IoT controller for diesel generator control

USER MANUAL

Content

1. Purpose

The IoT controller for controlling the CoMonDGS diesel generator set (hereinafter referred to as the controller) is used as part of systems for monitoring, dispatching, monitoring the condition and controlling the modes of equipment at a remote facility.

The controller is housed in a durable plastic case. Inside the case is a circuit board with a microcontroller, memory, and an RS-485, RS-232, and Ethernet interface node. Outside the case are connectors for interface cables, LED indicators for power and the controller's current status.

Configuration and monitoring of the controller's operation are possible both locally and remotely via the WEB interface over Ethernet.

The following communication interfaces can be used to connect external equipment to the device and communicate with it remotely: RS-485, RS-232, Ethernet.

The design of the device allows it to be placed in electrical cabinets with the possibility of mounting on a DIN rail.

The controller is available in 3 versions: CoMonDGS v2.0 (Ethernet), CoMonDGS v2.2 (3G/Ethernet) and CoMonDGS v2.3 (4G/Ethernet).

Table 1 – Main technical characteristics

Name of the characteristic	**Meaning of the characteristic**		
	V2.0 (Ethernet)	**V2.2 (3G/Ethernet)**	**V2.3 (4G/Ethernet)**
Power supply of the device	12-60 V (DC)		
Power consumption	no more than 10W		
operating system	Linux		
User interface for settings	Web interface		
Ethernet interface	2 ports		
Data transfer rate 10\100 Base T interface	up to 100 Mbit/s		
Number of RS485 interfaces with galvanic isolation	1 piece		
Number of RS232 interfaces with galvanic isolation	1 piece		
Galvanic voltage isolation for RS485, RS232 interfaces	1000 V (DC)		
Data transfer rate interfaces (RS485, RS232)	1200-115200 bps		
Built-in modem type	-	GSM (3G/GPRS)	GSM (4G/GPRS)
Number of SIM cards	-	2 pcs	2 pcs
Temperature sensor support with 1-wire digital interface	+		
Indication (LEDs)	nutrition, statuses	Power, statuses, SIM1, SIM2, GSM	Power, statuses, SIM1, SIM2, GSM
Operating temperature range	-40 to + 85 °C		
Built-in hardware circuit watchdog	+		
Type of connection connectors power supply, interfaces, sensors	Screw terminal connectors		
Ethernet connector types	RJ45		
Antenna connector type on the unit device	-	SMA (F)	SMA (F)

Magnetic antenna basis	-	Included. Cable length is 3 meters	Included. Cable length is 3 meters
Frame	Plastic		
Installation	on a 35 mm DIN rail		
Overall dimensions	105x51x65 mm		
Weight of the device, no more than	0.8 kg		
Mean time between failures	at least 150,000 hours		
Service life	20 years		

2. Main functions of the CoMonDGS

The device performs:

- GSM modem functions (SMS mode) (only for the CoMonDGS v2.2 (3G/Ethernet) and CoMonDGS v2.3 (4G/Ethernet) controllers).
- RS-232/RS-485/UDP, TCP/IP converter functions.
- SNMP gateway functions for the diesel generator controller with Modbus protocol.
- MQTT gateway functions.

Use as a GSM modem:

- support for polling controller parameters (via RS-485 or RS-232) using SMS messages;
- the ability to automatically switch between SIM cards in case of low signal level.

Using as an Ethernet converter:

- Job V quality converter interfaces Ethernet/RS-485/RS-232 (virtual COM port).

Using as an SNMP gateway:

- the ability to poll parameters (support for SNMP requests/responses),
- SNMP management capability,
- SNMP TRAP support.

Using as an MQTT gateway:

- the ability to poll parameters (support for MQTT requests/responses),
- the ability to control via MQTT,
- MQTT ALARM support.

3. Appearance

Figure 1(a, b, c) shows the appearance of the controllers.

CoMonDGS v2.0 (Ethernet)

CoMonDGS v2.2 (3G/Ethernet)

CoMonDGS v2.3 (4G/Ethernet)

Figure 1 – Appearance of controllers

4. Indicator lights

The device body contains the following indicator lights that display the status and operating modes:

Pete– constantly on after power is applied. Indicates that the device is powered.

Stat– turns on after the device begins booting. The indicator turns off after the device completes booting. It also displays an indication that the watchdog timer has been activated.

SIM1/SIM2– indicates that the SIM card is working.

GSM– turns on when power is supplied to the modem. The LED blinks twice per second when registering on the network.

Note:
The device is designed to operate at low temperatures.
To ensure normal environmental conditions for the processor, the device has a built-in heating system. When the device heats up, no functions are available. Once the required temperature is reached, the processor inside the device turns on, turning off the heating, and all functions become available.

5. Preparation for use, connecting external devices

5.1. Preparing the device for installation on site

Before installing the device, perform a visual inspection to detect any mechanical damage to the housing. If the device has been exposed to conditions other than its intended operating conditions, allow it to remain in these conditions for 2 hours before connecting power.

When selecting an installation location, the following criteria should be followed: the device should not be installed in places where dust or aggressive gases may be present, located near powerful sources of electromagnetic and thermal radiation, or in places subject to shaking, vibration, or exposure to water.

The mounting points on the rear of the device allow it to be mounted on a 35mm DIN rail.

5.2. Getting ready for work

As designed, interface cables are connected to connectors located on the side of the device's housing when the device is powered off. The device is turned on after power is applied through the power connector located on the side of the housing.

For the CoMonDGS v2.2 (3G/Ethernet) and CoMonDGS v2.3 (4G/Ethernet) controllers, install the SIM card in the lower SIM1 slot (Figure 2).

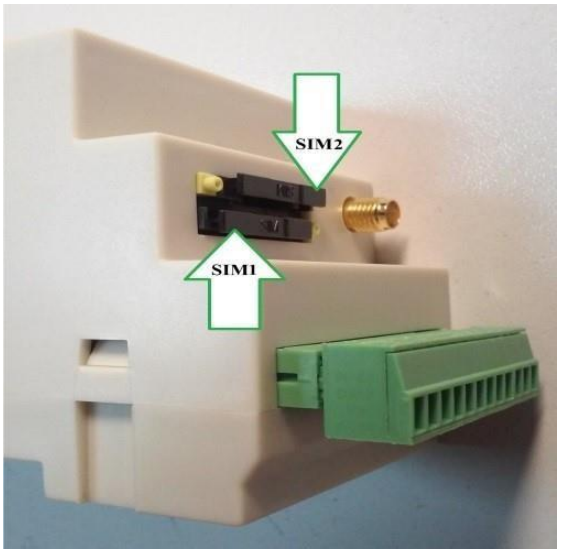


Figure 2 – Installing SIM cards

To do this, press the round latch on the card holder and remove the holder from the slot. Make sure the slot accommodates standard-sized cards and that the card is positioned correctly. Remember to remove the SIM card's PIN if it is active. Insert the card holder into the slot until it clicks into place.

Next, apply power; the "Power" indicator should light, indicating the device's power supply. Once powered on, the device will load settings and prepare for operation.

6. Wiring diagrams for devices connected to the RID 1000A and RID 2000 panels

The connection diagram of CoMonDGS devices to RID1000A and RID 2000 panels is given in Appendix 1.

7. Maintenance

During operation of the unit during its service life, routine maintenance is not required.

8. Completeness

Table 4 – Complete set of the controller “CoMonDGS v2.0 (Ethernet)”

Name	**Quantity**
Controller "CoMonDGS"	1 pc.
User manual	1 piece/lot.
Passport with warranty card	1 pc.

Package	1 piece/lot.

Table 5 – Completeness of the controllers “CoMonDGS v2.2 (3G/Ethernet)” and “CoMonDGS v2.3 (4G/Ethernet)”

Name	**Quantity**
Controller "CoMonDGS"	1 pc.
User manual	1 piece/lot.
Passport with warranty card	1 pc.
Package	1 piece/lot.
Antenna on a magnetic base. Cable length is 3 meters.	1 pc.

Note: The batch size is determined by the company.

9. Safety precautions

When installing and operating the device, it is necessary to be guided by the technical regulations, building codes, Electrical Installation Rules, state standards and other requirements of regulatory legal acts established as mandatory at the relevant facilities and in the places of installation and operation of the device, which are in effect at the time of the work.

10. Storage and transportation rules

Climatic conditions for transportation must meet the following conditions:

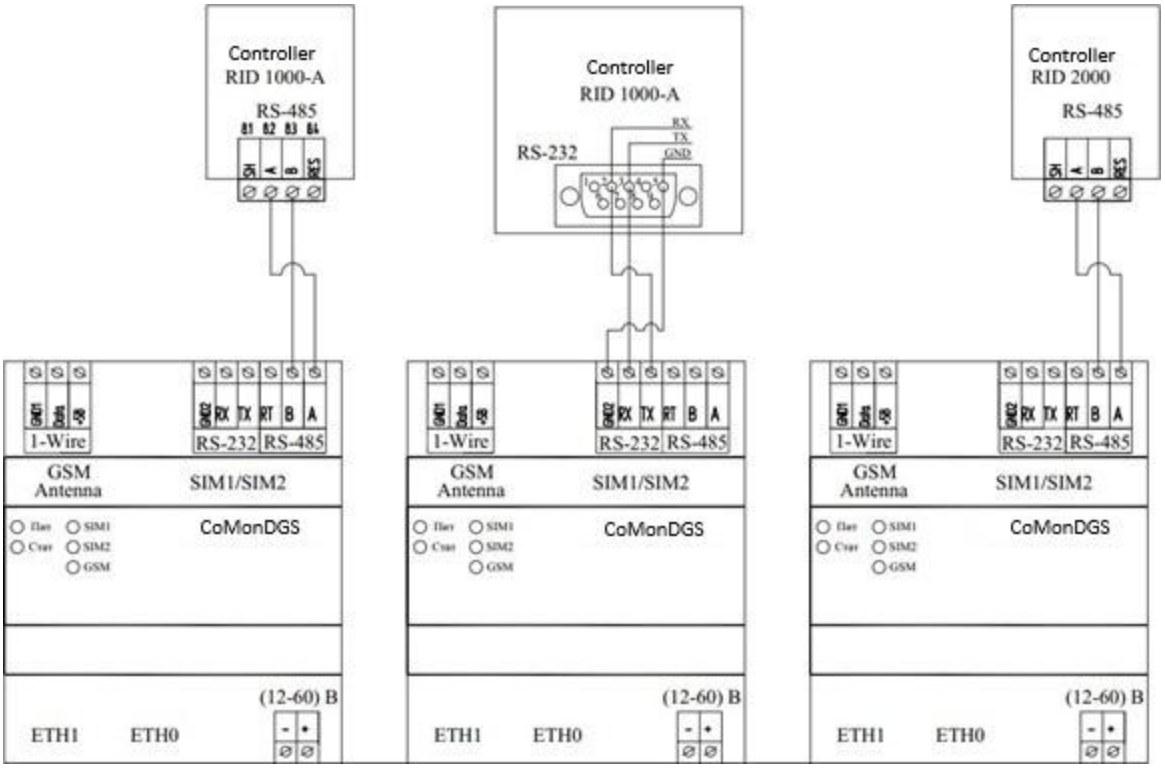
- ambient air temperature from minus 50°C to plus 50°C;
- relative air humidity up to 98% at 25°C;
- Atmospheric pressure from 84.0 to 107.0 kPa (630 to 800 mmHg). The devices can be transported by all types of transport (in covered wagons, closed trucks, containers).

Devices should be stored only in the manufacturer's packaging in heated rooms at temperatures ranging from +5°C to +40°C and relative humidity no more than 80%. Storage areas must be free of aggressive impurities (acid or alkali vapors) that could cause corrosion.

11. Warranty obligations

The warranty period is 12 months from the date the product is delivered to the buyer. During the warranty period, the manufacturer will provide free repairs. The warranty does not cover defects resulting from improper handling, maintenance, storage, or transportation.

Appendix 1.
Connection diagrams for CoMonDGS devices



Appendix 2.
List of supported SMS commands*

Team	Description	Note	Example of a response message
INFO	Requests information from the control panel	It only works if your number is registered in the modem. See commands SET1: - SET5:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **INFO**
SET1: <phone number>	Registers user 1's phone number into the modem to enable control of the diesel generator and modem settings.	The telephone number must be entered in international format only. Example: **SET1:+123456789** Deleting a user is done with the command **SET1: or SET1:+**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#148, SET NUMBER 1**
SET2: <phone number>	Registers user 2's phone number into the modem to enable control of the diesel generator and modem settings.	The telephone number must be entered in international format only. Example: **SET2:+123456789** Deleting a user is done with the command **SET2: or SET2:+**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#148, SET NUMBER 2**
SET3: <phone number>	Registers user phone number 3 into the modem to enable control of the diesel generator and modem settings	The telephone number must be entered in international format only. Example: **SET3:+123456789** Deleting a user is done with the command **SET3: or SET3:+**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#148, SET NUMBER 3**
SET4: <phone number>	Registers user phone number 4 into the modem to enable control of the diesel generator and modem settings	The telephone number must be entered in international format only. Example: **SET4:+123456789** Deleting a user is done with the command **SET4: or SET4:+**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#148, SET NUMBER 4**
SET5: <phone number>	Registers user phone number 5 into the modem to enable control of the diesel generator and modem settings	The telephone number must be entered in international format only. Example: **SET5:+123456789** Deleting a user is done with the command **SET5: or SET5:+**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00

			E0000,A000 **#148, SET NUMBER 5**
NAME: <name of diesel generator or facility>	Specifies the name of the diesel generator	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Only Latin letters, numbers and the _ sign are allowed. The name length is limited to 16 characters. Example command: **NAME:RID_genset_12345**	RID=RID genset 12345 O=MAN ,P=000 M220,220,220,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#100,NAME CHANGED**
AUT	Switching the diesel generator to automatic mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
MAN	Translation diesel-generator in manual mode	Only works if your The number is registered in the modem. See commands SET1: - SET5:	
TEST	Starting the diesel generator in test mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
RESET	Transferring the diesel generator to the fault reset mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
START	Starting a diesel generator	It only works if your number is registered in the modem. See commands SET1: - SET5:	
STOP	Stopping the diesel generator	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
MAINS	On/OffMains contactor	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
GEN	On/Offcontactor generator	It only works if your number is registered in the modem. See commands SET1: - SET5:	
OFF	Emergency stop and diesel transfer generator in fault reset mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
RID001	Command for configuring the modem to work with the RID 1000-A control panel with firmware 1.0.25	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.25]**
RID002	Command for configuring the modem to work with the RID 1000-A control panel with firmware 1.0.28	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.28]**

RID003	Command for configuring the modem to work with the RID 1000-A control panel with firmware 1.0.29M	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.29M]**
RID004	Command for configuring the modem to work with the RID 1000-A control panel with firmware ***1.0.29M6***	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.29M6]**
RID005	Command for configuring the modem to work with the RID 1000-A control panel with firmware ***1.0.29N2***	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.29N2]**
RID006	Command for configuring the modem to work with the RID 1000-A control panel with firmware 1.0.30	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000A[1.0.30]**
RID010	Command for configuring the modem to work with the RID 1000-H control panel with firmware 1.1.5J	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000H[1.1.5J]**
RID011	Command for configuring the modem to work with the RID 1000-H control panel with firmware 2.0.0S	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000H[2.0.0S]**
RID012	Configuration command modem for working with the panel	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0G000,000 ,000,00.0

	RID 1000-H control with firmware 2.R3.0		A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#RID:1000H[2.R3.0]**
RID020	Command to configure the modem for use with the RID control panel **2000-A**	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
UPGRADE	The command starts updating the modem firmware.	This only works if your number is registered in the modem. See the SET1: - SET5 commands: The update is possible if you have mobile Internet or a local network connection with Internet access. To check the availability of mobile Internet, see the SIMNETSTATUS / SIMIPINFO commands. To check the availability of the update server, see the US1STATUS command.	
FWINFO	Request the current modem firmware version	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#501, Firmware: 2.01.30**
GCUINFO	Query the current firmware of the control panel	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #502,GCU: **1000A[1.0.29N2]**
GCCINFO	Query the current modem configuration	This only works if your number is registered in the modem. See the SET1: - SET5 commands: The data must match the response to the GCUINFO command. If the control panel firmware version does not match the current modem configuration, you will need to change the setting. See RID0XX commands. **Important!** RID 1000-A control panels with firmware 1.0.29M and 1.0.29M6	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #503,GCC: RID1000A 29M6

		are defined the same way. For correct settings, check the data with the technical documentation or look at the exact firmware version in control panel menu.	
USERSINFO	Request for all user numbers registered in the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#504,Active users:** **1:+1234567890** **2:+0123456789**
MODEINFO	Query the current modem operating mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#505, Mode: SMS**
SIGNALINFO	Query the current mobile network signal strength	This only works if your number is registered in the modem. See the SET1: - SET5 commands: The lower this indicator, the better the mobile network signal at the location where the diesel generator is installed. Example of signal levels: From -50 to -75 (**excellent signal**) From -75 to -85 (**good signal**) From -85 to -95 and above (**bad signal**)	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#506, Signal level: -77**
NETWORKINFO	Request the current type of mobile network the modem is operating on	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#507, Network type: EDGE**
WORKINFO	Query the modem operating time since it was turned on	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#508, Worktime: 3:57 hours**
APN1INFO	Request current **APN**(access points)	Only works if your The number is registered in the modem. See commands SET1: - SET5:	RID=RID O=MAN ,P=000 M216,216,216,50.0

	established for **SIM1**	Used for internet connection in 3G/4G mode only. See MODEINFO / GSMODE commands.	G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #APN1:AT+CGDCONT **=1,"IP","internet"**
APN2INFO	Query the current APN (Access Point Name) set for SIM2	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Used for internet connection in 3G/4G mode only. See MODEINFO / GSMODE commands.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #APN2:AT+CGDCONT **=1,"IP","internet"**
SIMNETSTATUS	Checking the status of mobile Internet	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#510, SIM network: ON**– mobile internet works **#510, SIM network: OFF**– mobile internet is not working.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#510, SIM network: ON**
US1STATUS	Checking connection to the update server	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#511, Upgrade srv1: UP**– update server is available **#511, Upgrade srv1: DOWN**– the update server is unavailable	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#511, Upgrade srv1: DOWN**
DNS1INFO	Request for the current IP address of the domain name server (DNS1), installed in the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#513,DNS1: 8.8.8.8**
DNS2INFO	Request for the current IP address of the domain name server (DNS2), installed in the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#514,DNS2: 8.8.4.4**
TOKENINFO	Query the current unique identifier	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0G000,000 ,000,00.0

	for the IoT monitoring platform		A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#515,Access token: 1234567890qwerty**
BROKERINFO	Query the current IP address/node name of the IoT monitoring platform	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#522,Broker server: lk.gensetiot.com**
NTPINFO	Request the current IP address of the time synchronization server	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#516, NTP server: pool.ntp.org**
MACINFO	Requesting the modem's MAC address	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #517,MAC: **10:20:30:73:59:D7**
MODEMTIME	Query the modem's current date and time	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #518,Time: 08/15/16 **20:27:00**
MODEMTYPE	Request for radio module model	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#519, Modem type: N51- WW**

MODEMFW	Requesting the radio module firmware version	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#546, Modem FW: E9C34501**
SIMIPINFO	Requesting the SIM card's IP address	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#543, SIM IP: NO CONNECTED**- No mobile internet connection. **#543, SIM IP: 10.220.45.22**– current IP mobile internet connection address	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 #543,SIM IP: **10.220.45.22**
MODEMADDR	Requesting the modem's IP address	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#560,Modem IP addr: 192.168.1.111**
MODEMMASK	Requesting a modem network mask	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#561,Modem netmask: 255.255.255.0**
MODEMGW	Modem network gateway request	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#562,Modem gateway: 192.168.1.1**
GPSINFO	Requesting the current coordinates of the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **Important!** The command only works for 4G/LTE modem.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000

			#520,GPS: N:49.2029379 E:9.0039711
GPSLINK	Returns current modem coordinates with the possibility transition to online cards	Only works if your The number is registered in the modem. Look. commands SET1: - SET5: **Important!** The command only works for 4G/LTE modem.	RID=RID O=MAN,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#520,GPS: http://maps.google.com/maps?q=49.2029379,9.0039711**
ETHINFO	Returns information about active connections on the modem's LAN ports.	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#576, Active LP: ETH0 –**active connection on modem port ETH0 **#576, Active LP: ETH1 -**active connection on modem port ETH1 **#576, Active LP: ETH0+ETH1 -**active connection on modem ports ETH0 and ETH1 **#576, Active LP: No connection**– The Ethernet cable (patch cord) is not connected to any of the modem ports or switch (gateway) ports. inactive.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#576, Active LP: ETH0**
ETHSTAT	Returns statistics on changes in the state of the modem's LAN ports.	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#577, LP states count: 12**– the number of connection/disconnection events (UP/DOWN) on the modem's LAN ports. **#577, LP states count: Empty**- no events occurred. This also indicates that, that the patch cord is not connected or the switch (gateway) port is inactive.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#577, LP states count: 1**
SETDNS1:	Setting the domain name server address (DNS1)	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: SETDNS1:7.7.7.7 SETDNS1:32.44.52.11	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#513, DNS1 changed**
SETDNS2:	Setting the domain name server address (DNS2)	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: SETDNS2:4.4.4.4 SETDNS2:54.24.22.41	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00

			E0000,A000 **#514, DNS2 changed**
RESETDNS1	Resetting the Domain Name Server (DNS1) address to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: 8.8.8.8	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#513, DNS1 reset**
RESETDNS2	Resetting the Domain Name Server (DNS2) address to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: 8.8.4.4	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#514, DNS2 reset**
SETTOKEN:	Setting a unique identifier to access the IoT monitoring platform	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: SETTOKEN:1234567890 SETTOKEN:A0z674BRH7pMa	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#515, Access token changed**
RESETTOKEN	Resetting the IoT Monitoring Platform Unique Access ID to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: -	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#515, Access token reset**
SETBROKER:	Setting the IP address or hostname of the IoT monitoring platform	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: **SETBROKER:85.44.33.21** **SETBROKER:lk.gensetiot.com**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#517, Broker srv changed**
RESETBROKER	Resetting the IP address or hostname of the IoT monitoring platform to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: **lk.gensetiot.com**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#517, Broker srv reset**

SETNTP:	Setting the IP address of the time synchronization server	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: **SETNTP:94.1.56.23** **SETBROKER:pool.ntp.org**	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#516, NTP changed**
RESETNTP	Resetting the time synchronization server IP address to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: pool.ntp.org	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#516, NTP reset**
RESETUTC	Resetting the modem's time zone to the default value	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default value: GMT0	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#550,UTC reset**
SETIP:	Setting up the modem's network settings	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Example command: SETIP:192.168.1.222,255.255.255.0,192.168.1.1 Where: **192.168.1.222**– modem IP address 255.255.255.0 – network mask 192.168.1.1 - gateway	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#560, IP changed**
GSMMODE	Enabling 3G/4G mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands: This mode includes control via SMS, mobile Internet, and the ability to remotely update firmware. Internet connection priority: 1. When connected to a local network with Internet access – local area network 2. In the absence of local networks with Internet access – mobile Internet. To check the current modem operating mode, see the MODEINFO command.	
SMSMODE	Enabling 2G mode	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	

		This mode includes work only via SMS and local network (if available) It is recommended to use this mode if there is poor or unstable 3G/4G network coverage in the modem installation area. To check the current modem operating mode, see the MODEINFO command.	
ETHMODE	Enabling local network or Internet operation mode.	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **SMS control functions also work in this mode.**. Mobile internet is unavailable. Connection priority is local network. To check the current modem operating mode, see the MODEINFO command.	
RESTART	Performs a modem reboot	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	
SETAPN1:	Setting up a mobile access point (APN) for SIM1	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Necessary for the correct operation of mobile Internet in 3G/4G mode. Example command: SETAPN1:internet.operator.ru SETAPN1:internet.1-gw.com SETAPN1:internet Please check with your service provider for the exact access point settings.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#589,APN1 changed**
SETAPN2:	Setting up a mobile access point (APN) for SIM2	This only works if your number is registered in the modem. See the SET1: - SET5 commands: This is necessary for the correct operation of mobile internet in 3G/4G mode. Example command: SETAPN2:internet.operator.ru SETAPN2:internet.1-gw.com SETAPN2:internet Please check with your service provider for the exact access point settings.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#589,APN2 changed**
RESETIP	Resetting the modem's network settings to default values	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Default values: Modem IP address: 192.168.1.111 Network mask: 255.255.255.0 Gateway: 192.168.1.1	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#560, IP reset**
ONINFO	Enabling automatic information messages from	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0

	modem (message like: INFOsys).	Sending frequency: once per hour Sending is carried out to all phone numbers registered in the modem	B=27.0V,h=00000T =00%,U=00 MC=ON,Z=00 E0000,A000 **#562, Auto info: ON**
ONINFO41	Enabling automatic information messages from the modem (message like: #041,INFOsys).	This only works if your number is registered in the modem. See the SET1: - SET5 commands: Sending frequency: once per hour Sending is carried out to all phone numbers registered in the modem	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#562, Auto info: ON**
OFFINFO	Disabling automatic information messages from the modem (INFO messages)	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#563, Auto info: OFF**
TUNE1000A	Performs automatic configuration of RS-485 and RS-232 interfaces control panels **RID 1000-A**For working with modem firmware versions 2.xx.xx	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **#578,Configure done**– successful configuration of control panel interfaces. **#578, Configure error –** interface configuration error **Possible reasons for the error:** 1. Incorrect connecting modem interfaces to the control panel. 2. OnThe control panel has disabled or incorrectly set initial configuration of the RS-485 or RS-232 interfaces.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#578,Configure done**
SET485	Installation RS-485 interface as main for communication between the panel management and modem	Only works if your The number is registered in the modem. Look. commands SET1: - SET5: If after changing the main RS-485 interface problems arose problems with displaying data in SMS, then make sure that the interface connected to the control panel and configured correctly. See commands **TUNE1000A/GCUINFO/GCCINFO/ RID0XX** **Important!** Connecting the control panel to the modem needs to be carried out two interfaces (RS-485 and RS-232)	RID=RID O=MAN,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#570, Port changed to RS-485**

SET232	Setting the RS-232 interface as the primary interface for communication between the control panel and the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands: If you experience problems displaying SMS data after changing the primary interface to RS-232, make sure the interface is connected to the control panel and configured correctly. See the TUNE1000A / GCUINFO / GCCINFO / RID0XX commands. **Important!** The control panel must be connected to the modem via two interfaces (RS-485 and RS-232)	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#570, Port changed to RS-232**
PORTINFO	Query the current primary communication interface between the control panel and the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#573, Current port: RS-485**
RESETMAC	Performs reset/regenerate the current MAC address of the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands:	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#589, MAC reset**
DELETEUSERS	Deletes all user phone numbers registered in the modem	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **Important!** After executing this command, you need to re-register the phone numbers in the modem.	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#574, All users deleted**
RESETMODEM	Performs a complete reset of the modem and settings to factory defaults	This only works if your number is registered in the modem. See the SET1: - SET5 commands: **Important!** This command will perform a full reset of the modem to factory settings. Remote modem configuration is possible. via SMS commands described in this document	RID=RID O=MAN ,P=000 M216,216,216,50.0 G000,000,000,00.0 A000.0,000.0,000.0 B=27.0V,h=00000 T=00%,U=00 MC=ON,Z=00 E0000,A000 **#510, Modem reset**

*This list of commands applies to diesel generator monitoring controllers with firmware version 2.01.31 or higher. The list of commands may change in newer versions. For the most up-to-date list of supported commands for your firmware version or for assistance, please contact technical support.

Starting with software version 2.01.31, commands are not strictly case-sensitive. Commands can be sent in any convenient way, for example:

INFO or inFO / info/ iNfo