# Telemetry Module

- GSM/GPRS packet transmission
- Integral GSM 850/900/1800/1900 modem with automatic login onto GPRS network
- Optoisolated binary inputs and outputs (8…16/8…0)
- Optoisolated analog inputs 4-20 mA (2)
- Data logger with 0.1 sec. resolution
- Programmable PLC controller (100 lines of code)
- Removable terminal blocks
- Diagnostic LED diodes
- Remote configuration, programming and firmware update
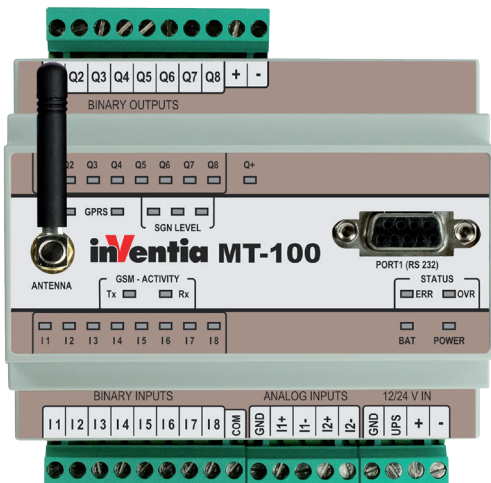- RS-232
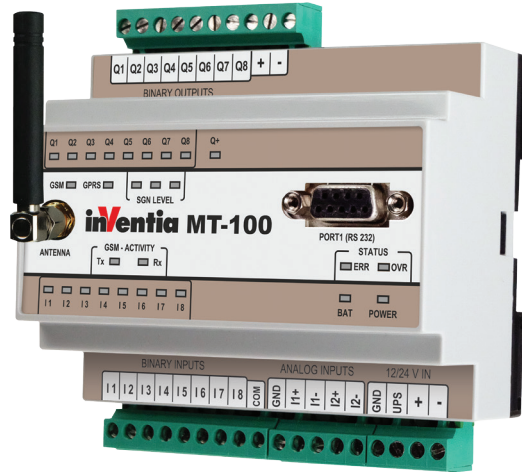
MT-100 module offers ultimate price/feature ratio. It has the same, known for high quality, input/output resources as MT-101. It lacks only the communication port and buttons for manual setting alarm thresholds. PLC functionality allows creating programs up to 100 lines of code. With price set at the same level as for MT-3XX economic series of telemetry modules, MT-100 is a perfect choice for applications where advanced features of MT-101 module are not necessary, but the same level of reliability (3-year-warranty) is expected. MT-100 connectors are compatible with MT 101 allowing easy product migration over time, when more sophisticated programs or local communication with external devices is required.

Resources

- 8 optoisolated binary/counter inputs 24V DC (I1–I8), both negative and positive logic
- 8 configurable binary outputs/inputs /counter inputs 24V DC (Q1–Q8)
- 2 optoisolated analog inputs 4 20 mA (10 bit res.) with configurable hysteresis and filtration
- Internal flags, markers and registers available to usage within user program
- Flash memory containing device firmware with possibility of remote update via GPRS
- RTC clock with possibility of both automatic synchronization with GSM provider time and remote configuration with PC time

Functionality

- Transmission modes:
    - GPRS - packet transmission
    - SMS
- All binary inputs can be configured as counters or frequency-to-analog converters (0-2kHz)
- Functionality of programming logical functions using I/Os, registers, flags and markers triggering data transmission or SMS sending, e.g. sending alarm SMS when alarm threshold of analog input is reached
- Dynamic inserting variable text (registers values, flag states, I/O values) into SMS
- Unsolicited messaging
- Event triggered Data Logger with 100ms resolution
- Simple, multipoint alarm configuration for both binary and analog inputs (4 alarm levels)
- Local or remote (via GPRS) configuration and programming
- Configurable security access - IP and Phone lists, optional password
- DIN rail mounting
- 12/24 VDC power supply voltage
- Detachable terminal blocks
- Reach diagnostic LEDs (status, GSM transmission activity, GSM signal level, GPRS activity, I/Os status)
- User-friendly software tools
- OPC/CSV/ODBC server for Windows operating systems

General

Dimensions (length x width x height)	105 x 86 x 58 mm
Weight	300 g
Mounting type	DIN Rail 35 mm
Operating temperature	-20 to +65 °C
Operating humidity	up to 95% noncondensing
Protection class	IP40
Max. voltage at all connectors relative to device's GND.	60 Vrms max.

GSM/GPRS Modem

Modem type	CINTERION TC63i
GSM	QuadBand (850/900/1800/1900)
Frequency range:	
GSM 850	Transmitter: 824 – 849 MHz Receiver: 869 – 894 MHz
EGSM 900	Transmitter: 880 – 915 MHz Receiver: 925 – 960 MHz
DCS 1800	Transmitter: 1710 – 1785 MHz Receiver: 1805 – 1880 MHz
PCS 1900	Transmitter: 1850 – 1910 MHz Receiver: 1930 – 1990 MHz
Transmitter peak power GSM850/EGSM900	33 dBm (2W) - class 4 station
Transmitter peak power DCS1800/PCS1900	30 dBm (1W) - class 1 station
Modulation	GMSK
Channel spacing	200 kHz
Antenna	50 Ω

Power supply

Voltage range (DC)		9 – 30 V	
Input current (A) (for 12 V DC)	Idle 0,07	Active 0,40	Max 1,90
Input current (A) (for 24 V DC)	Idle 0,04	Active 0,18	Max 1,00

Binary inputs I1 – I8

Maximum input voltage	-36 – 36 V
Input resistance	5,4 kΩ
Input voltage ON	> 9 V lub < -9 V
Input voltage OFF	-3 V – 3 V

Binary inputs Q1 – Q8

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Maximum input voltage	36 V
Input resistance	5,4 kΩ typ.
Input voltage ON	> 9 V min
Input voltage OFF	< 3 V max.

Outputs Q1 – Q8

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Recommended average current for single output	50 mA
Maximum current for single output	350 mA max.
Mean current for all outputs	400 mA max.
Voltage drop at 350 mA	<3,5 V max.
Off state current	< 0,2 mA max.
Max. operating voltage	36 V

Analog inputs AN1, AN2 (4–20 mA)

Measurement range	4 – 20 mA
Maximum input current	50 mA max.
Input dynamic impedance	25 Ω typ.
Voltage drop at 20mA	<5 V max.
A/D converter resolution	10 bit
Accuracy	+/–1,5 % max.
Nonlinearity	+/–1% max.

Configuration utility
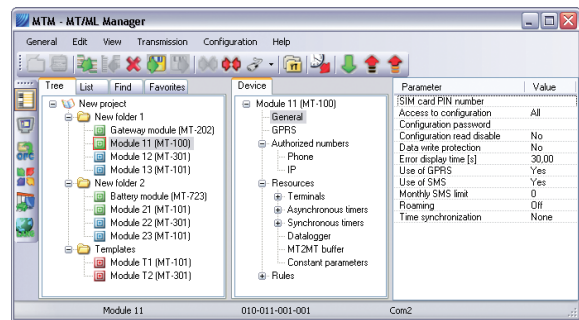
Drawings and dimensions (in millimeters)
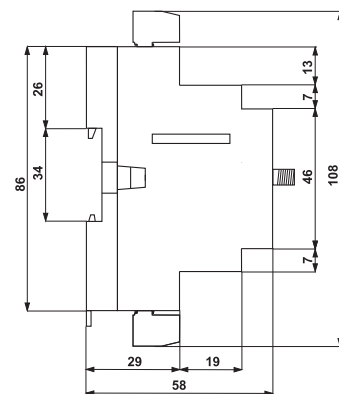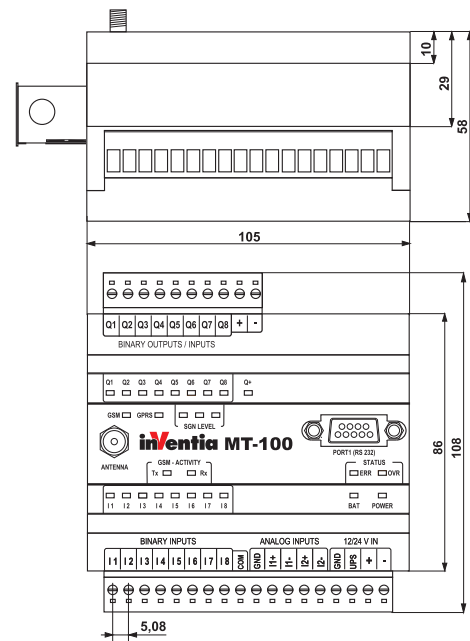
Additional info:

inVentia

INVENTIA Ltd.
ul. Kulczyńskiego 14, 02-777 Warszawa, POLAND
tel.: +48 22 545-32-00, fax: +48 22 643-14-21
inventia@inventia.pl, www.inventia.pl