register for triggering events (data transmission/ recording, SMS transmission, e-mail transmission, setting output and internal register, etc.)
- Configurable SMS messages triggered by alarms and scheduled
- Dynamic Fields in SMS text, support for symbolic names and macros
- Event based transmission (unsolicited messaging) triggered by change of binary input/output state, internal flag state, by true condition.
- Remote configuration and programming via 2G/3G network
- Configurable access security – list of authorized IPs and telephone numbers, optional password
- DIN rail mounting
- 18-55 VDC Power supply
- Built-in management of external SLA backup battery
- Built-in advanced auto-diagnostics
- Spring terminal blocks
- User friendly configuration tools and communication driver (OPC and RDB support)

General

Dimensions (L x W x H)	105 x 86 x 58 mm
Weight	200 g
Fixing	DIN Rail 35 mm
Operating temperature	-20° to +60 °C
Protecion class	IP40
Humidity	up to 95 % non condensing

GSM/GPRS Modem

Modem type	uBlox LISA-U201
GSM/GPRS/EDGE	850/900/1800/1900
UMTS/HSPA	800/850/900/1900/2100
Peak transmitting power (GSM 850/ EGSM 900)	33 dBm (2W) – class 4 station
Peak transmitting power (DCS 1800/ PCS 1900 MHz)	30 dBm (1W) – class 1 station
Peak transmitting power (WCDMA/ HSDPA/HSUPA)	24 dBm –class 3 station
GPRS class	10
Modulation	0,3 GMSK
Channel spacing	200 kHz
2G frequency range:	
GSM 850	Transmitter: 824 MHz - 849 MHz Receiver: 869 MHz - 894 MHz
EGSM 900	Transmitter: 880 MHz - 915 MHz Receiver: 925 MHz - 960 MHz
DCS1800	Transmitter: 1710 MHz - 1785 MHz Receiver: 1805 MHz - 1880 MHz
PCS 1900	Transmitter: 1850 MHz - 1910 MHz Receiver: 1930 MHz - 1990 MHz
3G frequency range	2100 MHz, 1900 MHz, 1700 MHz, 850 MHz, 800 MHz, 900 MHz
3G data rate	HSUPA category 6, up to 5,76Mb/s UL HSDPA category 8, up to 7,2Mb/s DL LISA-U200 WCDMA PS data up to 384 kb/s DL/UL
Antenna	50 Ω

Power Supply

Direct Current DC		18 – 55 V	
Input current for 24VDC	Idle 0,09	Active 0,25	Max 1,00
External battery nominal voltage			6 V
External battery nominal capacity			12 Ah
Maximum external battery charging current			100 mA

Binary Inputs I1, I2
Operating in binary input mode:

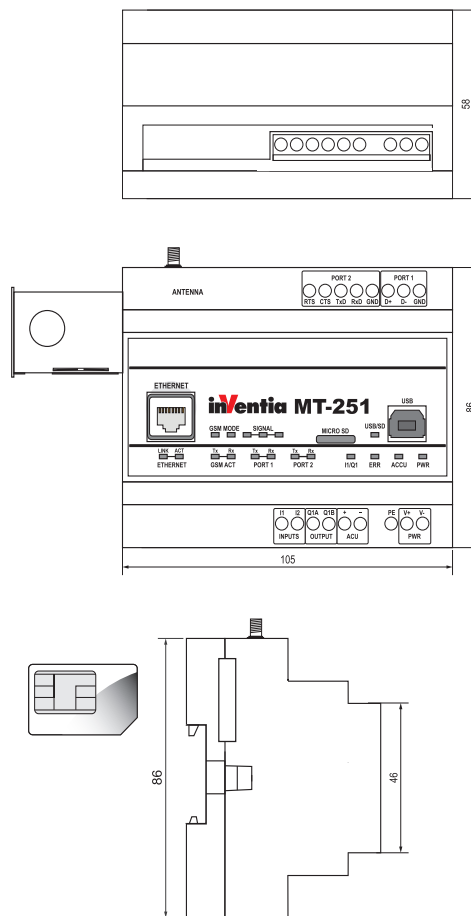|	
Maximum input voltage	55 V
Input resistance	11,2 kΩ typ.
Input voltage for high state (1)	> 9 V min.
Input voltage for low state (0)	< 3 V max.

Binary output Q1:

Recommended mean current for output	100 mA
Maximum current for output	1 A max.
Output resistance in ON state	500 mΩ max.

Ethernet Port

Standard	10Base-T, 100Base-TX
Connector type	RJ45, M12 as option
Number of M12 pins	4 pin
M12 Coding	„D"

Drawings and dimensions (all dimensions in millimeters)

Supplementary information: