

MobilGate – Nano

GSM gate-opener with 8 configurable phone numbers, suitable for home applications

The **MobilGate-Nano** is an industrial-grade GSM device that is suitable for mainly home applications to control and open doors, barriers, gates and garage doors. The module has a low-current **relay** output. The relay can be operated by the users by initiating voice calls to the devices. The device recognizes **8** different telephone **numbers** and operates based on **caller-ID** recognition. It requires **10-35Vdc** or **10-24Vac** voltage and draws min. **500mA** current. The received SMS-s, including carrier messages, can be forwarded to a pre-configured phone number. The device is capable of sending status signals of its operation, thus the operation of the device can be regularly controlled. The relay can be programmed to operate in **monostable** mode (trigger for a fixed duration, then release) or **bistable** mode (triggers on/off indefinitely, operates as a normal switch).



In monostable mode, a voice call initiated to the device triggers the relay, then the module ends the call (user busy signal). Then, the module automatically switches the relay after the pre-defined duration is elapsed. In bistable mode, a voice call initiated to the device triggers the relay indefinitely after approximately the 3rd ringing, then the module ends the call (user busy signal). The next voice call initiated to device switches off the relay after approximately the 1st ringing, then the module ends the call. The output relay is low-current, common-circuit "NO"-type, with maximum load of **48V/1A**. The device is manufactured in two different editions. The **MobilGate-Nano** with gray enclosure equips a built-in antenna. The module with black enclosure has an **SMA** connector that provides connectivity for external antennas (the package includes a magnetic antenna with 60 cm long cable), therefore the module can be mounted in metal enclosures without affecting signal strength. The **MobilGate-Micro** GSM device can be configured quickly and conveniently with

our free configuration software called "**Unified**" which can be downloaded from our website www.seasoft.hu. The device is carrier-independent and it is operational with any SIM card, including prepaid and subscription-based SIM cards.

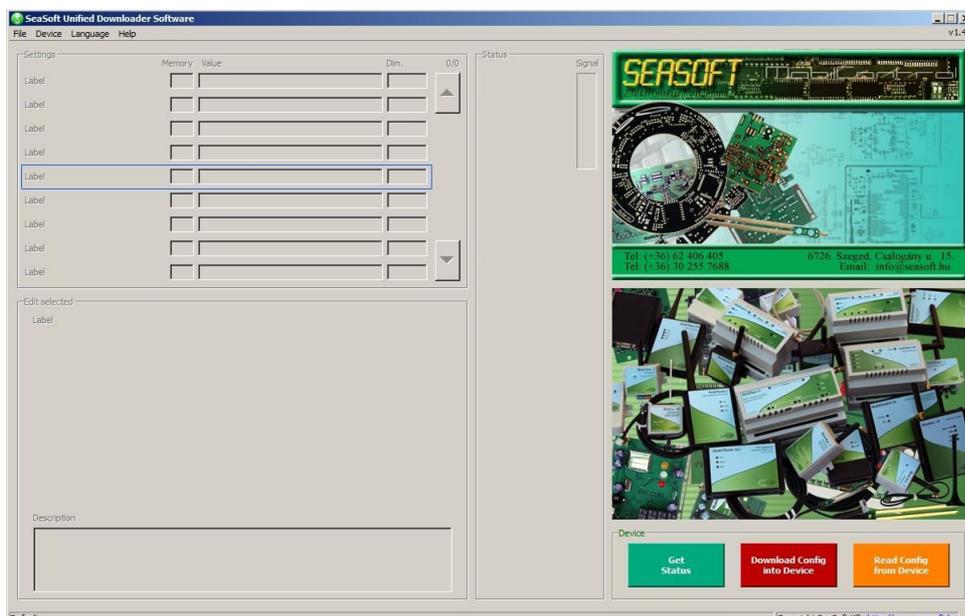
The module requires a **nanoSIM** card and it can be connected with a **microUSB** cable to a **PC**. With our configuration software, every user-parameter of the module can be freely and widely configured. After powering on the device and plugging in the USB cable, all Windows operating systems (**Windows XP, Win-7, Win-8, and Windows-10**) automatically recognize the connected device. Our universal software handles and configures all products from the **MobilSwitch, MobilArm, MobilTherm** and **MobilGate** product families.



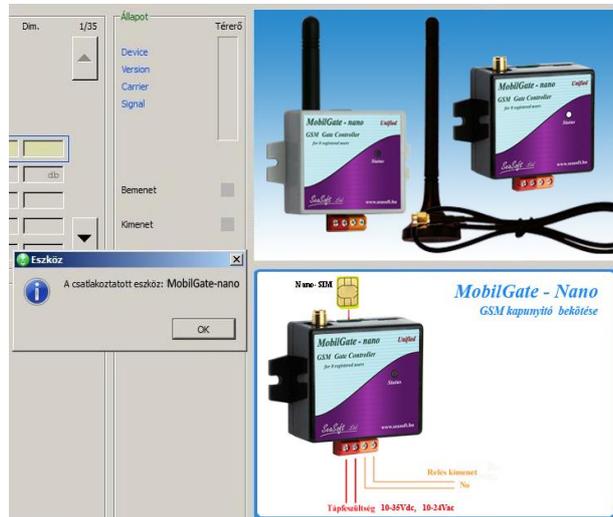
Setup:

To proper setup of *Mobilgate-Nano*, the following instructions should be performed in order:

- 1 The SIM **PIN must be removed** from the SIM card
- 2 By inserting the SIM card into a traditional mobile phone, the SMS-sending ability of the card must be checked. Newly issued SIM cards have an initial credit that can only be used for voice calls, thus the SMS-sending ability is enabled only after topping-up the card. **Call-forwarding** has to be disabled. Carrier-issued SMS-s for **missed calls** must be disabled too. In the case of prepaid cards, displaying the **caller-ID** functionality must be enabled via the carrier customer service (enabling the “show caller-ID” option in the settings of a handheld mobile phone is not sufficient when using prepaid cards).
- 3 The **nanoSIM** card has to be inserted in the correct position into its slot located at the back of the module, as shown in the figures.
- 4 The power supply has to be connected in a polarity-correct position. After power-on, the device connects to a cellular network. The green LED blinks periodically after the device is successfully initialized
- 5 The configurator software can be either launched from the installation CD or can be downloaded from our website www.seasoft.hu. The software can be simply launched, there is no need for software installation.
- 6 After launching the “*Unified*” configurator software, the device should be connected to the PC with a **NanoUSB** cable.
- 7 The software automatically recognizes the device family and device type, and it shows its picture along with its wiring instructions. The software automatically loads the default configuration parameters.
- 8 It is advised to query the status of the device (state of inputs, outputs, supply voltage, signal strength, etc.) to check if the device is registered to the GSM network. After downloading the configuration, the USB should be detached before powering the device off.
- 9 After downloading the configuration and powering the module off, it should be turned on again and the overall functionality based on the configuration should be tested thoroughly.



The software will automatically recognize the type of the connected device and it shows its image. The status of the device, including the carrier information, status of the inputs and outputs can be queried by pressing the "**Get Status**" button. All the user parameters can be edited, however it is advised to keep the original format and change the factory values only when necessary. When the module receives an SMS from the carrier or other unknown phone number (e.g. advertisements), it forwards to the telephone number that can be set under the **#020** memory location. Filling the first telephone number is mandatory, so the rest are optional, they can be left empty. Each one memory



location has a short description located at the bottom. Please fill the configuration values with care and do not use accented or special characters. All telephone numbers must be given in the international telephone number format. The edited configuration can be saved to a file and loaded whenever necessary.

Description of status LED:

- **Yellow** (continuous): After power-on, the yellow LED is on for approximately 10 seconds. During this period, the GSM is initialized. While the module is searching and registering to a GSM network, the yellow LED blinks. After approximately 40 seconds, the yellow blinking stops and turns into green.
- **Green** (blinking)
 - The frequency of the blinking reflects the signal strength. More blinks within a period mean greater signal strength.
 - 1 blink then pause** - very weak signal, module sometimes disconnects from network, it is advised to relocate the device.
 - 2 blinks then pause** - weak signal, device may disconnect from network which results in approximately 30 seconds of outage while the device restarts
 - 3 blinks then pause** - medium signal strength, device is capable of stable operation
 - 4 blinks then pause** - strong signal, device is capable of stable operation
 - 5 blinks then pause** - maximum signal strength
- **Yellow** (blinking) The yellow LED is blinking during network communication (in SMS or in voice mode).
- **Red** (fast blinking) The module cannot find GSM network or antenna is faulty. It may also indicate the followings: SIM card error, SIM PIN is not disabled, SMS or voice modes are disabled on SIM card.



SMS commands:

The device can be programmed remotely with fixed-format SMS commands. :

- Query command: **#?***

Response SMS: **MobilGate-Nano Ver:1.22 T-MobileH Rssi:4 Ubat:13.0V A:1, 00:10:00 Gate:0**

where: **Ver.: 1.22** - firmware **T-MobileH** - provider's name (here hungarian)
Rssi:4 - signal quality **Ubat:13.0V** - power supply in Volts
A:1 - modul is active(1) **00:10:00** - time of relay
Gate:0 - status of output

No.	Function of memory	Factory settings:	User settings:
001	Provider's SMS central	+36309888000	
002	Maximal number of sent SMS in 2 hours	20	
008	1st (master) phone number	+36 30 1234567	
009	2nd phone number		
010	3rd phone number		
011	4th phone number		
012	5th phone number		
013	6th phone number		
014	7th phone number		
015	8th phone number		
020	Functions for service SMS messages	R1,S1	
021	Functions when comes a call from an unknown user	S1	
028	Name of output	Gate	
029	SMS command to switch "ON" the relay output	Open it	
030	SMS command to switch "OFF" the relay output	Close it	
034	Functions in case of a call from a dedicated user	A1	
035	Timing of output relay	00:00:05	
099	Status	1	<i>Non editable !</i>
500	Type of module	Mobilgate-Nano	<i>Non editable !</i>
501	Firmware	1.28	<i>Non editable !</i>
502	Signal quality	-	<i>Non editable !</i>
509	Proider's name	-	<i>Non editable !</i>
510	Power supply	13.0	<i>Non editable !</i>

- Set output command **Open it**
(now input 1st switched on, look memory #029)

Response SMS: **MobilGate-Nano Ver:1.22 T-MobileH Rssi:4 Ubat:13.0V A:1, 00:10:00 Gate:1**

- Re-program memory command: ***028#Garage door***
where: **028** - memory address
Garage door - the new value of memory

- **Read memory location command:** *028#?*
Response SMS: *028#Garage door

Warning ! Please note that the device only recognizes the SMS command if the sent SMS command is completely the same (letter by letter) as the command located in the appropriate memory location of the device. In case the sent SMS command does not match any of the commands, the device will not process the command and will forward the SMS to the telephone number located in the #034 memory location.

Miscellaneous and other information:

- a. The device is operational with any **nanoSIM** card
- b. The received SMS-s from the carrier and unknown numbers are forwarded to the telephone number specified under the #024 memory location. Therefore, if a prepaid SIM card is used, the balance status SMS-s are also forwarded to this number. When the prepaid SIM card reaches zero credit, the device is still functional, however it is unable to send SMS-s. Consequently, it is advised to regularly check the credit balance of the SIM card.
- c. After disconnecting the **MobilGate-Mini** GSM signaling and control device from the PC, it restarts itself, which lasts approximately for 40 seconds while the module searches and registers to the carrier network.
- d. The PIN protection must be removed from the **nanoSIM** card prior to usage. The device only works with nanoSIM cards that are not PIN-protected.
- e. If a prepaid card is used, displaying the **caller-ID** functionality must be enabled via the carrier customer service. In case of an alarm or notification, the user is only able to recognize the device if its telephone number is displayed.
- f. Call-forwarding must be disabled on the SIM card. Carrier SMS-s about missed calls have to be disabled as well.

Specifications:

Range of dc power supply:	10-40 Vdc	Frequency:	800/900/1800/1900MHz
Range of ac power supply:	10-24 Vac	Communication:	SMS, voice
Current consumption when relay on:	45 mA	Aerial connector:	SMA
Current consumption when relay off:	27 mA	Ambient temperature	-30 ... +70 C
Max. consumption:	172 mA		

Vertical size of enclosure:	55 mm
Vertical size with aerial:	88 mm
Vertical size of magnetic aerial:	110 mm
Horizontal size of enclosure (with wings):	64 mm
Horizontal size of enclosure:	48 mm
Enclosure Z size:	24 mm

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