



Quick Start

inVentia

Quick Start

how to run this stuff

Inventia

1 Quick Start - how to achieve the first success

[What's on CD](#)
[Software installation](#)

Moduły telemetryczne:

[MT-101/MT-102/MT-201](#)

[MT-30x](#)

[MT-703](#)

[MT-501](#)

1.1 What's on CD

The MT-CD has been started automatically. If the MTsetup.exe program has not been automatically launched you have to launch it using Windows Explorer.

Main menu contain:

- Software
- Specifications
- Adobe Acrobat
- Browse CD
- Close

Software part contain:

- **MTManager** – configuration software
- **MTSpooler** – configuration software for battery module
- **MTProg** – programming software
- **MTDataProvider** – communication driver
- **MTUpdt** – firmware upgrade software

Specifications part contain:

- Manuals (MT-101, MT-30x, MT-703)
- Data sheets
- Certificates
- Quick start

On the CD you also have directories with the newest *firmware* and USB driver for battery modules.

1.2 Software installation

The **MTManager** program, recorded on the MT-CD disc which you can find in the module packaging, is used to configure the modules.

In order to install this software you have to:

- Insert the disc in the CD drive of your computer

- If the MTsetup.exe program has not been automatically launched you have to launch it using Windows Explorer

WARNING!

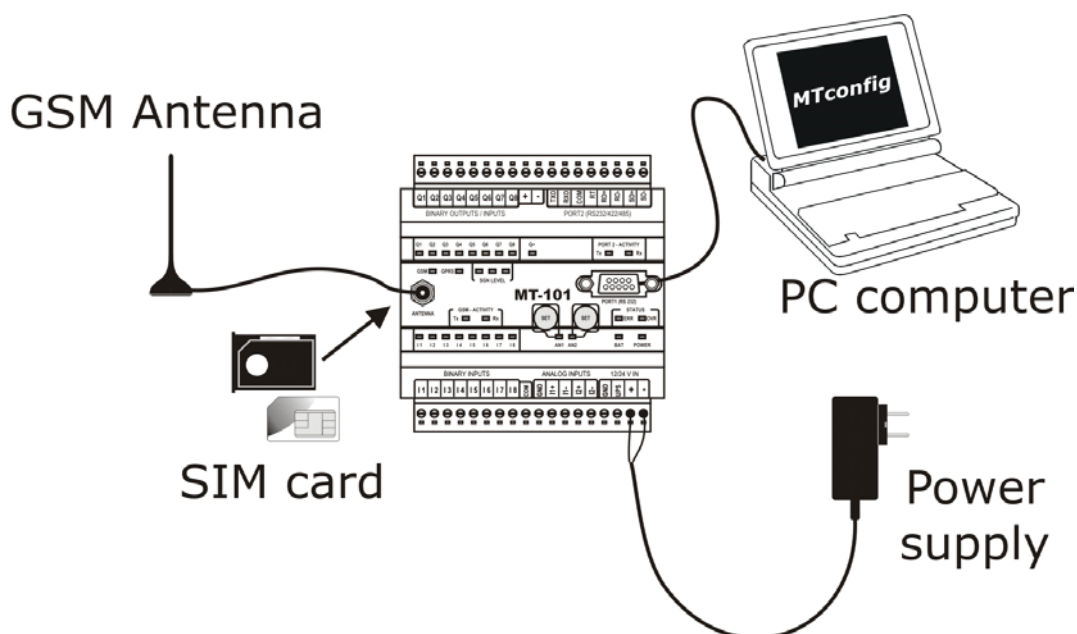
The installer starts by default in the language of the operating system of the computer or in English if the national language is not supported by the program. You can change the default language of the installation by selecting an appropriate item from the list in the installer program's window.

- Select "Software" and "MTManager" option from the installation program's menu
- Continue the installation of the remaining software components (Command: "MTprog" and more) or leave it to be done later
- End the operation of the installer by return to main menu ("Back") and selecting the option: "Close".

1.3 MT-101/MT-102/MT-201

After you take the module out of the packaging, you have to:

- Install in an appropriate holder the GSM operator's SIM card enabling you to log in to an APN with a static IP. addressing
- Connect a GSM antenna (either the one included in your module set or another one)
- Using the serial cable included in your module set, connect PORT 1 of the module with one of the serial ports of a PC with the Windows NT/2000/XP system installed in it.
- Provide appropriate power supply to your module.



As the module has never been programmed, its settings do not include information necessary to log in to APN. As a result, the first configuration cannot be performed remotely and it is required to connect the module directly to the computer, using the serial cable included in the set.

The MTManager program is used to configure the module. If default installation options have been used during installation the program's icon is to be found in the Windows system, menu: *Programs/MT Telemetry/MTM*. You launch the program by selecting the MTManager program icon. The next steps are as follows:

Use the *Program/Environments* command to check whether the selected configuration uses the local (serial) connection and whether the program will communicate through the port your module is connected to.

- Create a new device using the *Program/New/Module* command. It is necessary to give the module a unique name by which it will be identified and select correct firmware type.
- In the General group, the correct PIN number of the SIM card placed in the module has to be entered in the PIN number of the SIM card variable. In Use of GPRS menu select "**Yes**" if you want use GPRS transmission and send SMS, "**No**" if you plan to use only SMS.
- If you want to use the module in the MODBUS mode and use the internal resources you have to allocate an appropriate address to the module in the Resources/Internal resources Modbus ID number variable.
- In the GPRS group, you define parameters of APN in which your SIM cards are active.
 - APN name – you enter the APN name.
 - APN user name and APN login password – you enter these if the APN you use requires entering the username and access password.
 - Number of networked devices – you enter the number of devices with which the configured module will be communicating.
- In the Authorised Numbers list section you enter in the table the IP numbers of the networked devices (with which the configured module will be exchanging data)
- You can set more parametr like operation mode of the module's in the General section and you select the mode of operation using the Module Operating Mode variable.
 - If you are going to use the internal resources of the module the operation mode has to be set at Modbus RTU Master or Modbus RTU Slave. For these modes, you should also appropriately configure the table allocating ID Modbus addresses to IP numbers. In these modes, communication at the serial port takes place with the use of the Modbus protocol.
 - If you are going to use the modules only in order to send data between two devices you can choose the Transparent mode of operation. In this mode, communication is possible with any serial protocol. You only need to define a maximum size of the frame and the interval between the received characters which the module uses to create packets sent between the devices.
 - In the remaining variables of this section, you set serial port parameters according to the requirements of the external device connected.
 - MTSlave - serial port number 2 disabled.

The configuration steps described above is the minimum to be done to activate the module.

Saving configuration

Save your configuration in the module by selecting the Transmission/Connect and the Configuration/Write All command from the menu. Please note that the module has to be connected all the time to your PC with a serial cable.

After you correctly save your configuration, the module is automatically reset which should result in your correct login in to the network. However, if the module indicates an error you should check whether all the entered data have the values you intended to give them. You can do that by verifying the configuration saved in the module.

Verification configuration

In order to verify the configuration of the module, you have to read in the current configuration of the module using the Configuration/Read command. Please note that this time in the Main group of the module parameters data should now appear, related to non modifiable system settings. After readout, you can go on to verify individual parameters and settings.

Warning!!!

Please note that for the smallest transmission system you have to configure at least two telemetry modules. As a result the above described operations have to be repeated at least twice in order to get the simplest wireless connection for data transmission or readout of the module's internal resources.

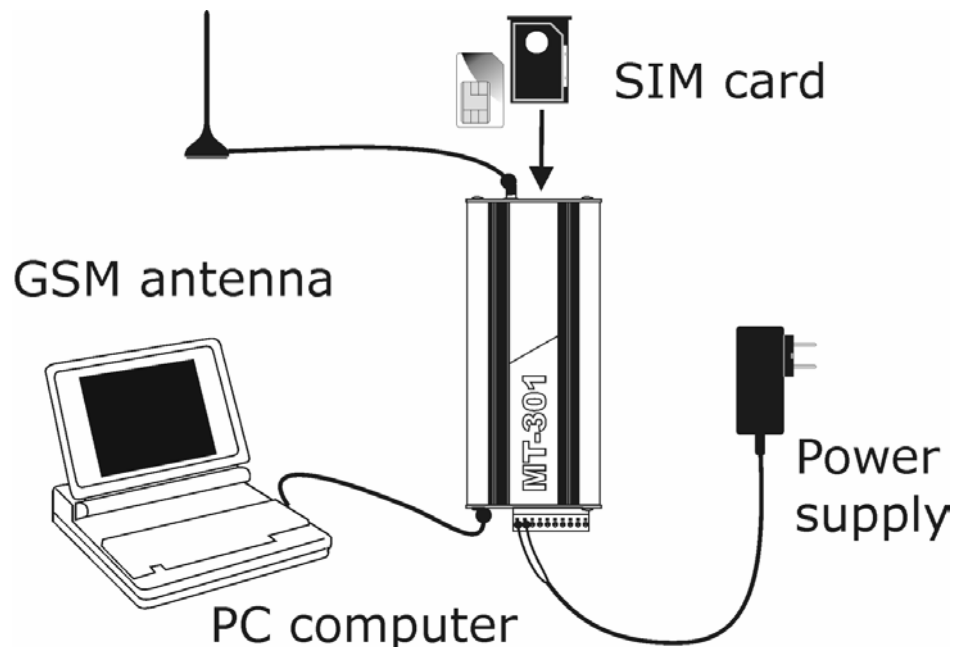
If you do not know the IP number assigned to your SIM card you can check it in the following way:

- Create a new configuration and enter correct values to the variables:
 - PIN number of the SIM card
 - APN name
 - APN user name
 - APN login password
- Save this configuration. After the configuration is saved the module should log in to the GPRS network (GPRS LED on).
- After login in to the GPRS network read out the configuration
- In this configuration, on the GPRS level, in the Module IP variable you can check what IP number has been assigned to the SIM card. Of course, the card must have a static IP address allocated in the given APN. Otherwise, the address will be different at your next logging in.

1.4 MT-30x

After you take the module out of the packaging, you have to:

- Install in an appropriate holder the GSM operator's SIM card enabling you to log in to an APN with a static IP. addressing
- Connect a GSM antenna (either the one included in your module set or another one)
- Using the serial cable included in your module set, connect PORT 1 of the module with one of the serial ports of a PC with the Windows NT/2000/XP system installed in it.
- Provide appropriate power supply to your module.



As the module has never been programmed, its settings do not include information necessary to log in to APN. As a result, the first configuration cannot be performed remotely and it is required to connect the module directly to the computer, using the serial cable included in the set.

The MTManager program is used to configure the module. If default installation options have been used during installation the program's icon is to be found in the Windows system, menu: *Programs/MT Telemetry/MTM*. You launch the program by selecting the MTManager program icon. The next steps are as follows:

WARNING!!!

The installer starts by default in the language of the operating system of the computer or in English if the national language is not supported by the program. You can change the default language of the installation by selecting an appropriate item from the list in the installer program's window.

Next steps are as follows:

- Create a new device using the *Program/New/Module* command. It is necessary to give the module a unique name by which it will be identified and select correct firmware type.
- In the General group, the correct PIN number of the SIM card placed in the module has to be entered in the PIN number of the SIM card variable. In Use of GPRS menu select "**Yes**" if you want use GPRS transmission and send SMS, "**No**" if you plan to use only SMS.
- If you want to use the module in the MODBUS mode and use the internal resources you have to allocate an appropriate address to the module in the Resources\Internal resources Modbus ID number variable.
- In the GPRS group, you define parameters of APN in which your SIM cards are active.
 - APN name – you enter the APN name.
 - APN user name and APN login password – you enter these if the APN you use requires entering the username and access password.
 - Number of networked devices – you enter the number of devices with which the configured module will be communicating.
- In the Authorised Numbers list section you enter in the table the IP numbers of the networked devices (with which the configured module will be exchanging data)

The configuration steps described above is the minimum to be done to activate the module.

Saving configuration

Save your configuration in the module by selecting the Edit/Save configuration command from the menu. Please note that the module has to be connected all the time to your PC with a serial cable.

Write down of the new configuration does not restart the module unless the modification was done also for:

- APN name
- APN user name
- APN login password
- SIM card PIN number
- GPRS enable/disable

In such a case module resets itself automatically and logs on to GPRS (STATUS LED blinks twice). During that time serial transmission to the module is stopped for approx. 1,5 min.

After you correctly save your configuration, the module is automatically reset which should result in your correct login in to the network. However, if the module indicates an error you should check whether all the entered data have the values you intended to give them. You can do that by verifying the configuration saved in the module.

Verification configuration

In order to verify the configuration of the module, you have to read in the

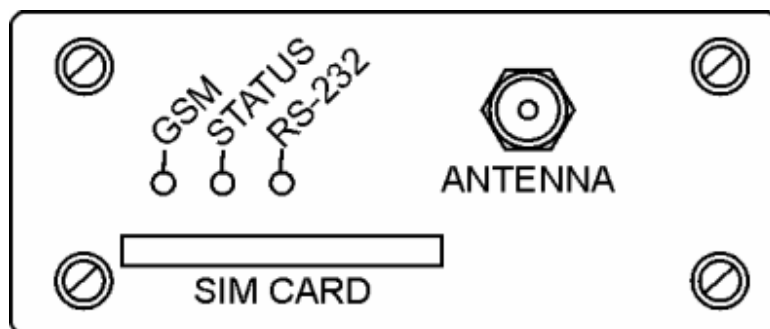
current configuration of the module using the Configuration/Read command. Please note that this time in the Main group of the module parameters data should now appear, related to non modifiable system settings. After readout, you can go on to verify individual parameters and settings.

Additional note:

Please note that for the smallest transmission system you have to configure at least two telemetry modules. As a result the above described operations have to be repeated at least twice in order to get the simplest wireless connection for data transmission or readout of the module's internal resources.

If you do not know the IP number assigned to your SIM card you can check it in the following way:

- Create a new configuration and enter correct values to the variables:
PIN number of the SIM card
APN name
APN user name
APN login password
- Save this configuration. After the configuration is saved the module should log in to the GPRS network (STATUS LED blinks twice).



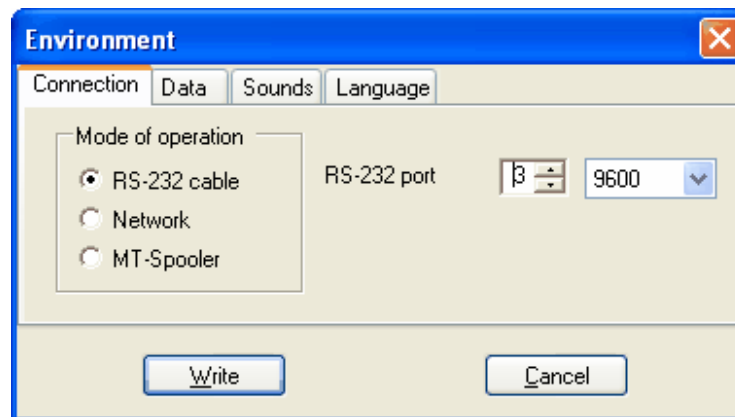
- After login in to the GPRS network read out the configuration
- In this configuration, on the main level, in the Module IP variable you can check what IP number has been assigned to the SIM card. Of course, the card must have a static IP address allocated in the given APN. Otherwise, the address may be different at your next logging in.

1.5 MT-703

After you take the module out of the packaging, you have to:

At first, it is recommended to connect the module to the PC computer with Windows 2000/XP Professional via USB cable, which enables either the transmission of the configuration data or the powering the module without using its battery. After plug in the cable Windows will find new hardware. The USB driver is on directory MT-USB on MT-CD. After driver installation in Device Manager you will see *Telemetry USB Gateway (example:COM3)*.

That port will be used in MTManager Environments settings:



Then the further actions should be proceeded in the recommended order:

- Connecting a GSM antenna. During each switching on, the antenna must be connected, because it is a load of the transmitter. Even without a SIM card, the GSM module exchanges information with the available networks to check the possibility of alarm connections (112)
- Configuring the basic operational parameters of the module:

If default installation options have been used during installation the program's icon is to be found in the Windows system, menu: *Programs/MT Telemetry/MTM*. You launch the program by selecting the MTManager program icon. The next steps are as follows:

- Create a new device using the *Program/New/Module* command. It is necessary to give the module a unique name by which it will be identified and select correct firmware type.
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- In the GPRS group, you define parameters of APN in which your SIM cards are active.
- APN name – you enter the APN name.
- APN user name and APN login password – you enter these if the APN you use requires entering the username and access password.
- Number of networked devices – you enter the number of devices with which the configured module will be communicating.
- In the Authorised Numbers list section you enter in the table the IP numbers of the networked devices (with which the configured module will be exchanging data)

- Mounting a SIM card
- Module restart

The configuration steps described above is the minimum to be done to activate the module.

Additional note:

After the initial module setup and the installation of a SIM card you can run the module. If a SIM card installation has been done without power disconnection (not recommended), then for the module restart it is enough to push the RESET button. If the supply voltage has been disconnected during a SIM card installation, its connection automatically starts the module. The module behaves in identical manner either after connecting the external batteries or after powering it via an USB cable. The properly configured module should register itself in a GSM network and possibly login onto a GPRS network within several seconds. You can observe the login process on the GSM LED.

1.6 MT-501

After you take the module out of the packaging, you have to:

- Install in an appropriate holder the GSM operator's SIM card enabling you to log in to an APN with a static IP. addressing
- Connect a GSM antenna (either the one included in your module set or another one)
- Using the serial cable included in your module set, connect PORT 1 of the module with one of the serial ports of a PC with the Windows NT/2000/XP system installed in it.
- Provide appropriate power supply to your module.

The MTManager program is used to configure the module. If default installation options have been used during installation the program's icon is to be found in the Windows system, menu: *Programs/MT Telemetry/MTM*. You launch the program by selecting the MTManager program icon. The next steps are as follows:

Use the *Program/Environments* command to check whether the selected configuration uses the local (serial) connection and whether the program will communicate through the port your module is connected to.

- Create a new device using the *Program/New/Module* command. It is necessary to give the module a unique name by which it will be identified and select correct firmware type.
- In the General group, the correct PIN number of the SIM card placed in the module has to be entered in the PIN number of the SIM card variable. In Use of GPRS menu select "**Yes**" if you want use GPRS transmission and send SMS, "**No**" if you plan to use only SMS.
- If you want to use the module in the MODBUS mode and use the internal resources you have to allocate an appropriate address to the module in the Resources\Internal resources Modbus ID number variable.
- In the GPRS group, you define parameters of APN in which your SIM cards are active.

- APN name – you enter the APN name.
- APN user name and APN login password – you enter these if the APN you use requires entering the username and access password.
- Number of networked devices – you enter the number of devices with which the configured module will be communicating.
- In the Authorised Numbers list section you enter in the table the IP numbers of the networked devices (with which the configured module will be exchanging data)

The configuration steps described above is the minimum to be done to activate the module.

1.7 Dictionary

GPRS (General Packet Radio Service) – The first high-speed digital data service provided by cellular carriers that used the GSM technology. GPRS works on GPRS cellphones as well as laptops and portable devices that have GPRS modems. Users have typically experienced downstream data rates up to 80 Kbps. GPRS is not the same as GSM's short messaging service (GSM-SMS), which is limited to messages of 160 bytes in length. GPRS was superseded by EDGE.

APN (Access Point Name) – identifies an external network that is accessible from a terminal. An APN has several attributes associated with it that define how you can access the external network at that point. By default, the SIM card in your terminal is configured with the APN of your Service Provider. You may want to configure further APNs if you have arranged with your Service Provider to use more than one SIM Card.

SIM Card (Subscriber Identity Module) – is a removable smart card that stores securely the key identifying a mobile phone service subscriber.

DHCP (Dynamic Host Configuration Protocol) – Software that automatically assigns temporary IP addresses to client stations logging onto an IP network. It eliminates having to manually assign permanent "static" IP addresses. DHCP software runs in servers and routers.

Adres IP (Internet Protocol address) – The address of a device attached to an IP network (TCP/IP network). Every client, server and network device must have a unique IP address for each network connection (network interface). Every IP packet contains a source IP address and a destination IP address.

inventia

580 route de Romans

01400 Châtillon/Chalaronne - FRANCE

Tel : 33 (0)4 74 55 52 52 - Fax : 33 (0)4 74 55 52 51