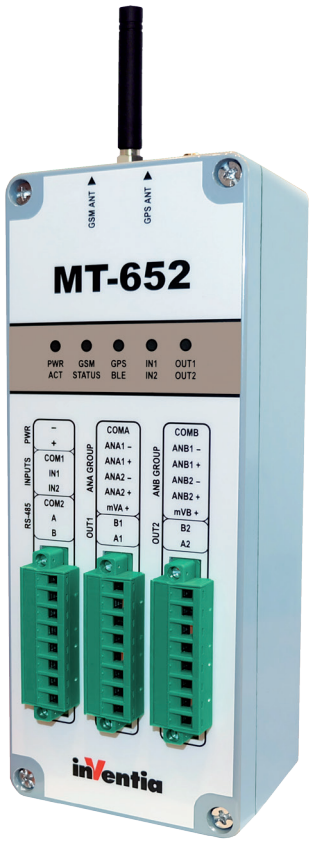
Telemetry module for Cathodic Corrosion Protection Systems

MT-652

- 6 measurement channels
- Measurement of AC and DC voltages
- Measurement in the range of microvolts
- GSM/GPRS/EDGE and UMTS/HSDPA packet transmission
- Dual-SIM technology
- Additional binary inputs and outputs
- Built-in GPS receiver and accelerometer
- Internal temperature sensor
- Local communication over USB, RS485 and Bluetooth Low Energy *
- Remote communication via GPRS and SMS
- 3 years warranty



MT-652 telemetry module provides compact and high specification solution for remote monitoring and controlling of pipeline cathodic protection systems, tanks and other metal structures buried in the ground or submerged in water. The flexibility of module configuration allows you to adjust it to a series of installations - from the simplest to the most complex. Internal resources of the device allow for easy and secure remote configuration and implemented data protection mechanisms ensure safe operation of the system.

With MT-652 module we supplied free of charge applications: MTManager for remote and local configuration, resources monitoring and firmware actualization, MT-Data Provider (OPC server, relation data base data saving engine) for communications environment for Microsoft Windows. These applications allow easy integration with available on the market popular SCADA systems.

Functionality

- DIN 35mm rail mounting
- Power supply by external DC unit or internal battery pack
- Built-in Quad Band GSM modem
  - 2G (GSM/GPRS EDGE 900/1800)
  - 3G (UMTS/HSPA+ 900/2100)
- Communication interfaces: USB, RS-485, Bluetooth 4.x*
- 2 optoisolated binary inputs (with common ground)
- 2 optoisolated groups of analog inputs where each of them contains 2 differential inputs (configurable measurement range 0-10V or 0-100V) and 1 dedicated input 0-100mV)
- Dual-SIM technology – access to 2 independent GSM networks ensures superior availability
- 2 optoisolated binary outputs (60V, 1A)
- Execute of measurements in the synchronous mode
- Scheduler of measurements and tasks with possibility of modification by user
- Built-in GPS receiver for time synchronization
- The accelerometer to detect tampering with the device or the devastation attempts (included unauthorized movement)
- Internal built-in Li-ion battery (2600 mAh) for energy backup in the module version powered by DC power supply unit
- Remote configuration, communication, monitoring and firmware upgrade via GPRS
- Internal temperature sensor
- Detection of main power failure and battery monitoring
- 5 status LEDs (digital I/O states, Power supply status, GSM status and activity, GPS status)
- Data logger with 0,1 second resolution stored data events in flash memory (capacity 180000 records)
- Possibility to store data on the microSD card
- Ability to integrate with SCADA system (OPC DA, OPC UA, ODBC and CSV support)
- Transmission mode:
  - GPRS/HSDPA - packet transmission
  - SMS
- Configurable access security – IP and Phone list, optional password
- User friendly configuration software
- Open communication protocol OPEN2

* OPTION

WARRANTY 3 YEARS
GPS
SMS
2DI/2DO
6AI
DIN RAIL
IP65
RS-485
3G
MT-652

General

Dimensions without connectors (length x width x height)	190 mm x 75 mm x 55 mm
Weight	900 g
Operating temperature	-20 to +55 °C
Protection class	IP65

GSM/GPRS Modem

Modem type	uBlox Sara-U270
Frequency range:	2G: 900/1800 MHz 3G: 900/2100 MHz
Antenna	50 Ω
GSM/GPS antenna connector	SMA-m

Power supply

Voltage range (DC)	7-30 V
Internal battery backup	Li-Ion battery, 2.6 Ah
Input current (for 24V) Idle Active Max	 800 μA 70 mA, 200 mA (charging) 0,7 A

Inputs IN1, IN2

Input voltage range	-30 to +30V
Input resistance	5,4 kΩ typ.
Input voltage ON (1)	> 9 V min
Input voltage OFF (0)	< 3 V max.
Minimum pulse length	5 ms

Outputs OUT1, OUT2

Recommended average current for single output	100 mA
Voltage switching AC/DC	60 V max
Single output current	1A
Output resistance in the ON (1) state	0.5 Ω max

Two group of optoisolated input with common ground (ANA, ANB)

0-100mV input: mVA, mVB	
Measurement range	±100 mV
Measurement resolution	1 uV
Accuracy DC	±0,1 %
Input resistance	>1 MΩ
0-100V input: ANA1, ANA2, ANB1, ANB2	
Measurement range DC	±10 V; ±100 V
Measurement range AC	100 V
Measurement resolution	1 mV
Accuracy DC	±0,1 %
Input resistance	>10 MΩ

Internal temperature sensor

Accuracy	±1 °C

GPS receiver

Time synchronization accuracy	±1 ms

Communication interfaces RS-485, USB, BLE

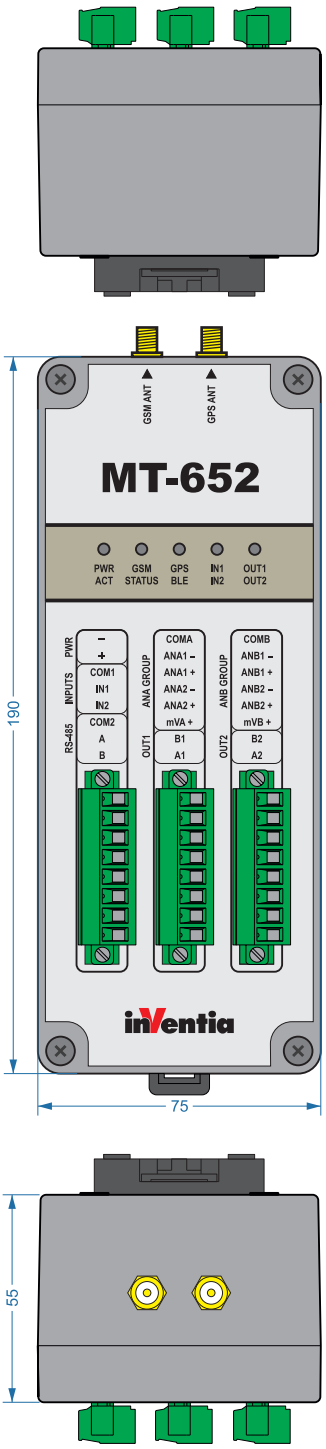
Wired	RS-485 (optoisolated) USB (Non Isolated, internal)
Wireless (remote)	Bluetooth 4.x, BLE*

* OPTION

Datalogger

Capacity (internal memory)	180 000 records
Data storage on microSD card	Depends on the capacity of microSD card Support for 32GB microSD cards

Drawings and dimensions (in millimeters)



Supplementary information:

INVENTIA Sp. z o.o.
Poleczki 23, 02-822 Warsaw, POLAND
tel.: +48 22 545-32-00, 545-32-01
fax: +48 22 643-14-21
inventia@inventia.pl, www.inventia.pl

INVENTIA complies with ISO 9001:2015 certified Quality Management System!
This project is co-financed by the EUROPEAN UNION
from the European Regional Development Fund resources.