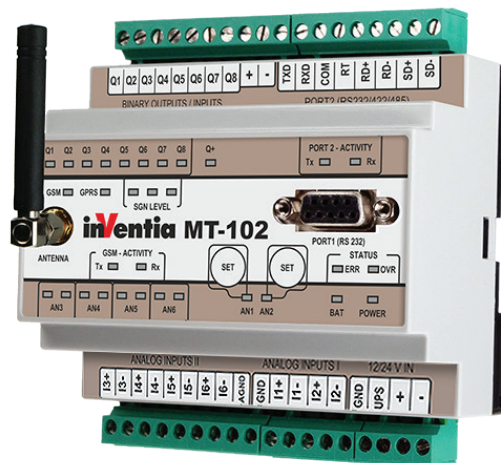


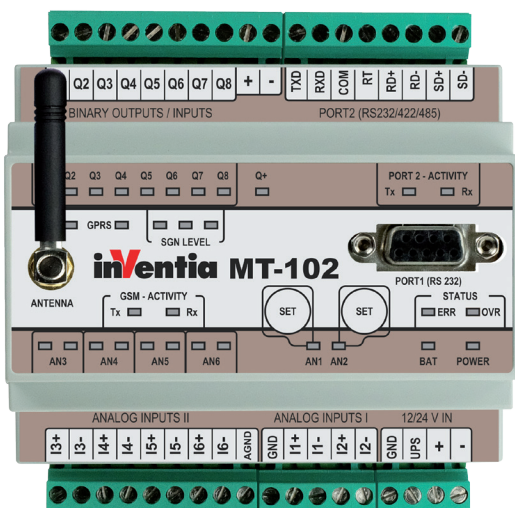
- GSM/GPRS packet transmission
- Integral GSM 850/900/1800/1900 modem with automatic login onto GPRS network
- Binary inputs and outputs (8)
- Analog inputs 4-20 mA (6)
- Serial communication port for external devices (RS-232/422/485), isolated
- Data logger with 0,1 sec. resolution
- RTC Real Time Clock
- Programmable logic controller (PLC)
- Standard communication protocols (MODBUS RTU, GAZMODEM, M-BUS, NMEA 0183)
- Removable terminal blocks
- Easy configuration software
- FlexSerial mode for program based protocol handling



Telemetry Module MT-102 is a professional device combining functionality of programmable logic controller, data logger, protocol converter and wireless communication interface for GPRS packet transmission over GSM network. Compact, robust design, integral GSM modem, attractive technical features and easy to use configuration tools are important advantages of MT-102 in wireless, scalable, multi-node systems for telemetry, control, diagnostic, surveillance and alarming.

Resources

- 8 configurable binary outputs / inputs / counters 24 V DC (Q1 – Q8)
- 2 optoisolated fast analog inputs 4-20 mA (1,5 % acc./ 10 bit res.) with configurable hysteresis and filtration
- 4 optoisolated analog inputs 4-20 mA with configurable hysteresis and conversion time (U/f conversion, accuracy 0,5%)
- Internal registers, flags and constants available to internal user program
- Isolated serial port RS-232/485/422
- Firmware Flash memory with remote update capability
- RTC with external synchronization functions



Functionality

- Transmission modes:
 - GPRS - packet transmission
 - SMS
 - CSD - circuit switched data transmission (in modem mode only)
- All internal resources accessible with standard Modbus RTU protocol
- Intelligent packet routing and Multimaster in Modbus RTU mode
- Packet broadcasting or intelligent routing in transparent mode
- All binary inputs configurable as counters or frequency-to-analog converters (0 – 2 kHz)
- Programmable control functions using I/O's and configurable, event triggered flags (SMS sending, data sending / logging, output control, call in)
- Unsolicited messaging on input/flag change, analog signal alarm level crossing or logical function evaluation.
- Event triggered Data Logger
- Dynamic SMS text insertion
- Simple, multipoint (4) alarm configuration for both binary and analog inputs
- Additional manual alarm level setting capability for analog inputs A1, A2 (front panel push buttons)
- Serial port emulated protocol in GPRS mode:
 - MODBUS RTU (Master and Slave)
 - Transparent, intelligent modem
- External module resource mapping to internal registers for data transmission improvement and event triggering
- Multibroadcast for transparent mode
- Remote (via GPRS) configuration and programming
- Configurable access security - IP and Tel. list, optional password
- DIN rail mounting
- Power supply 12/24 V DC, 24 V AC
- Removable terminal blocks
- Diagnostic LED's (status, GSM transmission activity, GSM signal level, GPRS activity, serial communication activity, I/O status)



0-8DI
/0-8DO

6AI



DIN RAIL

RS-232

RS-232
/422/485

MT-102

Configuration utility

The screenshot shows the MTW WinMTR Manager application. The 'General' tab is selected, displaying the configuration for the 'MT Slave'. The left pane shows a tree view with 'New module (MT-102)' highlighted. The main pane shows a table of parameters:

Parameter	Value
Modem operating mode	MT Slave
SIM card PIN number	0000
GSM band	EU-900/1800 MHz
Access to configuration	All
Configuration password	None
Access to configuration	All
Data rate protection	No
Error display time (s)	30.00
Use of GPRS	Yes
Use of SMS	Yes
Monthly SMS limit	0
Flowing	Off

Drawings and dimensions (in millimeters)

Technical drawing of the iVentia MT-102 antenna module, showing dimensions and component labels.

Dimensions (mm):

- Overall Width: 105
- Overall Height: 108
- Top Section Height: 29
- Bottom Section Height: 86
- Bottom Section Height (at base): 5,08

Component Labels and Connections:

- Top Section:** 10 pins (Q1-Q8, Q9-Q16).
- PORT12 (RS232/422/485):** TX, RX, GND, COM, R+, R-, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100.
- PORT2 - ACTIVITY:** Tx, Rx.
- GSM:** GPRS, GSM LEVEL.
- ANTENNA:** Tx, Rx.
- GSM - ACTIVITY:** Tx, Rx.
- ANT1, ANT2:** Antenna ports.
- BAT, POWER:** Battery and power connections.
- ANALOG INPUTS I:** 12 pins (GND, I1+, I1-, I2+, I2-, I3+, I3-, I4+, I4-, I5+, I5-, I6+, I6-).
- ANALOG INPUTS II:** 12 pins (I1+, I1-, I2+, I2-, I3+, I3-, I4+, I4-, I5+, I5-, I6+, I6-).
- 1224 V IN:** 12 pins (GND, I1+, I1-, I2+, I2-, I3+, I3-, I4+, I4-, I5+, I5-, I6+, I6-).

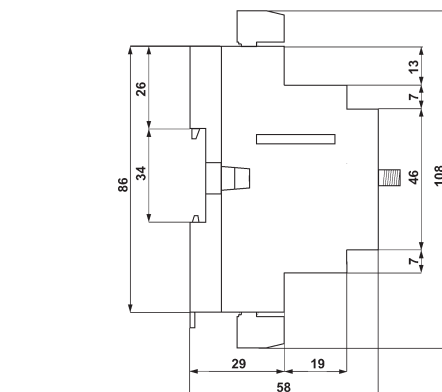
Voltage range (DC) 12,24V	10,8 – 36 V		
AC (24V)	18 – 26,4 Vrms		
Input current (A) (for 12V DC)	Idle 0,10	Active 0,60	Max 1,90
Input current (A) (for 24V DC)	Idle 0.06	Active 0.25	Max 1.00

Maximum input voltage	36 V
Input resistance	5,4 k Ω
Input voltage ON (1)	> 9 V min.
Input voltage OFF (0)	> 3 V max.

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

Input current	4 – 20 mA
Maximum input current	50 mA max.
Dynamic input impedance	25 Ω typ.
Voltage drop at 20mA	< 5 V max.
A/D converter	10 bits
Accuracy	+/-1,5 % max.
Nonlinearity	+/-1 % max.
Maximum operating voltage	36 V

Input current	4 – 20 mA
Maximum input current	50 mA max.
Dynamic input impedance	50 Ω typ.
Voltage drop at 20mA	5,5 V max.
A/D converter	U/I
Accuracy	+/-0,5 % max.
Nonlinearity	+/-0,2 % max.
Maximum operating voltage	36 V

**inventia**

INVENTIA complies with ISO 9001:2015 certified Quality Management System!
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from the European Regional Development Fund resources.