



RT4-5gp object module

V.31-28

User manual

Device features

- Ability to transmit information using SMS messages and GPRS network;
- Ability to connect device to the **RT4-5se** RF transmitter to backup SMS messages;
- Two IP support for transmitting via GPRS channel (main and backup);
- Ability to connect to server using domain name;
- Event log for 254 messages;
- USB-port for device programming;
- Ability to remotely configure module parameters via GPRS;
- Indication of the GSM signal strength and operating mode;
- Indication of the power status and message transmitting;
- 2 general purpose inputs;
- Power supply monitoring input;
- 2 programmable outputs;
- Communication port for Security panels connection;
- Supports 3 users + installer;
- Two switchable message modes: "User" and "Modem";
- Periodic channel test;

Technical information

GSM-protocol	E-GSM 900/1800/GPRS
GSM-modem	Quectel
SIM interface	3 and 1,8 V
Number of users	3+1
Output capacity	1A
Maximum voltage on closed output	15V
Maximum voltage on closed inputs	15V
Power supply	11 – 15V
Input current (at 12V power supply)	50mA
Input current in GPRS mode	300mA
Dimensions	120x80x30mm

General information

RT4-5gp object device is designed for gathering information from the security panel, it's processing and transmitting to the Central Unit.

Device has two general purpose inputs, AC control input and two outputs, that can function either like PGMs or activated outputs.

Module also supports work with two IP addresses. The first IP address is considered the main one, the second - backup. When module loses connection with the main IP address, it tries to connect to the second one. While connected to the second IP address, module periodically tries to establish connection with the main IP address. If successful, module returns to working with the first IP address. You can use domain name in the place of the first IP address.

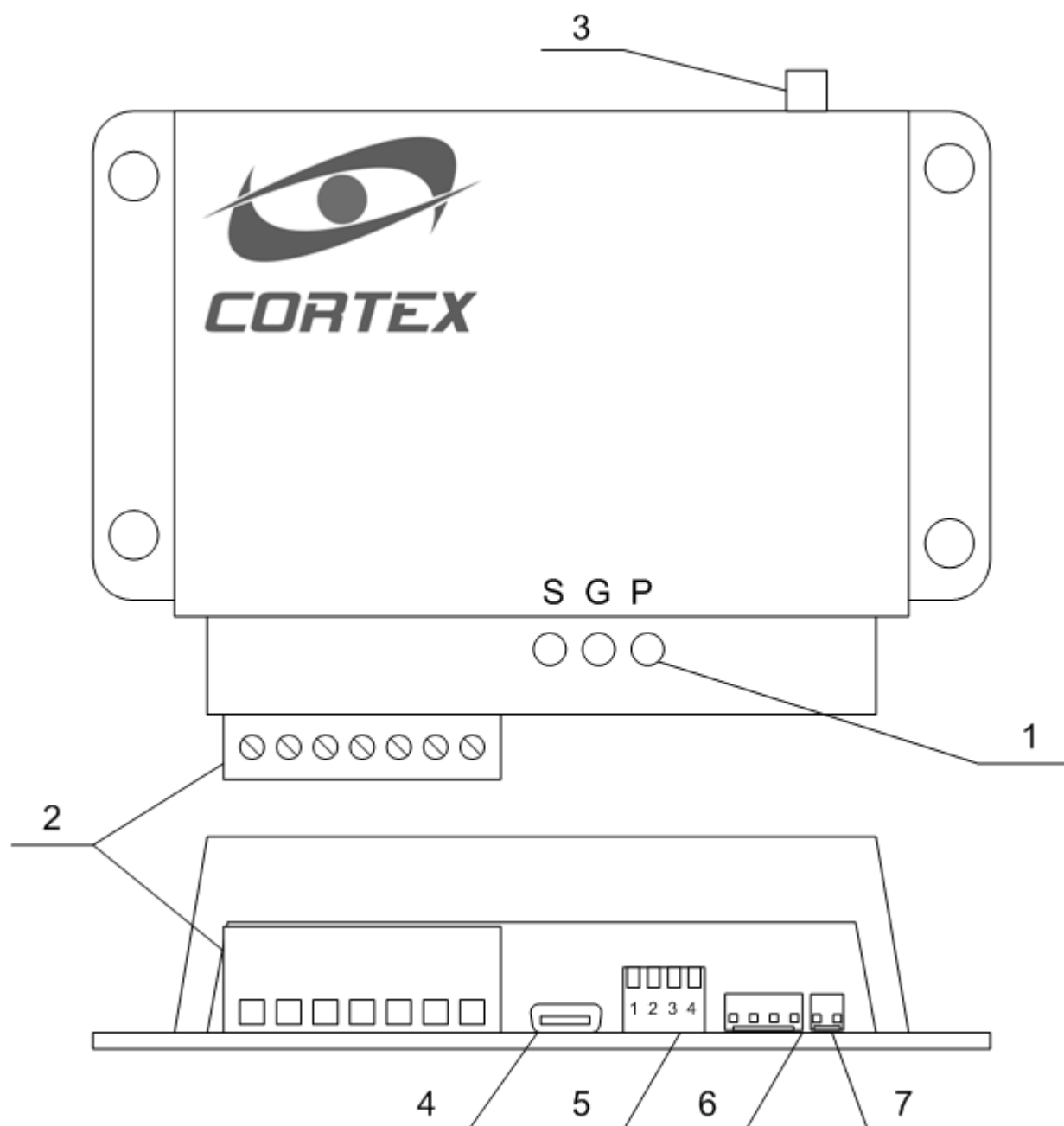
Device communication port is designed for connecting different kinds of security panels and gathering full information from them.

RT4-5gp module version 2.6 has 7* switchable working modes:

- 1 — working via Serial BUS protocol
- 2 — working with ABAS II address bus
- 3 — working with Esprit control panels
- 4 — working with Magellan control panels
- 5 — working with one- and two-partition DSC panels using Key-BUS protocol
- 6 — working with multi-partitioned DSC panels using Key-BUS protocol
- 7 — working with Digiplex control panels

RT4-5gp also monitors it's power level and transmits alarm message to the Central Unit if power level is lowered.

Module appearance



1. Indication LEDs
2. Terminal block for power supply and external device connection
3. GSM antenna connector
4. USB-port for device programming
5. Dip-Switch for operating mode switching
6. Communication port for security panel connection
7. RT4-5se transmitter connection port

User configuration

You can program up to 4 phone numbers. The first three numbers are user numbers, the fourth – installer's number. Installer doesn't receive any SMS-messages (excluding replies to commands) and has full permissions to control and program the module. Installer's permissions are hard-coded and cannot be changed.

In order for module to work properly, the first user's phone number must be programmed. Other numbers can be added if needed.

Attention! Phone numbers must be programmed with international code.

Device inputs and outputs

Device general inputs are loaded to «+» (react to «0»/«break» signals).

By default both general inputs are programmed as NO.

AC monitoring input is loaded to «+» (reacts on «0»/«break» signals) and programmed as NC.

If you need to change input type (NC/NO), you have to connect all external device, make sure all inputs are in the normal state and send the following command to the module: **00.xxxx** where xxxx – module security code. After receiving this command, module will set all input state as normal.

Maximum input voltage - **+15V**.

Device outputs can work either as manually activated outputs or PGM outputs.

Manually activated output is activated and deactivated by SMS-message. You can also activate it for a set number of seconds.

PGM-output can react to the following troubles: GSM-signal lost, cannot connect to server or cannot establish GPRS connection.

Outputs are configured using **USB_Reader** software. By default both outputs are programmed as manually activated.

First start and general programming.

Make sure that no phone numbers are saved in the SIM memory and the SIM card is activated. If PIN request is activated, make sure it is set as „0000“. After that you can insert the SIM into module.

After that you can start module programming. Module is programmed using **USB_Reader** software. To turn on programming mode, just connect the USB cable to it. When red **S** indicator will turn on, you can start programming.

First you must program the first user's number, module account and, if you are going to use module in GPRS mode, server IP-address, TCP-port, APN and module Online ID. In order for the module to work correctly with TLF_Server and WinSC software, OnlineID must be set the same as the module telephone number (without international code).

In case if it is not possible to use **USB_Reader** software, you can program the module using SMS messages.

To program the first user's phone number, power the module and, after successful initialization (green **S** indicator is on), send to the module the following message: **91.xx...xx**, where **xx...xx** – phone number. This message must be send from the first user's phone only.

Attention! Phone must be programmed with the international code. Before the code must be inserted «+».

If the number is successfully programmed, the first user will receive „**OK**“ message.

Then you have to change device account. To do so, send from installer's phone the following message **95.xxxxyyyy** where xxxx – module security code (default – 1234) and yyyy – new account.

After that you can program the module to connect to the TLF_Server software. Full command list is given in the “Working in GPRS mode” paragraph.

Indication

S indicator	
Off	Module not ready to work
Green	Module is ready to work
Blinks green fast	Message is being transmitted
Blinks green once a second	Low voltage
Red	Module in programming mode
G indicator	
Green. Flashing once every 2-3 seconds	Module in GPRS mode. GSM signal at high level
Yellow. Flashing once every 2-3 seconds	Module in GPRS mode. GSM signal at medium level
Red. Flashing once every 2-3 seconds	Module in GPRS mode. GSM signal at low level
Flashing green once every 2-3 seconds	Module in SMS mode. GSM signal at high level
Flashing yellow once every 2-3 seconds	Module in SMS mode. GSM signal at medium level
Flashing red once every 2-3 seconds	Module in SMS mode. GSM signal at low level
Flashing red once per second	Out of GSM coverage
P indicator	
Indication in Serial BUS mode	
Flashes yellow	Transmitting information via communication port
Indication in Esprit, Magellan and Digiplex modes	
Flashes yellow	Transmitting information via communication port
Indication in DSC 1 and DSC 2 modes	
Flashes yellow	Transmitting information via communication port
Blinks yellow fast	No communication with security panel. Check wiring and working mode

Working modes

RT4-5GP module has seven different working modes:

Serial interface mode (Serial BUS).

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☐ ☐ ☐ ☐ - OFF
☐ - ON

In this mode you can connect interface modules to the communication port, for acquiring information from control panels. In this mode all the messages are transmitted in the same format they are generated by the device, connected to the port (no conversion into ContactID format is made). When connecting security panel to the module in this mode, make sure that their accounts are identical.

ABAS II mode.

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☐ ☐ ☒ ☐ - OFF
☒ - ON

In this mode you can connect devices that communicate using **ABAS** address line and **MX-8-456** input/output expanders.

Esprit mode.

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☐ ☒ ☐ ☐ - OFF
☒ - ON

In this mode you can connect **PARADOX ESPRIT 7x8** (V 3.00 and higher) security panel. Panel is connected via it's specialized serial port. All the panel's messages are converted into ContactID format (see table 6). All messages are transmitted with the **RT4-5GP** account.

Magellan mode

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☒ ☒ ☐ ☐ - OFF
☒ - ON

In this mode you can connect **PARADOX** panels of the **E**, **SP** and **MG** series. Panel is connected via it's specialized serial port. All the panel's messages are converted into ContactID format (see table 6). All messages are transmitted with the **RT4-5GP** account.

DCS 1 mode

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☐ ☒ ☒ ☐ - OFF
☒ - ON

In this mode communication port is connected to the Key-BUS line of the one- and two-partitioned DSC security panels. All messages are transmitted with the **RT4-5GP** account.

DSC 2 mode

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☒ ☐ ☒ ☐ - OFF
☒ - ON

In this mode communication port is connected to the Key-BUS line of the DSC security panels that has more than two partitions. All messages are transmitted with the **RT4-5GP** account.

Digiplex mode

To activate this mode you have to set the following combination on the dip-switch:

Switch: ☐ ☒ ☒ ☒ ☐ - OFF
☒ - ON

In this mode you can connect PARADOX panels of the Digiplex series. Panel is connected via it's specialized serial port. All the panel's messages are converted into ContactID format (see table 6). All messages are transmitted with the RT4-5GP account.

Message format

Module events in "Modem" mode, events from the MX-8-456 expanders and from Paradox and DSC security panels are always transmitted in ContactID format.

In WinSC software messages are looking the following way:

Partitions=PP EventCode=EEEEZZZ

F – Event type identifier: E — alarm/disarming, R — restore/armring.

EEE – Event code.

PP – Partition. Module own messages are transmitted with partition 99.

ZZZ – Zone/User number.

On the mobile phone information is displayed the following way:

FF, AAAA,EEEEPPZZZ:<date>-<time>*<CS>

FF – Event type identifier: 06 — alarm/disarming, 07 — restore/armring.

AAAA - Account

EEE – Event code.

PP –Partition. Module own messages are transmitted with partition 99.

ZZZ – Zone/User number.

<CS> - Check sum.

Messages that are transmitted via communication port in the first mode are not automatically converted into ContactID and their format depends on the connected device type.

Connecting RT4-5se radio transmitter

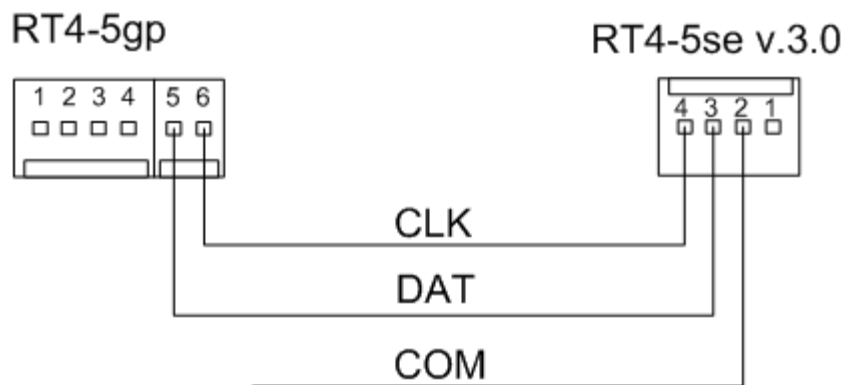
You can connect RT4-5se radio transmitter to the RT4-5gp.

Radio transmitter is used as a backup channel when GPRS connection is lost.

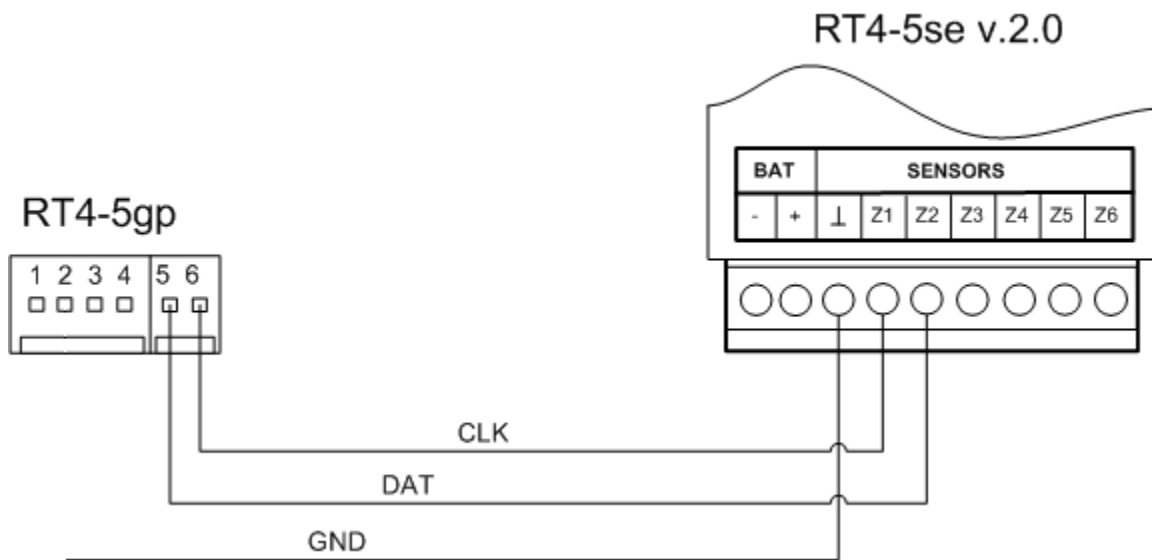
Message via radio channel is transmitted simultaneously with the sending of the SMS-message to the first user, therefore you must make sure that all messages are enabled for the first user. Otherwise some messages may be lost.

In the RT4-5se radio transmitter version 2.0, jumper for mode selection must connect two upper contacts.

In the RT4-5se version 3.1, the first working mode must be enabled (SerialBUS – all switches on the Dip-Switch are turned off).



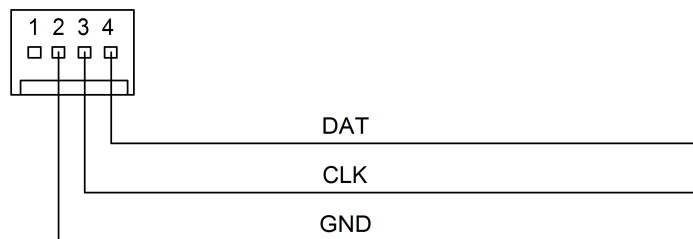
RT4-5se v.3.1 transmitter wiring



RT4-5se v.2.0 transmitter wiring

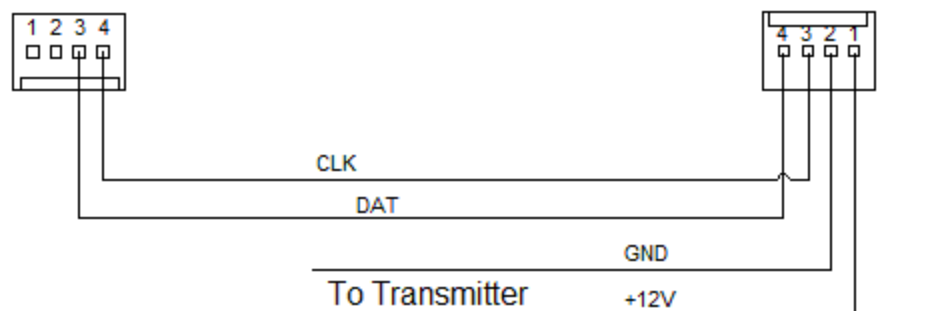
External device wiring

RT4-5gp



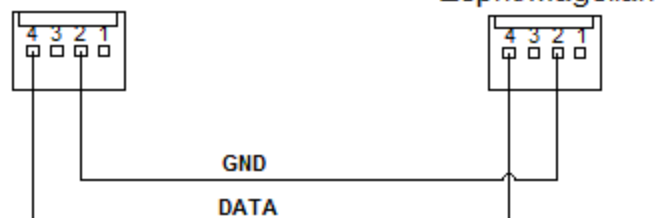
Serial BUS interface modules wiring (1-st mode)

RT4-5gp

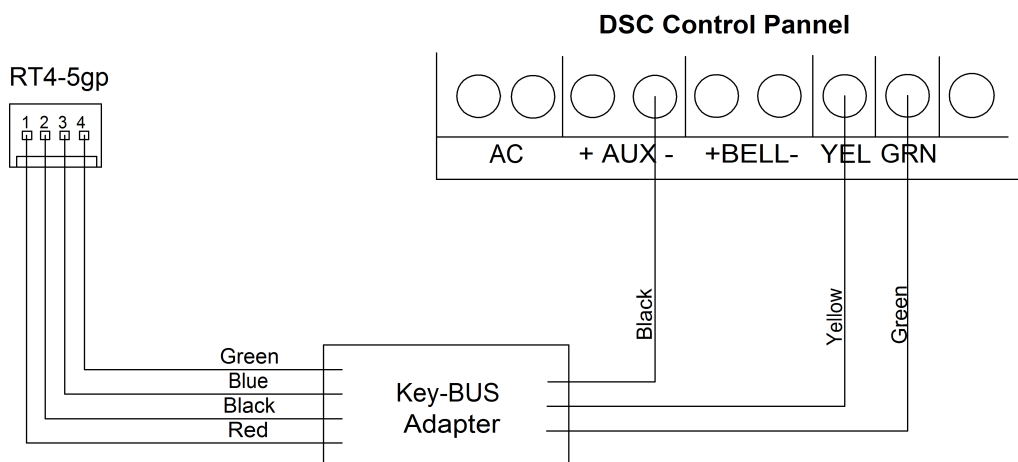


MAS800 security panel wiring (1-st mode)

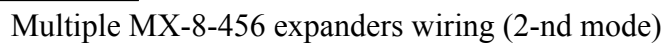
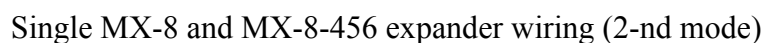
RT4-5gp



Esprit, Magellan and Digiplex panels wiring (3-rd, 4-th and 7-th modes)



DSC panel Key-BUS wiring (5-th and 6-th modes)



Working in SMS mode.

In SMS mode each user can receive information in two formats: "modem" and "user". Format selection is made by user and depends on the module usage strategy. Each user can change the format by sending "***" message to the module.

"Modem" format is designed for receiving by CU-GSM central unit and WinSC software.

"User" format is used if information is send to the mobile phone. In this mode module sends information in text format (see enclosures 2 – 4).

You should pay attention to the accuracy of the commands sent to the module. In case of lost or redundant symbol (including spaces) command will be ignored.

Working with the phone numbers of the defined length.

Module identifies users by the phone number. Module can identify phone number by the specified number of digits, instead of the whole number.

Symbol count starts from the end of the number. Maximum number of symbols is 16, "+" is not counted.

Number of symbols is set using **99.Nx** command, where x – number of symbols. If you will send **99.N0** command – module will work only with fully specified phone numbers. By default number length is set as 8.

This option can also be configured using **USB_Reader v.1.3.9** software

Working in GPRS mode.

In this mode module establishes direct connection with the TLF_Server software and transmits full information via GPRS channel.

Attention! In GPRS mode module doesn't send SMS messages to the first user.

Working with two IP addresses

You can program two IP addresses in the module. The first IP address will be main, the second – backup. If the domain name is programmed – it will be used instead of the first IP address.

When powered on, module always tries to establish connection with the main IP. If the first IP is not programmed, module will continue working in SMS mode.

If module failed to establish connection with the main IP, or this connection is lost, module establishes connection with the backup IP. When connected to the backup IP, module periodically (default – 1 hour) tries to establish connection with the main IP. If failed, module restores connection with the backup IP and repeats attempt again in an hour.

GPRS settings

In order for module to work correctly in GPRS mode you must configure the following parameters: **APN** (Access point name to connect to the GPRS service), Central Unit **IP-address**, Central Unit **TCP PORT**, **Online ID** (module online identifier), Central unit **Domain name** (if used), Central Unit **DNS Server IP** (if used). These parameters can be configured using **USB_Reader** software or by sending a command to the module:

99.I <IP>	Main IP address
99.II <IP>	Backup IP address
99.A <access point>	APN
99.P <port>	Main server TCP port
99.PP <port>	Backup server TCP port
99.M <min>	Time between attempts to reconnect to server
99.R <min>	Time between attempts return to the main IP
99.DI <IP>	DNS server IP-address (if used)
99.DD <domain name>	Domain name (if used)

If main IP address or domain name are programmed, module will try to establish GPRS connection directly after powered up. If main IP address is not set or set as 0.0.0.0 and domain name is not programmed than module stays in the SMS mode.

Forced exit from GPRS mode

For power saving purposes module can exit GPRS mode if there are troubles with power supply.

You can specify conditions on which module will exit GPRS. Those can be specified either by

USB_Reader software, or by the following SMS commands:

99.F0 – Don't exit GPRS unless command **86.<security code>** is received

99.F1 – Exit GPRS if power low (default).

99.F2 – Exit GPRS if 220V lost.

99.F3 – Exit GPRS if power low or 220V lost.

If this option is enabled and the battery is low and/or power is lost (depends on the settings), the module will send **E804000** (in "modem" mode) or **Check bat or power** (in "User" mode) message when an attempt to turn GPRS mode on is made.

Mobile operator authorization for GPRS activation.

In case you need to authorize with the mobile operator for GPRS activation, you have to specify login and password

Login is set by the **99.Y1xxxx** command, where xxxx – login.

Password is set by the **99.Y2xxxx** command, where xxxx – password.

Number of symbols in login and password must not exceed 8.

If you need to delete login and password, you have to send corresponding SMS messages **99.Y1** and **99.Y2**

Those parameters can also be changed using **USB_Reader v.1.3.9** software.

Online identifier

In order to send a message to the module from the **WinSC** software, you have to assign a unique ID for it. In order for module to work correctly with the **TLF_Server** and **WinSC** software, it is recommended that ID would be the same as module phone number (without international code).

Attention! ID must only contain digits and be maximum 15 symbols long.

You can set online ID either by using **USB_Reader v.1.3.9** software, or by sending **99.Wxxxx** message, where xxxx – identifier.

By default online ID is set as 11111111.

Possible errors

- If failed to establish GPRS connection:

GPRS error (in „User" mode) or **E854001** (in „Modem" mode).

Possible causes: wrong APN setting or unavailability of this service at the current mobile operator.

- If failed to connect to software or Central unit:

Online error (in „User" mode) or **E854002** (in „Modem" mode).

Possible causes: wrong IP, TCP PORT settings. Firewall restrictions on the Central Unit.

Module registration in the WinSC software

In order to work correctly module must be registered in the software the following way:

The screenshot shows the 'WSC - Editor' window. The 'Editor' tab is active, displaying configuration fields for a radio transmitter and a table of events.

Radio Configuration:

- Object Nr: 1
- Name: Name
- Description: Description
- Tx Address: 3991
- Slot: 0
- Channel: 2
- Device type: Tx

Phone Configuration:

- Account: 1234
- Line: GSM
- Channel: 1
- Phone: 26632248

Timing and Maintenance:

- Transm. test time: 25:00
- Object test time: 25:00
- Reminder timeout: 01:00
- Mainten. period MM:DD: 00-00

Events Table:

NR	Partition Nr	Event code	M	T	Message	rEv	R
1	??	R3840??		R	Wireless zone [E] battery OK		N
1	??	R4000??		A	Armed by RCU [E]		N
1	??	R4010??		A	Armed by user [E]		N
1	??	R4030??		A	AutoArm by timer [E]		N
1	??	R5700??		E	Zone [E] unbypass		N
1	??	R5710??		E	Fire zone [E] unbypass		N
1	??	R5720??		E	24Hr zone [E] unbypass		N
1	??	R5730??		E	Burglary zone [E] unbypass		N
1	??	R6040??		E	End of fire test. User [E]		N
1	??	R6070??		E	End of walk test. User [E]		N

Legend: P-Panic F-Fire B-Bur T-Trbl W-PWR A-Arm D-DArm R-Restore E-Event S-Tst

In the **Radio** block you must enter parameters of the radio transmitter that is connected to the RT4-5gp. If transmitter is not connected, this block can be ignored.

TxAddress – transmitter number.

Channel – number of the receiving channel (Central Unit).

Slot – slot that the receiver is connected to.

Device type – must be set as Tx.

In the **Phone** block you must enter RT4-5gp parameters.

Account – Device account. Every device must have it's own unique account.

Channel – number of the receiving (IP Client).

Line – must be set as GSM

Phone – Phone number of the RT4-5gp. Without international code.

Transm.test time – radio transmitter test period. If transmitter is not connected must be set as 00:00.

Object test time – RT4-5gp/security panel test period

Reminder timeout – with this time period not restored alarm events from the "Alarm list" window will be repeated.

Into the **Events** and **TLF Events** tabs you have to load RT4-5gp code cards.

If the radio transmitter is not connected to the RT4-5gp than Events tab may be left blank.

Request status and settings commands

For the status and settings request there are 4 commands:

99.C1 — GPRS connection settings request. Reply has the following appearance:

V:3126, IP1:0.0.0.0, PORT1:923, IP2:0.0.0.0, PORT2:924, ForceOff:1

V: - Module firmware version.

IP1: - Main IP address.

PORT1: - Main TCP port.

IP2: - Backup IP address.

PORT2: - Backup TCP port.

ForceOff: - Force offline mode. 0 — don't go offline, 1 — go offline if battery low, 2 — go offline if AC lost, 3 - go offline if battery low or AC lost.

99.C2 — general settings request. Reply has the following appearance:

V:3126, TestTime:144, QTime: 15s, RTime: 2m, IpRTime: 60m, GprsAtt: 2, Lnr:8, OUT1: General, OUT2: General

V: - Module firmware version.

TestTime: - Test message period*10 minutes.

QTime: - Connection test period in GPRS.

Rtime: - Time between attempts to connect to server.

IpRTime — Time between attempts to return to main IP.

GprsAtt – Number of attempts to establish GPRS connection.

LNr: - Number of digits to determine phone number.

OUT1: - First output working mode.

OUT2: - Second output working mode.

99.C3 — GSM network status and settings request. Reply has the following appearance:

MV:3126; CSQ: 30,0, COPS: 0,0, "LMT GSM", CGREG: 1,1, L: , P: , APN:internet.lmt.lv

V: - Module firmware version.

CSQ: - GSM signal strength. Acceptable level 15-20, good – 20–30.

COPS: - Mobile operator.

CGREG: - GPRS service availability. Must be 1,1 when available.

L: - login for establishing GPRS connection.

P: - password for establishing GPRS connection.

APN: - APN.

9 — Module status request. Reply has the following appearance:

V:3126, Mode: DSC, IN: , OUT: , Users: U1(code) U4 (txt), Security: OFF, SimLock: OFF, Online: ON

V: - Module firmware version.

Mode: - current working mode.

IN: - List of inputs that are in alarm state.

OUT: - List of activated outputs.

Users: - List of registered users. In brackets shown message format: text or codes.

Security: - Security mode. Turned on/turned off.

SimLock: - SIM card lock in module. Turned on/turned off.

Online: - Current online status.

Enclosure 1. Terminal block pins.

Pin	Name	I/O	Description
1	12V-	I	Module power supply
2	12V+	I	
3	I1	I	First alarm input
4	I2	I	Second alarm input
5	ACF	I	Power supply control input
6	O1	O	Output 1
7	O2	O	Output 2

Enclosure 2. Module control commands.

Command	Description	Reply	By default allowed to:
0	Request status	/Status/: ¹	All
1	Activate Out 1	E802001	U1, U2, U4 ²
2	Deactivate Out 1	R802001	U1, U2, U4
1.xxx	Activate Out 1 on time (xxx – seconds)	E802001	U1, U2, U4
3	Activate Out 2	E802002	U1, U2, U4
4	Deactivate Out 2	R802002	U1, U2, U4
3.xxx	Activate Out 2 on time (xxx – seconds)	E802002	U1, U2, U4
081.xxxx	Restart module (xxxx – security code)	R308000	U1, U4
85	Restart GPRS mode to apply new settings (only in GPRS mode)	---	Server

Notes:

- 1) Status is a list of all active modes and alarms.
- 2) U1, U2, U3, U4 – User numbers; **U1 – Master, U4 - Installer**

Enclosure 3. Module configuration and service commands.

Command	Description	Reply	By default allowed to:
00.xxxx	Set current state as normal (xxxx – module security code)	/Status/	U1; U4
81	Request master phone number	/TLF number/	U1; U4
82	Request 2-nd user phone number	/TLF number/	U1; U4
83	Request 3-rd user phone number	/TLF number/	
84	Request 4-th user phone number	/TLF number/	
92	Delete 2-nd user phone number	E801000	U1; U4
93	Delete 3-rd user phone number	E801000	U1; U4
94	Delete 4-th user phone number	E801000	U1; U4
91.xx...xx¹	Change master phone number	E801000	U1; U4
92.xx...xx	Change 2-nd user phone number	E801000	U1; U2; U4
93.xx...xx	Change 3-rd phone number	E801000	U1; U3; U4
94.xx...xx	Change 4-th user phone number	E801000	U1; U4
95.xxxxyyyy	Change module account xxxx – security code, yyyy – new account	E803000	U1; U4
96.xxxxyyyy	Change security code xxxx – old code, yyyy – new code	E803000	U1; U4
87.xxxx	Turn on GPRS-mode (xxxx - module security code)	Depending on the result ³	U1; U4
99.CddMMyyhhmmss²	Set time and date (dd – day, MM – month, yy – year, hh – hours, mm – minutes, ss - seconds)	E801000	U1; U4
99.Wxxxx	Set module online ID. xxxx – identifier (15 digits max.)	E801000	U1; U4
99.Txxx	Set test period (xxx – time *10 minutes. Max. - 255)	E801000	U1; U4
99.I<IP>	Set main server IP-address	E801000	U1; U4
99.II<IP>	Set backup server IP-address	E801000	U1; U4
99.DI<IP>	Set DNS-server IP-address (if used) ⁴	E801000	U1; U4
99.DD<domain name>	Set domain name (if used)	E801000	U1; U4

Command	Description	Reply	By default allowed to:
99.A<access point>	Set APN	E801000	U1; U4
99.P<port>	Set main server TCP port	E801000	U1; U4
99.PP<port>	Set backup server TCP port	E801000	U1; U4
99.R<min>	Time between attempts to return to main IP	E801000	U1; U4
99.O<sec>	GPRS channel test period Min - 15. Max - 255	E801000	U1; U4
99.M<min>	Time between attempts to reconnect to server Max - 255	E801000	U1; U4
99.Y1<login>	Set login for main SIM GPRS service Max – 8 symbols	E801000	U1; U4
99.Y2<password>	Set password for main SIM GPRS service Max – 8 symbols	E801000	U1; U4
99.Nx	Set number of symbols for number recognition. Max - 16	E801000	U1; U4
99.C1	Show module online configuration	/Configuration/	U1; U4
99.C2	Show module general configuration	/Configuration/	U1; U4
99.C3	Show operator and GSM-signal strength ⁵	/Configuration/	U1; U4
9	Show user configuration, current working mode, input and output status and configuration	/Configuration/	U1; U4

Notes:

1. It is recommended to register phone numbers with the international code. If international code is used than it must contain «+» before it (for example, Latvia: +371xxxxxxx, Estonia: +372xxxxxxx, Russia: +7xxxxxxx). Maximum phone length – 15 digits.
2. Date and time are added to every message. To receive the correct time you either have to activate GPRS mode or send this SMS-message.

Attention! After restarting module time and date will be lost and you will have to set them again.

3. See paragraph «Working in GPRS mode».
4. If you need to stop using domain name and start using IP-address again, just delete DNS-server IP-address. You can do so by sending 99.DI message.
5. Acceptable level 15-20, good – 20–30

Enclosure 4. Module events.

Event code in WinSC software	SMS-message on mobile phone (by default)	Description	By default sent to:
E802001	OUT 1 activated	Out 1 activated	Command sender
E802002	OUT 2 activated	Out 2 activated	Command sender
R802001	OUT 1 deactivated	Out 1 deactivated	Command sender
R802002	OUT 2 deactivated	Out 2 deactivated	Command sender
E803000	Code changed	Account/Security code changed	Command sender
E830001	Alarm zone 1	Alarm zone 1	U1, U2
E830002	Alarm zone 2	Alarm zone 2	U1, U2
E850000	AC lost	AC lost	U1
E822000	Battery low	Battery low	U1
E804000	Check bat or power	Forced exit from GPRS mode	U1
E801000	Configuration changed	Module configuration changed	Command sender
E854001	GPRS error	Failed to establish GPRS connection	U1
E854002	Online 1 error	Failed to connect to main IP address	U1
E854004	Online 2 error	Failed to connect to backup IP address	U1
R830001	Restore zone 1	Restore zone 1	U1, U2
R830002	Restore zone 2	Restore zone 2	U1, U2
R850000	AC restored	AC restored	U1
R822000	Battery restored	Battery restored	U1
E823000	Test	Test message	U1
R808000	Ready	Module is ready to work	U1
E833020	Port failure	Communication port failure	U1
R833020	Port OK	Communication port restored	U1

Note! Module events are transmitted with partition 99.

Enclosure 5. Event codes for Esprit security panels

Event code	Description
E100000	Auxiliary alarm
E115000	Fire alarm
E120000	Panic
E121000	Duress alarm
E1300xx	Alarm! Zone xx, where xx - zone number
R1300xx	Zone xx restored, where xx - zone number
E1370xx	Tamper alarm! Zone xx, where xx - zone number
R1370xx	Tamper restore. Zone xx, where xx - zone number
E301000	AC fail
R301000	AC restore
E302000	Battery low
R302000	Battery restore
E312000	Power supply over current limit
R312000	Power supply restore

E321000	Bell trouble
R321000	Bell OK
E351000	Telephone line fail
R351000	Telephone line restore
R354000	Communication restore
E373000	Fire zone trouble
R373000	Fire zone restore
E401000	Special disarming
R401000	Special arming
E4010xx	Disarmed by user xx, where xx - user number
R4010xx	Armed by user xx, where xx - user number
E405000	Auto-arm cancelled
E406000	Alarm cancelled
E421000	Keypad lockout
E452000	Late open/close
E459000	Recent closing
E456000	Partial arming
E5700xx	Zone bypass, where xx - zone number
E602000	Periodic test
E626000	Date/time loss
E625000	Date/time restore
E627000	Programming mode entry

Enclosure 6. Event codes for SP/Magellan security panels

Event code	Description
E100000	Auxiliary alarm
E1000xx	Medical alarm, where xx - user number
E1100xx	Fire zone alarm, where xx - zone number
R1100xx	Fire zone restore, where xx - zone number
E115000	Fire alarm
E120000	Panic
E121000	Duress alarm
E1300xx	Alarm! Zone xx, where xx - zone number
R1300xx	Zone xx restore, where xx - zone number
E1370xx	Tamper alarm. Zone xx, where xx - zone number
R1370xx	Tamper restore. Zone xx, where xx - zone number
E1430xx	Module trouble, where xx - module address
R1430xx	Module restore, where xx - module address
E1450xx	Wireless module tamper alarm, where xx - module address
R1450xx	Wireless module tamper restore, where xx - module address

E301000	AC fail
R301000	AC restore
E302000	Battery low
R302000	Battery restore
E305000	System reset
E308000	System shutdown
E312000	Power supply over current limit
R312000	Power supply restore
E321000	Bell trouble
R321000	Bell restore
E333000	Expansion module trouble
R333000	Expansion module restore
E338000	Expansion module low battery
R338000	Expansion module battery restore
E341000	Expansion module tamper alarm
R341000	Expansion module tamper restore
E342000	Expansion module AC lost
R342000	Expansion module AC restore
E344001	RF jamming
E344002	GSM jamming
R344001	RF restored
R344002	GSM restored
E350000	GSM – no service
E350001	IP – no service
R350000	GSM - service restored
R350001	IP - service restored
E351000	Telephone line 1 fail
R351000	Telephone line 1 restore
E352000	Telephone line 2 fail
R352000	Telephone line 2 restore
E354001	Communication fault (voice report)
E354002	Communication fault IP1 (GPRS)
E354003	Communication fault IP2 (GPRS)
E354004	Communication fault IP1
E354005	Communication fault IP2
R354000	Communication restored
R354001	Communication restored (voice report)
R354002	Communication restored IP1 (GPRS)
R354003	Communication restored IP2 (GPRS)
R354004	Communication restored IP1

R354005	Communication restored IP2
E373000	Fire zone trouble
R373000	Fire zone restore
E3800xx	Sensor trouble, where xx - sensor number
R3800xx	Sensor restore, where xx - sensor number
E381000	Loss of supervision — RF
E381001	Loss of supervision — GSM
E381002	Loss of supervision — IP
R381000	Supervision restore — RF
R381001	Supervision restore - GSM
R381002	Supervision restore – IP
E3840xx	Wireless sensor battery low, where xx - sensor number
R3840xx	Wireless sensor battery restore, where xx - sensor number
E400000	Open after alarm (Winload/keyswitch)
E4000xx	Open after alarm, where xx - user number
R400000	Special closing
E401000	Disarmed (Winload/keyswitch)
E4010xx	Disarmed, where xx - user number
R4010xx	Armed, where xx - user number
R403000	Auto-arming
E405000	Auto-arm canceled
R408000	Quick arm
R409000	Arming using Keyswitch
E406000	Alarm canceled (Winload/keyswitch)
R4060xx	Alarm canceled by user, where xx - user number
E421000	Keypad lockout
E452000	Late open/close
E456000	Partial arming
E4580xx	Disarmed using StayD, where xx - zone number
E459000	Recent closing
E531000	Module added
E532000	Module deleted
E5700xx	Zone bypass, where xx - zone number
E602000	Periodic test
E625000	Date/time restore
E626000	Date/time lost
E627000	Programming mode entry
E628000	Programming mode exit
E654000	System inactivity

Enclosure 7: Key-BUS event codes

Event code	Description
E1300xx	Alarm! Zone xx, where xx - zone number
R1300xx	Zone xx restored, where xx - zone number
E100000	Auxiliary alarm
R100000	Auxiliary alarm restored
E115000	Fire alarm
R115000	Fire alarm restored
E120000	Panic
R120000	Panic restored
E111000	2-wire smoke detector alarm
R111000	2-wire smoke detector restore
E121000	Duress alarm
E139000	Intrusion verify
E143000	Expansion module trouble
R143000	Expansion module restore
E1450xx	Expansion module tamper alarm, where xx — module address
R1450xx	Expansion module tamper restore, where xx — module address
E301000	AC lost
R301000	AC restore
E302000	Battery low
R302000	Battery restore
R305000	System reset (Cold start)
E321000	Bell trouble
R321000	Bell restore
E3330xx	Module fail, where xx - module address
R3330xx	Module restore, where xx - module address
E351000	Telephone line fail
R351000	Telephone line restore
R354000	Communication restore
E373000	Fire zone trouble
R373000	Fire zone restore
E3830xx	Zone xx tamper alarm, where xx - zone number
R3830xx	Zone xx tamper restore, where xx - zone number
E384000	Wireless key battery low
R384000	Wireless key battery restore
E3840xx	Wireless sensor battery low, where xx - sensor number
R3840xx	Wireless sensor battery restore, where xx - sensor number
E400000	Special opening
R400000	Special closing

E4010xx	Disarmed by user xx, where xx - user number
R4010xx	Armed by user xx, where xx - user number
E402040	Disarmed with master code
R402040	Armed with master code
E405000	Auto-arm canceled
E406000	Open after alarm
E421000	Keypad lockout
E459000	Recent closing
E470000	Partial arming
E601000	System test
E602000	Periodic test
E627000	Programming mode entry
E628000	Programming mode exit

Enclosure 8. Event codes for Digiplex security panels

Event code	Description
E100000	Auxiliary alarm
E110xxx	Fire zone alarm, where xxx - zone number
R110xxx	Fire zone restore, where xxx - zone number
E115000	Fire alarm
E120000	Panic
E121xxx	Duress code, where xxx — user number
E130xxx	Alarm, zone xx, where xx - zone number
R130xxx	Restore, zone xx, where xx - zone number
E139000	Police code
E144xxx	Zone tamper alarm xx, where xx - zone number
R144xxx	Zone tamper restore xx, where xx - zone number
E145000	Expansion module tamper alarm
R145000	Expansion module tamper restore
E300000	System failure
E301000	AC lost
R301000	AC restore
E304000	RAM/ROM failure
R304000	RAM/ROM restore
E305000	System reset
E308000	System shutdown
E309000	Battery low
R309000	Battery restore
E321000	Bell trouble
R321000	Bell restore

E333000	Expansion module trouble
R333000	Expansion module restore
E336000	Printer failure
R336000	Printer restore
E338000	Expansion module battery low
R338000	Expansion module battery restore
E342000	Expansion module AC lost
R342000	Expansion module AC restore
R351000	Telephone line 1 fault
E352000	Telephone line 2 fault
R352000	Telephone line 2 restore
E354000	Failed to communicate
R354000	Communication restore
E373000	Fire zone trouble
R373000	Fire zone trouble restore
E381xxx	Sensor trouble, where xx - sensor number
R381xxx	Sensor restore, where xx - sensor number
E384xxx	Wireless sensor low battery, where xx - sensor number
R384xxx	Wireless sensor battery restore, where xx - sensor number
E400000	Open after alarm (Winload/keyswitch)
E400xxx	Open after alarm, where xx - user number
E401xxx	Disarmed by user xx, where xx - user number
R401xxx	Armed by user xx, where xx - user number
R403000	Auto-arming
E406000	Cancel alarm (Winload/keyswitch)
E406xxx	Cancel alarm, user xx, where xx - user number
R407000	Remote arming
E407000	Remote disarm
R408000	Quick arm
R409000	Armed using Keyswitch
E409000	Disarmed using Keyswitch
E421000	Keypad locked
E429000	Programming mode entry using Winload
E430000	Programming mode exit using Winload
E451xxx	Early open, user xx, where xx - user number
R451xxx	Early close, user xx, where xx - user number
R452000	Late close
E452xxx	Late close, user xx, where xx - user number
R452xxx	Late open, user xx, where xx - user number
E456000	Partial arming

R459000	Recent close
E464000	Auto-arming canceled
E531xxx	Module xx added, where xx - module number
E532xxx	Module xx removed, where xx - module number
E570000	Zone forced
E570xxx	Zone xx bypass, where xx - zone number
E602000	Test message
R625000	Date/time restored
E626000	Date/time fail
E627000	Programming mode entry
E628000	Programming mode exit
E654000	System inactivity