



Operation manual

GSM Remote Switching and Alarm Module GX 107 LTE

Item No.: GX-107-4G

Ver. 2.2

17.09.2026



Thank you for purchasing our device:

GSM remote switching/alarm module – GX 107 LTE

For technical questions, please contact:



info@mobi-click.com



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1. Intended use

The GSM remote switching/alarm module has above 2 Switching outputs, which optional above SMS or In-call switch become can.

A analog Entrance (ADC) can as well as one external Tension measure as also to use one optional Temperature sensor reconfigured become.

The device has an additional input with the Molex socket for the temperature sensor (part no .: **T-128**) , so two temperature sensors can be used simultaneously.

The optocoupler input (IN1) is used to monitor switching signals. Accessories are available. A GPS receiver can be purchased (item no .: **GPS-107**), with which both the current GPS position determined as also the Leave from fixed areas reported become can.

Configuration, communication, and alerting for the "GX-107" are handled via SMS. Alerting to an email address is possible, provided the GSM provider used supports this. Function supported.

Typical applications include switching door openers, garage door openers, and lighting. and Alarm systems, the Control from Door sensors, motion detectors, fire alarms or Level sensors , as well as the Production of Alarm messages.

With dem optional GPS receiver is in addition the surveillance from movable objects possible.

All connections are approved for cable lengths of up to 1 m. This does not affect... is named Accesories.

Read these operating instructions completely and carefully; they contain many important information for Assembly, commissioning and Operation.

Any use other than described here is prohibited. Besides potentially damaging the device, this can lead to hazards such as short circuits or electric shock. connected. The product must not be altered or modified. Safety instructions as well as the maximum permissible operating and environmental conditions specified in the chapter "Technical Data" are absolutely to observe.

2. Scope of delivery

- GSM remote switching/alarm module for “GX-107”
- Built-in 2200 mAh LiPo battery
- Integrated GSM antenna
- Cable glands and sealing plug
- User manual



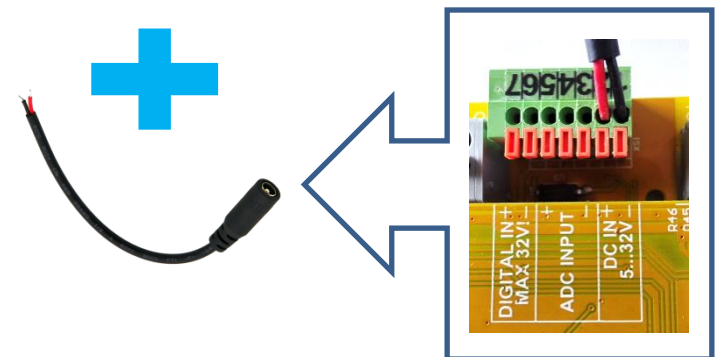
3. Accesories for GX107 LTE



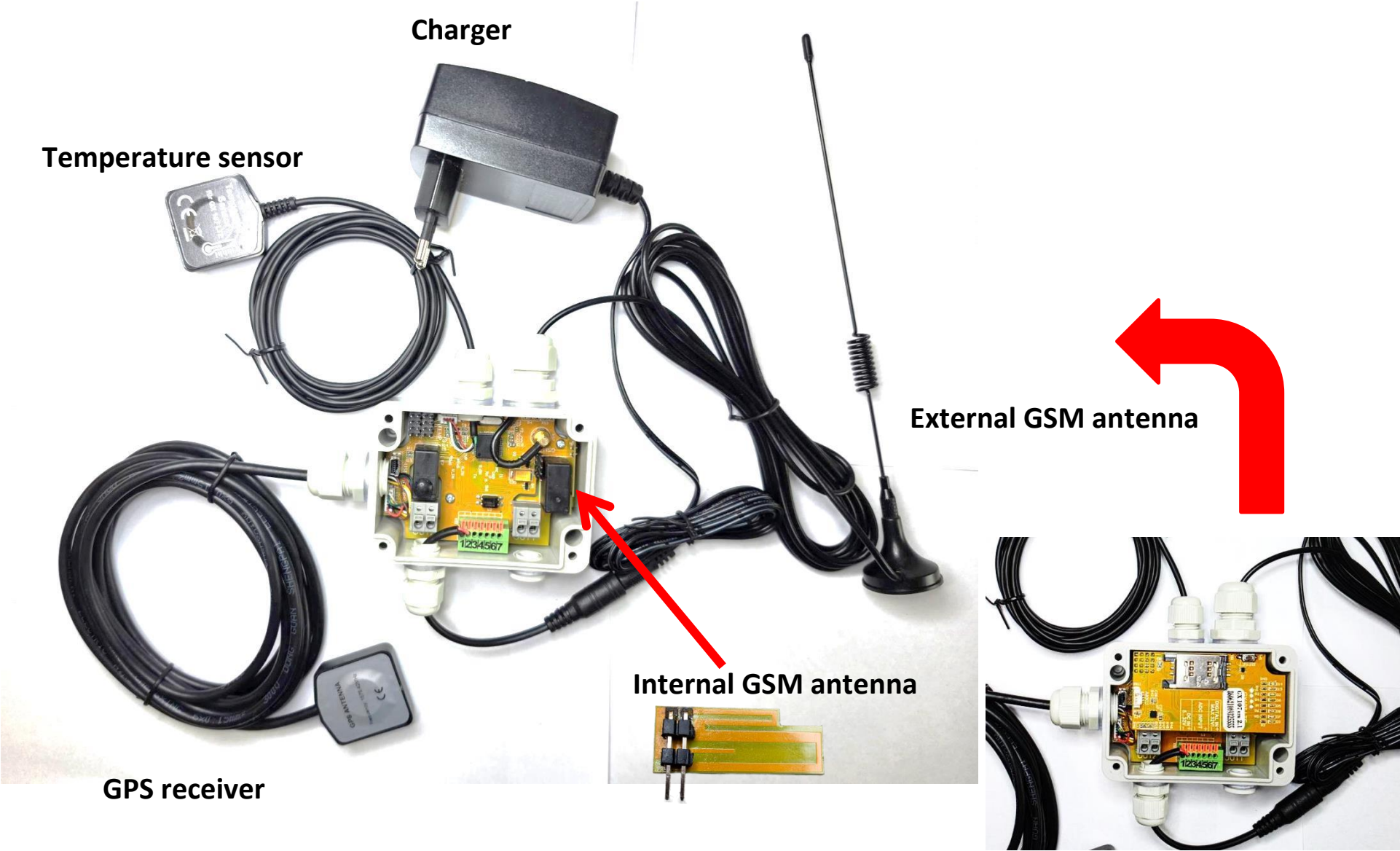
Mini-USB / USB-A
cable – 1.5 m
Item no.: **Z101-137**



Charger
12 V, 2 A, 24 W
Item no.: **L-107**



Connection accessories



4. Safety instructions

Damage caused by failure to follow these operating instructions The warranty/guarantee will be voided! We are not liable for any consequential damages. we no Liability!

At Material or Personal injuries the through improper handling or We accept no liability for damages resulting from failure to observe the safety instructions. no Liability! In such cases expires the Warranty / Guarantee !

This module has the Factory in safety-related flawless Condition leave. To this Condition to receive and a safe Operation to ensure must The user must observe the safety instructions and warnings contained in this document. Instructions for use contain are.

This module is equipped with highly integrated components. These electronic components components are very sensitive against discharge static Electricity. Please touch She the module only to the Page margins and avoid She the contact the Pins from building elements on the Circuit board.

For safety and regulatory reasons, unauthorized modifications and/ or Change the circuit the Module not permitted. At the Handling with products, the with electrical Tension in contact come can, must the valid VDE Regulations noted become, in particular VDE 0100, VDE 0550/0551, VDE 0700, VDE 0711 and VDE 0860.

Consult a professional if you have any doubts about the working methods that Security or the connection of the Module have.

The module may only in Operation taken become, if it previously touch-proof in a Housing built-in became. While the Installation must the module power outage All wiring work must only be carried out when the power is off. become. The direct contact the circuit board with Water is absolutely to avoid.

Do not operate the module in rooms or under adverse environmental conditions where flammable gases, vapors or dusts are present or available be can.

Check She before everyone commissioning Her module and whose lines on Damage(s).

If it can be assumed that safe operation is no longer possible, then the Device except Operation to set and against unintentional Operation to secure.

It is to assume that a safer Operation not more possible is, if:

- the Device visible damage exhibits
- the Device not more works
- the Device longer Time under unfavorable conditions stored became
- heavy Transport stresses occurred are

Switching She the Device never even then a, if this from a cold was brought into a warm room. The resulting condensation can under circumstances Her Device destroy. Let She the Device unswitched on on room temperature warm up .

Do not leave packaging material lying around carelessly; it could be dangerous for children. to a dangerous They become toys.

In schools and training institutions, hobby and self-help workshops The handling of technical equipment by trained personnel is responsible. to monitor.

In commercial facilities are the Accident prevention regulations the Association the commercial Employers' liability insurance associations for electrical systems and Operating resources to observe.

One other use as described leads to damage this product; Furthermore, this involves dangers such as short circuits, fire, and electric shock. etc. tied together.

The relay may only through one skilled worker connected become! Open She the “GX-107” only in the tensionless Condition!

5. General Battery Notes

The Battery does not belong into children's hands.

A expired or damaged Battery can at contact with the skin chemical burns cause, use She for this reason in this case suitable Protective gloves.

The Battery may never short-circuited or into the Fire thrown become. It consists Fire- and Danger of explosion !

Open or disassemble They the Never use a battery!

If itself the Battery at the Charging process very strong heated, so interrupt She the Charging process!

Load She the Battery never unattended.

Download the Battery for safety reasons only on a heat-resistant surface.

Should the Battery above Deformations, Holes or other obvious Defects have so use She the Battery not more, lead She none Charging process through.

Dispose They the Battery environmentally friendly.

6. Operating conditions

Operate She the module only with one Operating voltage between 5 and 32 V/DC and observe She the Polarity. The power source must at least 700 mA delivery can. (Item No .: **L-107**)

The maximum Switching capacity the Relay (OUT1) amounts 5 A at 30 V/DC or 8 A at 250 V/AC.

The maximum Switching capacity the Relay (OUT2) amounts 5 A at 30 V/DC or 8 A at 250 V/AC.

When installing the module, ensure that the connecting cables have a sufficient cross-section. to regard.

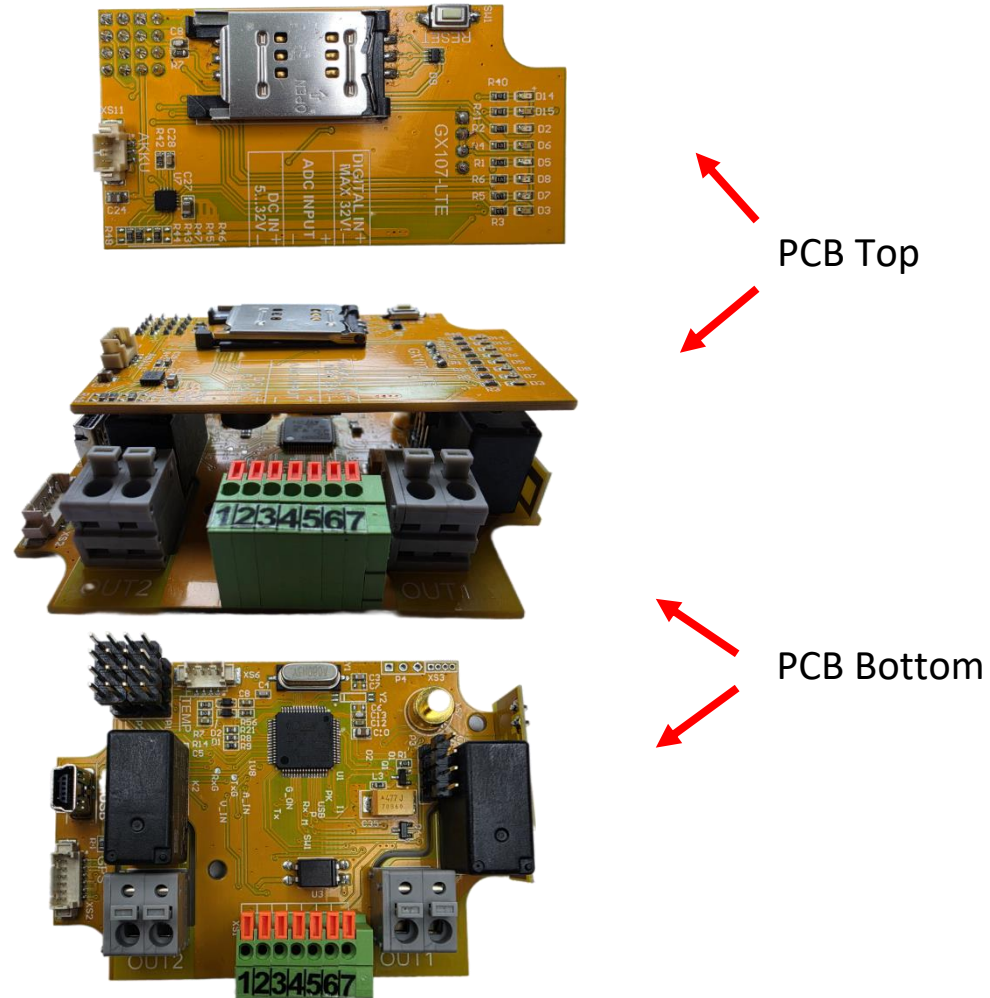
The Operational situation the Module is any.

To the function as “GX-107” to ensure, choose she a Installation location, to dem the Reception of the GSM network. This means the location must not be obstructed by, for example, reinforced concrete walls or vapor-coated surfaces. Mirror, Sheet metal shelves etc. shielded become.

Optionally, there is the possibility of a external Antenna (Item No .: **ANT-107**) for use (as Accesories available). Near the recipient should itself no Device with strengthen electric fields condition How e.g. cordless phones , radios , electrical Engines etc.

7. Connections and LEDs

The GX-107 4G device consists of two circuit boards connected by pin holders . The upper board is PCB TOP and the lower board is PCB BOTTOM.



PCB Top

1 LED (red) = Battery charging

2 LEDs (green) = battery full

3 LEDs (red) = Error and information display Lights up : incorrect PIN

At the Pressing button SW1 lights up and after 12 seconds the LED flashes briefly once :

Factory reset flashes 1x during Operation : Receiving SMS

4 LEDs (green) = GSM status

Flashing : GX107 connected to the network logged in (blinking 1 time per second)

if 2G or 3G; blinks 2 times per second (on 4G) the light is on : Searching for network ,

no Network connection

5 LEDs (blue) = GPS status

Flashing : current GPS position is being determined.

Lights up : GPS activated , position not shown Definitely no GPS reception

6 LED (orange) OUT2 (relay)

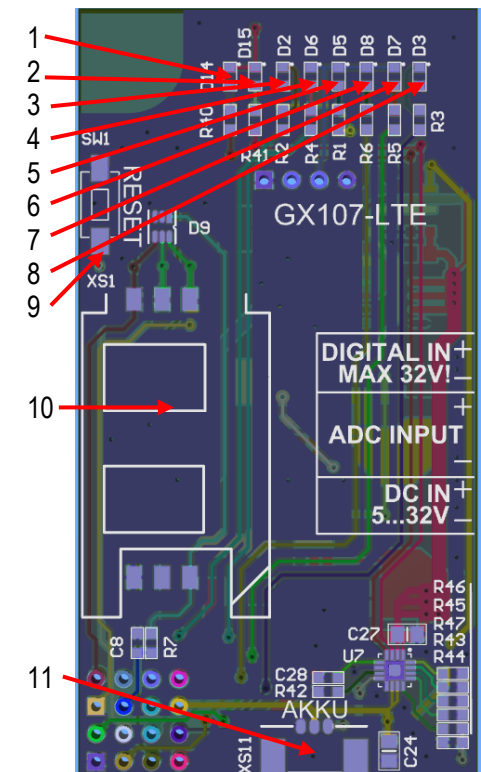
7 LED (orange) OUT1 (relay)

8 LEDs (green) IN1 (optocoupler)

9 Key SW1, to Reset to factory settings

10 SIM card holders

11 LiPo battery connection



Advertisement from Errors : Redness LED (3) (Error)

PIN number the device and the SIM card different, the SIM card not active or SIM card incorrect inserted (see chapter "Reset to Factory settings"

Battery status indicator shine red and green connection the Batteries check (whether the Plug correct tied together became or whether it any mechanical (There is damage). Possibilities to Remedy: Plug the Remove batteries and anew connect.

PCB Bottom

- 12 USB ports
- 13 Connection GPS receiver
- 14. Connection of temperature sensor to the Molex socket
- 15 Connection Operating voltage
- 16 ADC or Temperature sensor
- 17 Opto input (IN1)
- 18 Relay switching output OUT2
- 19 Relay switching output OUT1
- 20 connection for external GSM antenna (MMCX)
- 21 Internal GSM antenna

Entrances

It gives a Entrance for the Operating voltage (15) a Entrance for the connection one Batteries (LiPo , 11) a analog Entrance (16) and a Optocouplers (17).

Note the maximum input voltage of 2.8 V at the ADC and the maximum input voltage of 32 V/DC at the optocoupler input and the Operating voltage!

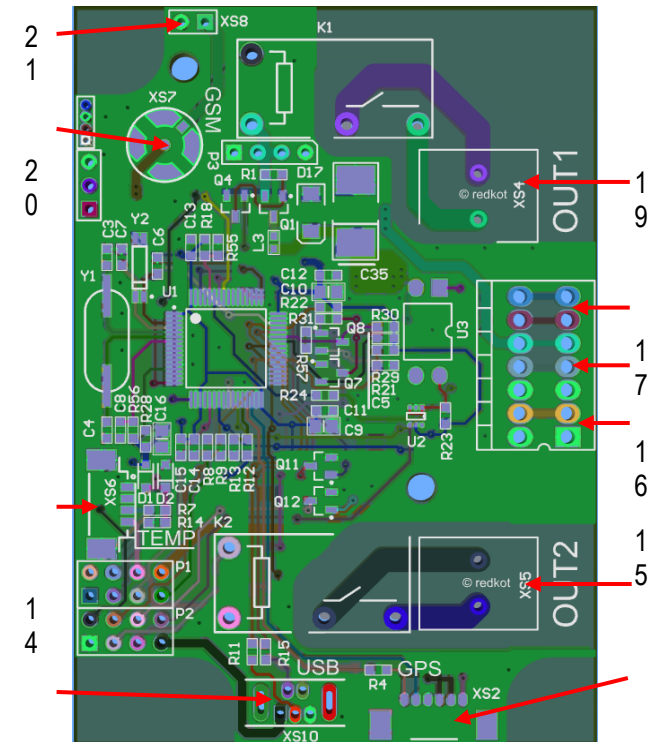
Exits

Each output has its own LED. A relay is already connected to each output. Note the relay's connection specifications (5 A at 30 V DC or 8 A at 250 V AC).

antenna

The “GX-107” has above one built-in Antenna. If the Reception to bad is or the need consists, the “GX-107” to a Location with bad Reception conditions to position, can She a external antenna connect (Article No .: **ANT-107**).

An antenna connection point with an MMCX connector is located inside the housing (20). You should test the reception



quality with a mobile phone at the intended location beforehand. Location control.

GPS

To dem 6-pin Connection (13) on the circuit board can man a external GPS module connect (Item No .: **GPS-17**). The GPS module serves to simple Location determination the “GX-107”, It can also be used for object monitoring (see section “GPS application”). and Settings”).

Battery

The battery is located in the housing cover. A three-wire cable with a [missing information] is used to connect it to the "GX107".

Reverse polarity protected plug. Do not use force when connecting!

Before closing the housing, make sure that the battery cable is connected to the socket (11) on the front of the

The circuit board is connected. One connection

Description of the LEDs

1. red LED: Battery becomes loaded

2. green LED: Battery full

Diode 1 and diode 2 are lit together = battery error

3. red LED: Errors (e.g. false PIN the SIM card)

The redness LED (3) shines at the Reception from SMS messages short on.

4. green LED: GSM status

Flashing: “GX-107” registered on the network shines: Web search, no Network reception

5. blue LED: GPS status (blinking: current GPS position certainly)

6. orange LED: OUT 2 (Relay)

7. orange LED: OUT 1 (Relay)

8. green LED: IN 1 (Optocoupler)

8. Commissioning - first Steps

The commissioning may basically only take place, if the module touch-proof in a Housing built-in is. It is before the commissioning one module generally to check, whether she basically for the Use case for the she used become should, suitable is!

In case of doubt, it is essential to consult experts, specialists, or the manufacturers of used Assemblies required!

Operating voltage

Open She the Housing, dh turn She the 4 screws out of here and remove She the Housing cover. On the The input terminals (15) require a DC voltage of 5 to 32 V/DC. Observe You here the correct polarity (Plus/+ and Minus/-).

If the connected Operating voltage correct is, shines:

LED (1) or LED (2) = Battery is connected LED (1) and LED (2) = Battery is not connected

No LED = No Operating voltage (Battery) and External) available, please lines check

Preparation the SIM card

For the Operation and the configuration the "GX-107" becomes the following needed:

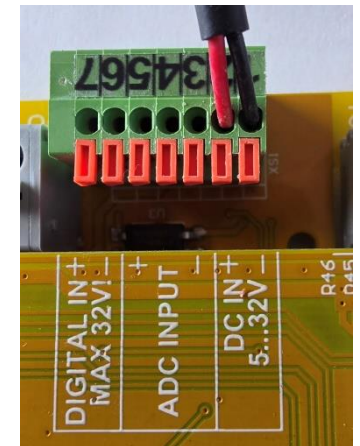
A commercially available mobile phone with SIM card to configuration the "GX-107"

One additional SIM card (Prepaid or Contract) for the "GX-107"

Changing the PIN code

To operate the "GX-107", you need a separate SIM card, just like any other mobile phone. Map. Included plays it no Role, whether She one Prepaid card or one Contract card use.

Every SIM card owns a PIN code. There the "GX-107" one own PIN processing owns must the PIN code of the SIM card modified become.



To do this, first insert the SIM card you wish to use for the "GX-107" into a Insert any mobile phone and change the SIM card's PIN code to the Number combination "1513" away. Observe She in addition the User manual to your Mobile phone.

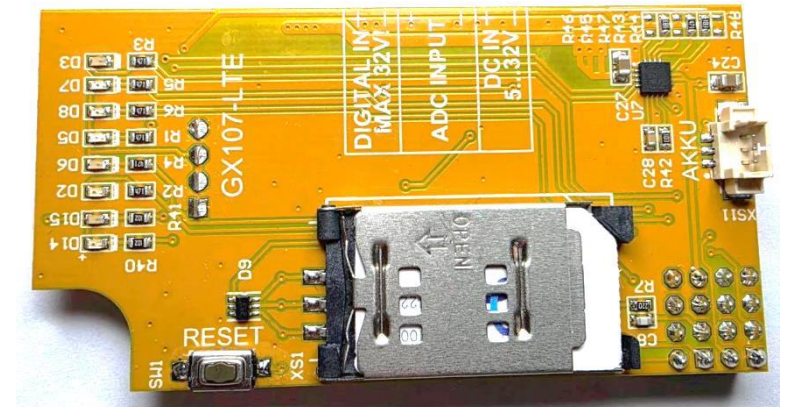
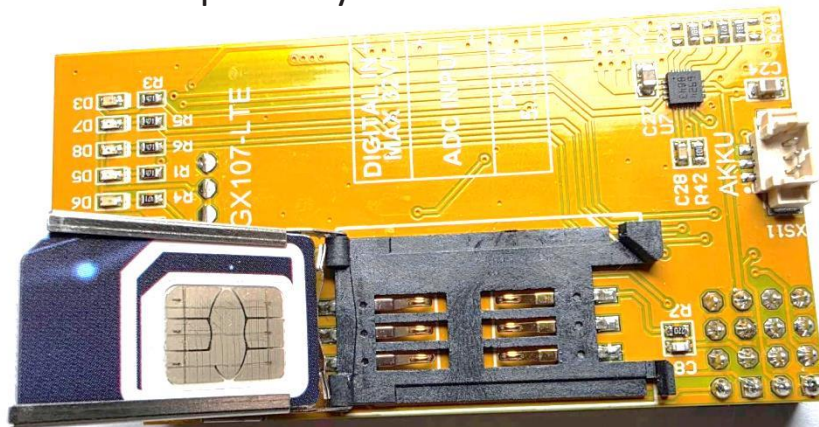
After you have changed your SIM card's PIN code, you can retrieve it from your Remove your mobile phone and insert it into the "GX-107". The SIM card slot is located on the front the circuit board the "GX-107" under dem Case cover.

Again to Clarification , go She in the following steps before:

- Place She the for the "GX-107" intended SIM card in Her mobile phone a.
- Change She according to the The PIN code can be found in your mobile phone's user manual. on 1513 away.
- Take the SIM card with the changed details. PIN code out of dem mobile phone out of here.
- Place She the SIM card with dem Enter the changed PIN code into the "GX-107". The SIM card slot is located on the front the circuit board the "GX-107" under dem Case cover.

SIM card with PIN 1513

For the Protection before unauthorized access on Her "GX-107" and whose SIM card should She after the commissioning the "GX-107" Her PIN absolutely again modify. This is in the Chapter "Protection of the "GX-107" by means of PIN code" more precisely described.



Turn on

After inserting the SIM card, the "GX-107" switches on automatically. This signals the green LED (GSM status) (4)):

First the LED lights up continuously (searching for network) and after a few seconds the LED should with dem Flash start (Network found, "GX-107" operational). Should the green Status LED not begin to flash, so exists a Mistake at the Connection for the GSM providers.

Please check She in this trap the the following Points:

- SIM card on correct PIN ("1513") set?
- SIM card blocked (PUK)?
- examination the Reception quality with a separate mobile phone
- SIM card holder secure locked ?
- Battery correctly connected ?
- External power supply available (min. 1 Battery-powered LED (lights up)?
- examination the Connection an external GSM antenna (if available)

If the "GX-107" still cannot register with the GSM network, reset the device to Factory settings back (see Chapter 11) and operate She it above one external power supply (no Battery operation).

If the redness LED shines (3) is the access on the SIM card not possible!

Check if the SIM card is activated, inserted correctly and/or set to the correct PIN. set became.

If the "GX-107" was previously used with a different SIM card, the It's possible that the PIN on the "GX-107" needs to be changed. In such a case, you should You can reset the "GX-107" to factory settings (section "Reset"). on Factory settings and the PIN the SIM card in your mobile phone check.

9. Introduction command format

Before She the “GX-107” insert can, must She it first configure. The Configuration is done using simple SMS commands that you send from your mobile phone to the “GX-107” (to the Phone number of SIM card of the “GX-107”) send. This method allows you to activate your “GX-107” from any location, deactivate or the Settings to change.

The text messages (SMS) for programming the "GX-107" follow this scheme. constructed:

<1. Word> <2. Word> <Parameter 1> <Parameter 2> <...> <#PIN>

Important!

To every SMS, the to the “GX-107” sent becomes, must as Protective function the The set PIN must be appended with "#". Without <#[PIN]> at the end of the SMS, it will not be displayed. Rejected! Without the correct PIN number no Reply SMS generated!

Each word and parameter must be separated by a space. be.

General Overview :

1. Word certainly, What man do will. e.g .:

SET = turn on/activate **RESET** = switch off/deactivate **TEST** = test/check

2. Word certainly the function e.g .:

OUT1 = Output 1 (Relay) **IN1** = Input (Optocoupler) **ADC** = analog Entrance

3. parameter 1, e.g .:

DE or **EN** = Language DE = German, EN = English

4. parameter 2, e.g .:

-010 = Negative Temperature value

5. PIN number

#1513 = PIN number at Basic setting (changeable)

Examples:

Exit 1 turn on (provided, the PIN the "GX-107" is 1513):

SET OUT1 #1513

Language (German) set:

SET LANGUAGE DE #1513

Notice for the RESET command:

Should She one function turn off want, or She because of one Error reset then send She a RESET SMS command with dem corresponding Function word (2. Word):

RESET <Function> #PIN

This command is universally applicable to all functions/SMS commands! Example : Exit 1 turn off :

RESET OUT1 #1513

More Notes :

- She can any Large- or Lowercase letters use, it gives here no Discrimination.
- Everyone new command the same Types (2. Word) overwrites the previous Settings.
- After each SMS command sends Them the "GX-107" one SMS reply to Confirmation the programming on her mobile phone (if the PIN at the SMS command correctly was).

button for manual Reset :

If the device becomes unresponsive, you can reset it manually. To do this, press the Reset button (11).

The before fixed Settings become included not deleted.

The following examples assume that the PIN of the device used in the "GX-107" is correct. SIM card It reads "1513".

Depending on the PIN you set, the "1513" should of course be replaced by your PIN. substitute.

10. Changing the PIN code:

She can Her “GX-107” before unauthorized access efficient protect, by She a individual Create a PIN code for the SIM card, which will be appended to every SMS command in the future. must. The PIN code the SIM card change She with dem the following SMS command:

SET PIN <new PIN> #<age PIN>

Example: Old PIN 1513 on the new PIN 1234 change:

SET PIN 1234 #1513

From now on, every new SMS command must include the new PIN code preceded by a hash symbol (#). A space before the hash symbol (#) must be added. If an incorrect PIN code is entered or forgotten, receive They have none Reply SMS.

Example:

SET OUT1 #1234

The Change the PIN codes changes as well as the Attitude the “GX-107”, as also the PIN code the SIM card! The PIN code consists always out of 4 Pay.

If She Your PIN code lose or forget, can She the “GX-107” reset (see chapter “Resetting to Factory settings.”

At the Reset go her Programming lost! Thereafter must She the Repeat the programming of the “GX-107” as described in the chapter “Programming”. (Set) the GX-107" described.

Resetting the “GX-107” to factory settings does not affect the SIM card. Whose PIN remains consist .

11. Save from Telephone numbers

In the “GX-107” can man until to 6 Telephone numbers program.

In case of an alarm, a notification SMS will be sent to each of these phone numbers. In addition become only this Telephone numbers for the INCALL function accepted.

Should itself the same Telephone number several times in the list condition, receives this correspondingly often the same SMS message.

The “GX-107” can basically only Telephone numbers in the international format process.

Example: 0177/12131415 -> +4917712131415

Send She the corresponding SMS command to the “GX-107”:

SET TEL1 +49111... #1513

SET TEL2 +49222... #1513

...

SET TEL6 +49666... #1513

The “GX-107” offers one Possibility, in a command several Telephone numbers on once to to program.

For example if She 3 Telephone numbers program want (TEL1 until TEL3):

SET TEL1 +49111... +49222... + 49333... #1513

After dem Send the command "SET TEL. “ receive She one SMS reply with one List of saved phone numbers:

SET TEL3 +49333444555 #1513

GX107LTE v2.2

SMS1

+49111222333

SMS2

+49222333444

SMS3

+49333444555

SMS4

No destination

SMS5

No destination

SMS6

No destination

Telephone areas (Regards only function INCALL):

You can define phone ranges that are allowed for the "INCALL" function. Example:

She do they want the following Numbers for the INCALL release:

+491555512345

+491555523456

+491555534567

then program She e.g. the following Telephone number:

+4915555*****

The * are Placeholder for any Pay.

Please regard She on it, that accordingly sufficient Placeholder (*) inserted become. The calling Telephone number becomes with this Placeholders compared.

Important!

Through this become also all others Combinations from Telephone numbers allowed! With the use this function accept She this Residual risk.

Delete the saved Telephone numbers

To a phone number to delete, must She following commands send: Example:

To deletion the 1. and 3. Telephone number must She two SMS send:

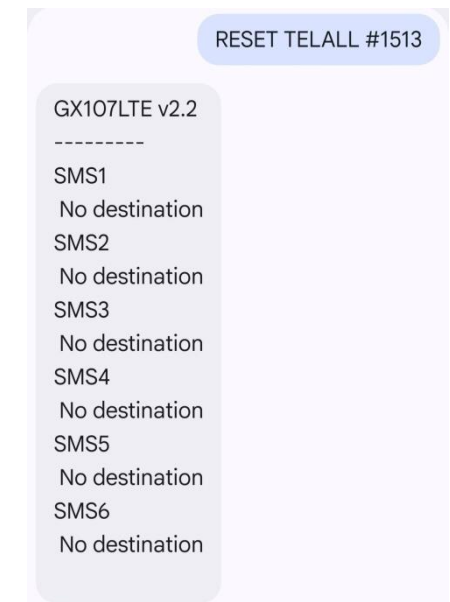
RESET TEL1 #1513

RESET TEL3 #1513

To all Telephone number to delete, must She the following SMS command send:

RESET TELALL #1513

After dem Send the command "RESET" TEL..." receive She one SMS reply.



Telephone number test

To the in the "GX-107" saved Telephone number to check, must She the the following SMS command send:

TEST TEL #1513

Give She always the complete Telephone number in the international format (including the (Country area code) a, e.g. +49... for Germany.

The SMS commands (TEL1, TEL2, TEL3,...) change only the Telephone number the corresponding Memory. The Numbers the others memory remain receive.

She can the stored Telephone numbers at any time change.

- **E-mail**

She can in the Alarm also by E-mail notified become. To one E-mail address to save, go They as follows before:

SET EMAIL <Email address ># Subject # <Service center number > #1513

Example :

SET EMAIL johan.bregger@provider.net #Alarm # 5555 #1513

The maximum length the E-mail address and #Theme# amounts together 35 Sign. The Find out the service center number They from your Provider.

An SMS will be sent to the service center number, containing the message as forwards emails to the address. The "GX-107" cannot send emails directly itself. send.

Please regard She on the Spaces. The software differs the individual elements the SMS message based the Spaces!

The functionality of email sending can be affected by the numerous providers. not guaranteed become.

Deleting the email Address:

Delete She one discontinued E-mail address with dem Command:

RESET EMAIL #1513

Checking the email address:

To the in “GX-107” saved E-mail address to check, must man the the following SMS command send:

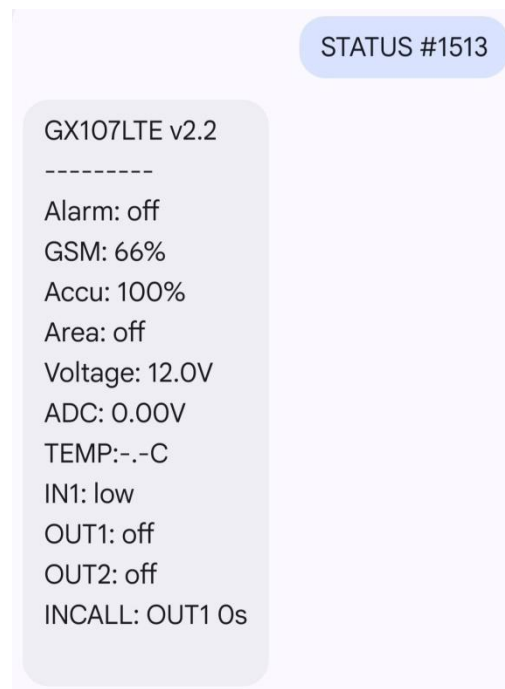
TEST EMAIL #1513

12. Status query

She have the Possibility, the status the “GX-107” and the parameter to check. She receive one SMS, the She above the Battery status, the GSM reception, Entry/ exit status , Tension etc. informed.

Command:

STATUS #1513



- the change the Device name

If several “GX-107” devices at the same time operated become, is it recommended each Device one's own

to give names. This way, alarm messages can be directed to the right person. Device assign.
To Name changes to your “GX-107” device to do send She the following SMS command.

SET NAME <new name > #1513

Example: Renaming of the “GX-107” in “NEWNAME”

SET NAME NEWNAME #1513

You will receive the following confirmation SMS: NEWNAME 1.xx

SET NAME newname #1513

newname v2.2

The name was changed from
GX107LTE v2.2 to newname v2.2

The maximum length of the device name is 15 characters. It may no spaces used become.

To Reset on Factory settings (“GX-107”) must She the following command send:

RESET NAME #1513

- **Language set**

The “GX-107” responds to all SMS commands with a reply or report SMS in German language. Should you require answers in English, please send the following SMS: command to the “GX-107”:

SET LANGUAGE EN #1513

If She again on German change want, send She the following SMS command:

SET LANGUAGE DE #1513

13. Interface commands

This is a autonomously operating Alarm device.

Incorrect settings or connections can lead to unwanted SMS messages. Mailings are coming! Under no circumstances should you include the phone number from [company name]. SIM card a, the in the module used becomes!

Carry She also no Telephone number other “GX-107” or Alarm devices a.

- **Exits turn on/off (OUT1, OUT2)**

These are the two outputs OUT1 and OUT2, which are switched on and off by sending an SMS to the module. can be done. A relay is already connected to outputs OUT1 and OUT2.

For the Turn on the Exit 1 OUT1 serves the Command:

SET OUT1 #1513

For the Turn off the Exit 1 OUT1 serves the Command:

RESET OUT1 #1513

For the Turn on the Exit 2 OUT2 serves the Command:

SET OUT2 #1513

For the Turn off the Exit 2 OUT2 serves the Command:

RESET OUT2 #1513

When using a voltage higher than 25 V/AC or 60 V/DC, the installation only through one corresponding skilled worker carried out become.

Switching She the Device stress-free, before the Housing cover open becomes!

- **Incall**

The "INCALL" function can with each Exit (OUT1=Relay, "OUT2"=Relay) tied together become. This function can in two Modes used become:

"Toggling" mode: The Exit will be Call switched

"Time" mode: Exit becomes for a adjustable Time switched on

Only the before with dem command SET TEL saved Telephone numbers can this function use.

She call simply the "GX-107" to and let it just to be on the safe side a couple Just ring. Make sure that the phone number from which the "GX-107" is called, is not unknown (caller ID suppression) and is in the correct format in the "GX-107". (+49177.) saved became. Otherwise ignored the "GX-107" the Call and switches none Exit.

Setting INCALL:

SET INCALL <OUT1/OUT2> <Switch time> #1513

Example:

SET INCALL OUT1 23 #1513

After this command switches the Exit 1 at Call for 23 seconds a.

The Time is from 1 until 43200 seconds (12 Hours) adjustable.

If the Time on "0" set becomes, then is the "INCALL" in the mode "Toggling", dh When the "GX-107" is called for the first time, the output is switched on. and at the second Just off, etc.

On Factory settings reset

Send She the following Command, to the Factory settings to produce (OUT1, Time = 0):

RESET INCALL #1513

Check settings

To the desired Settings to check, use the Command:

TEST INCALL #1513

If the caller is correctly identified and the action (switching) is executed, This call was rejected. This is for confirmation. Should the "GX-107" not be the Call reject so could either the Telephone number not correct recognized become, It does not match any phone number in the "Set Tel" list (international). Format forgotten?), the function is not activated and/or during execution a An error occurred.

Please observe the, that it in the " Toggle " mode to a increased Energy consumption comes, which to Reduction of Battery life is a factor.

Telephone number ranges can also be configured using the wildcard *. Please note the relevant chapter on the SET TEL command.

- **Optocoupler input (IN1)**

The IN1 input is an optocoupler and is used for, for example, smoke detectors or burglar alarms. (electrical loops, the interrupted become) used.

The input can have a potential-free voltage of 0 to 32 V from the rest of the circuit. connected become. Observe the this the polarity (Plus/+ and Minus/-)!

Without external voltage (i.e., open) or with a voltage lower than 2 V, this input (IN1) is detected as a low level. If an external voltage higher than 3.5 V is connected, The input (IN1) is recognized as high. You can use the SMS command to select when a An alarm message is to be sent. The corresponding LED is controlled directly by the hardware. controlled and shows the current recognized condition.

Alarm message at the change from LOW=L on HIGH=H

SET IN1 LH #1513

Alarm message at the change from HIGH=H on LOW=L

SET IN1 HL #1513

Alarm message at everyone Level change:

SET IN1 LHL #1513

Alert above IN1 deactivate:

SET IN1 OFF #1513

Reset on Factory settings (LH):

RESET IN1 #1513

To check the input (IN1) stored in the “GX-107”, you need to send the following SMS command send:

TEST IN1 #1513

An optional second parameter allows you to set how long a signal should be continuous. issue must, before a Alarm triggered becomes.

SET IN1 <LH/HL/LHL> <TIME> #1513

The parameter <TIME> gives the Time in seconds to, before a alarm triggered becomes. The range of values lies at:

0 = Out of (Default) or 1 until 90 (in (seconds))

Note that an unused second parameter does not change the time. SET IN1 LH 5 #1513 Activation Alarm at HIGH after 5 s

SET IN1 HL #1513 Activation alarm LOW and furthermore with 5 s

The time is displayed in the status SMS. The internal time measurement can be up to 1 second delay, for what reason one discontinued Time from 30 s until to 31 s to activation need can.

14. Analog Input (ADC)

This is a analog ADC input. This Entrance can one Tension from 0 V until 2.8 V measure.

He can also for the Temperature sensors used become. At Above- or Falling below one adjustable limit value (in mV or °C) can the module automatically an alarm message send.

Please note that measurement errors may occur at the maximum voltage of 2.8 V. The limit values are entered in mV, so for example, for a limit voltage of 1.2 V of the Value 1200 to the "GX-107" sent become.

This function is intended, for example, for an analog level sensor ; the module can then... Warning message send, before the Storage container empty becomes or overflows.

To Limit value input serves this Command:

SET ADC <Voltage1> <Voltage2> #1513

Voltage1 = upper limit Voltage2 = lower Border

The Value from "Tension1" must larger as "Tension2" be!

Example:

SET ADC 2300 1100 #1513

At Tension at ADC smaller as 1,100 V or larger as 2,300 V solves the "GX-107" alarm out of.

The Area the Setting limits suffices from 0 until 2800.

If voltage is "2800" When it is set up, the upper limit disabled. If as Voltage2 "0" set becomes, becomes the lower Border off.

In the Area the limit value can it to multiple Alert come, each after Fluctuation the Input signal.

Delete the set borders

For the Delete the set borders serves the Command:

RESET ADC #1513

settings of the Check ADC

To the desired Settings the ADC to check, use She the Command:

TEST ADC #1513

To the analog Entrance for the temperature sensor to use, use She the Command:

SET ADCMODE TEMP #1513

Thereafter becomes the temperature sensor (Item No .: T-128) at analog Entrance accordingly evaluated.

To turn off the temperature measurement at the analog input (ADC) and back to... Voltage measurement to reset must the following Command sent become:

SET ADCMODE VOLT #1513

To the existing Settings to check, use She the Command:

TEST ADCMODE #1513

- **ADC in the Temperature mode**

The Temperature range the Sensor suffices from -40 °C until +125 °C. If no sensor connected is, becomes -40°C issued. For the temperature sensor can a MAX- and a MIN temperature value set become. If the MIN value The threshold was not exceeded. or the MAX value exceeded becomes, so becomes one Alarm message to all saved telephone numbers and the Email sent.

Use She to Attitude the following Command:

SET TEMP <temp1> <temp2> #1513

Temp1 = upper limit Temp2 = lower border (The Value from "Temp1" must larger as "Temp2" be!)

Example:

SET TEMP +250 -050 #1513

At one temperature smaller as -5.0 °C or larger as +25.0 °C solves the “GX-107” alarm out of. The Area the G limit setting is from -400 until +1250 adjustable.

If as "Temp1" = +1250 set becomes, becomes the upper Border off. If as "Temp2" = -400 set becomes, becomes the lower Border off.

The Information the sign “+” and “-” before the Pay is mandatory necessary. Without the corresponding sign will be Mistake issued.

It becomes also a Mistake issued if the Value from "Temp2" larger as "Temp1" is.

Delete the set borders

For the Delete the set borders use She the Command:

RESET TEMP #1513

Check settings

To the existing Settings to check, use She the Command:

TEST TEMP #1513

Hysteresis function:

Each analog measurement (ADC, TEMPERATURE, VOLTAGE) has a hysteresis to prevent multiple alarms. to prevent fluctuations in measured values around the alarm threshold. Please refer to the relevant information. Chapter “Hysteresis”.

15. Analog input from the temperature sensor (TEMPERATURE)

The temperature can be measured at the ADC input, but the Gx107 LTE device also has a separate one. Input via a Molex connector. It is possible to use both temperature sensors simultaneously; they function independently. The temperature sensor reading is evaluated accordingly. The sensor's temperature range is from -40 °C to +125 °C. If no sensor is connected, "--" will be displayed. °C is displayed. A maximum and a minimum temperature value can be set for the temperature sensor. If the MIN value is undershot or the MAX value is exceeded, an alarm message will be sent to all stored devices. Phone numbers and email address sent. Use the following command to configure the setting:

SET TEMPERATURE <temp1> <temp2> #1513

Temp1 = upper limit Temp2 = lower Border

The Value from "Temp1" must larger as "Temp2" be!

Example:

SET TEMPERATURE +250 -050 #1513

At one temperature smaller as -5.0 °C or larger as +25.0 °C solves the "GX-107" alarm out of. The Area the attitude is from -400 until +1250 .

If as "Temp1" = +1250 set becomes, becomes the upper Border off. If as "Temp2" = -400 set becomes, becomes the lower Border off. The Information the sign "+" and "-" before the Pay is mandatory necessary. Without the corresponding sign will be Mistake issued. It becomes also a Mistake issued if the Value from "Temp2" larger as "Temp1" is.

Delete the set borders

For the Delete the set borders use the Command:

RESET TEMPERATURE #1513

Check settings

To the existing Settings to check, use the Command:

TEST TEMPERATURE #1513

16. System commands

With the the following Command can the important Protective functions the “GX-107” change. If By changing the default settings, you accept the resulting changes. Behave the "GX-107".

- **Operating voltage monitoring**

The correct Tension the Energy supply for the “GX-107” is from 5 V until 32 V. The “GX-107” can the Tension the Energy supply control and the inform (i.e. one Alarm SMS send), if the Tension to low is or it no There is tension.

This function is needed, for example, when the “GX-107” is powered by the car battery. This will happen if the car battery is discharged too deeply or if there is a problem with the car's power supply. manipulated becomes, send the “GX-107” automatically one Alarm message.

The “GX-107” is with a internal LiPo battery equipped which for one certain Time the Functionality the device ensures and so one continuation e.g. the GPS function made possible.

command to Attitude the min. Tension:

SET VOLTAGE <Voltage> #1513

The Tension is from 500 until 2700 (from 5 V until 27 V) adjustable. If as a voltage of 500 set becomes, becomes the alarm off.

On Factory settings reset

Send She the following Command, to the Factory settings to produce (out of):

RESET VOLTAGE #1513

Check settings

To the desired Settings to check, use She the Command:

TEST VOLTAGE #1513

Hysteresis function:

It gives for every analog Measurement (ADC, TEMPERATURE, VOLTAGE) Hysteresis , to a multiple Alert at Measurement fluctuations around the alarm value around to prevent . Please observe She to the corresponding Chapter “ Hysteresis ”.

- **Alarm mode**

The “GX-107” has various triggering options to notify the user via SMS and email. alert. With dem the following Control command She central the Alarm functions.

First with “ENABLE” allow She dem “GX-107” self-employed at set and recognized events one SMS and E-mail to the saved Numbers/Addresses to send.

With "DISABLE" generated the “GX-107” only still one SMS to the telephone number, which before one SMS with the correct PIN sent has.

command for the Turn on the Alarm mode:

ALARM ENABLE #1513

command for the Turn off the Alarm mode:

ALARM DISABLE #1513

After dem Turn off the Alarm mode ("DISABLE") send the "GX-107" no More alarm messages . She receive then only the Reply SMS on the sent Command.

If the Alarm mode turned on becomes ("ENABLE"), send the "GX-107" again self-employed.

- **Alarm timer**

In case of an alarm, the "GX-107" sends an alarm message. Further messages of the same type will follow. are only sent if the corresponding alarm situation persists for a certain period of time. (Factory setting: **10** (minutes) leave became. This Time period can changed become.

Use She in addition the following SMS command:

SET IDLEALARM <Time> #1513

The time is adjustable between 0 and 240 minutes. A value of 0 activates the idle alarm. switched off .

Example:

SET IDLEALARM 15 #1513

The time interval between the Alarm notifications amount to so 15 Minutes.

Danger!

While this Time period become She not informed, that itself the Reason for the alarm again changed has. She must on it regard, that She while this Time himself the parameter control must.

On Factory settings reset

Send She the following Command, to the Factory settings (5 (minutes) to produce:

RESET IDLEALARM #1513

Check settings

To the desired Settings to check, use the Command:

TEST IDLEALARM #1513

idle alarm time to , for example , 10 minutes, you can reset this time at any time by sending the following command:

ALARM CLEAR #1513

This command resets the set idle alarm time , meaning the 10 minutes start again.

Starting from scratch .

Example:

The switching input was configured to trigger an alarm when HIGH. The IDLE countdown starts from at the point in time when IN1 returns to the LOW state. Should the alarm state occur within the IDLE time?

If IN1 is reached again (HIGH), the countdown is reset, but no alarm is triggered (IDLE-Time).

(was not waited for). Only when IN1 remains in the LOW state continuously for at least the set IDLE time.

If the conditions have been met, IN1 can trigger another alarm SMS.

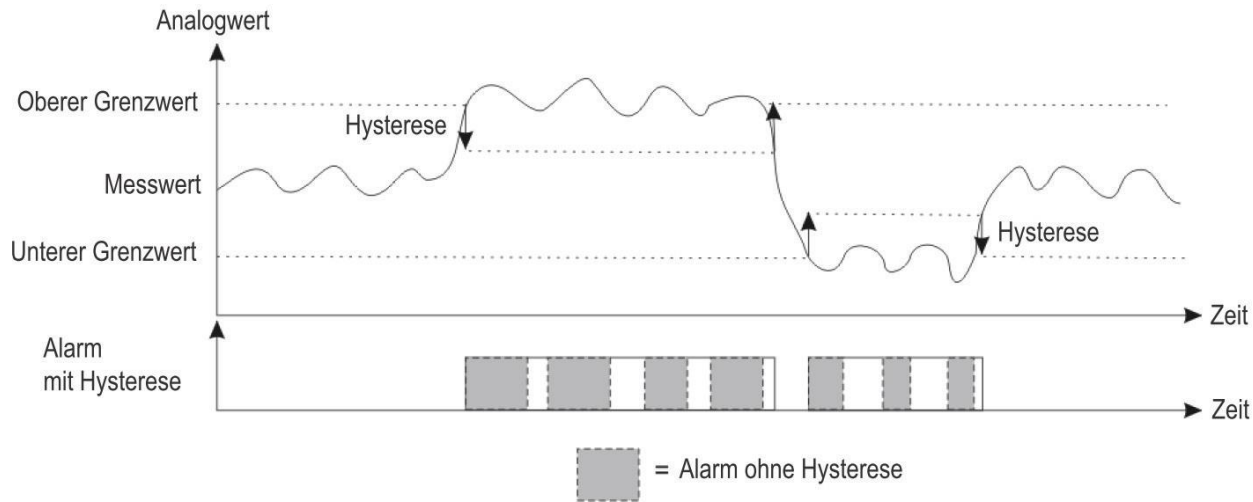
This does not affect any other alarm, such as ADC or GPS.

Background: This function protects the customer from immense SMS costs.

17. Hysteresis function

The Default- Settings became already so chosen, that they for the most Use cases suitable are. One change is only in Special cases are needed.

To unwanted Alerts to avoid, became the new function “Hysteresis” programmed. At one Hysteresis changed itself the Alarm threshold after it exceeded to the Hysteresis Value. Therefore, the analog value must first move further into the allowed range before the The alarm state ends.



These hysteresis values are set independently of the alarm value using the following commands:

SET HYSADC <value> #1513 Applies to function: ADC

SET HYSVOLT <value> #1513 Applies to function: VOLTAGE

SET HYSTEMP <value> #1513 Applies to function: TEMPERATURE

The value range for each command is:

HYSADC: 0 ... 99 1 = 0.01 V Default: 0.01 V

HYSTEMP: 0 ... 99 1 = 0.1 °C Default: 0.2 °C

HYSVOLT: 0 ... 99 1 = 0.1 V Default: 0.1 V

Setting the value to 0 disables this function.

The TEST action for any function displays the current status of all hysteresis values . RESET...
reset to default settings.

The commands are : **TEST HYSADC #1513,**
TEST HYSVOLT #1513
TEST HYSTEMP #1513

Using the commands: **RESET HYSADC #1513 ,**
RESET HYSVOLT #1513
RESET HYSTEMP #1513

The default settings will be restored.

18. GPS application and commands

The "GX-107" can be equipped with an external GPS module (part no.: GPS-107). The GPS module enables the device to be positioned anywhere in the world. World via Satellite (line of sight) to one sufficient Number to GPS satellites provided!).

The "GX-107" with GPS module can send you its location via SMS. You can Check the device's location from anywhere using your mobile phone. The exact location Location can then in e.g. a Route planner displayed become.

- **Connection the GPS**

To the GPS module to connect should the Plug through the larger M16 cable gland installed and thereafter in the corresponding socket on the circuit board inserted become.

Thereafter must through the Reset button the “GX-107” new started become.

The blueness LED becomes after a couple seconds with dem Flash start, provided the GPS receiver above Reception the GPS satellites has.

The GPS receiver must a visible free and unlimited Access to the satellites have (see operating instructions) to dem GPS receiver).

If the blue LED does not start flashing, check the connection again . and the alignment of the GPS receiver, and then restart the device. (Reset button).



- **GPS position determine**

If at “GX-107” a GPS receiver connected is, can the current GPS coordinates via SMS requested become.

Use for this the the following SMS command:

TEST GPS #1513

Example one SMS reply:

name the device, Software version

Time: UTC of last position Latitude:

Latitude in (degrees) Longitude :

Longitude (Degree)

Height above Normal Zero

Number the found satellites

TEST GPS #1513

GX107 v2.2Time:

12:05:38

Latitude:

52.739573N

Longitude:

015.252518E

Altitude:

4.3 M

Sat. in use:

4

If She a mobile phone with Connection for the Internet have, can She the following command use:

TEST GPSMAP #1513

Pattern Reply:

After She the link click, sees man on dem Display Yours mobile phones, where itself the “GX-107” are (in the center the Map).



Note: The Map is dem OpenStreetMap project removed!

zoom and Map provider change

In addition to changing the zoom level of the link, you can also change the provider. You can achieve this by... with dem the following Parameters and Values:

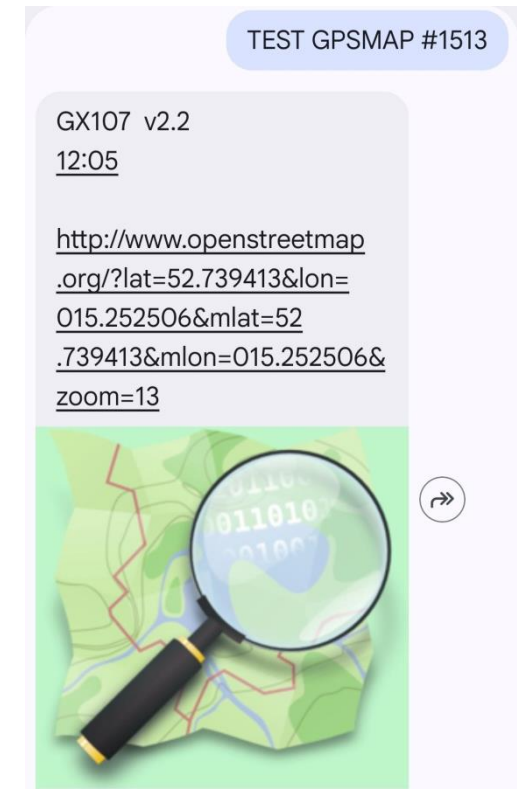
SET GPSMAP <NR> #1513

The Parameter NR has following Meaning:

- 0 OSM Card, Standard Zoom (Default)
- 1-6 OSM Map, 1-6 different Zoom levels
- 100 Google Maps with updated link format 101-106 Google Maps with different zoom levels As Answer

Do you get a SMS with dem new Link.

Google Maps only displays the map image without any control options.



For that can this page also from older mobile phones displayed become.

The linked OpenStreetMap.org website requires an up-to-date browser to Display and control of the map data.

Therefore, a current smartphone is recommended. needed.

At both Variants becomes one Internet connection from the mobile phone needed.

- **Automatic Position transmission**

Sometimes in Alarm situations needed man the information above the Location several times in short Time (at the Track the (device). Man can in such case the following command send:

TEST GPS <Time> <Quantity> #1513

or

TEST GPSMAP <Time> <Quantity> #1513

Time = Time in minutes between messages (1-249) 250: 30 seconds 251:15 seconds

Crowd: Max. Crowd the SMS messages, the sent become (1-1000)

If She earlier cancel want, before She the whole programmed number the SMS messages from “GX-107” received have, send They the Command:

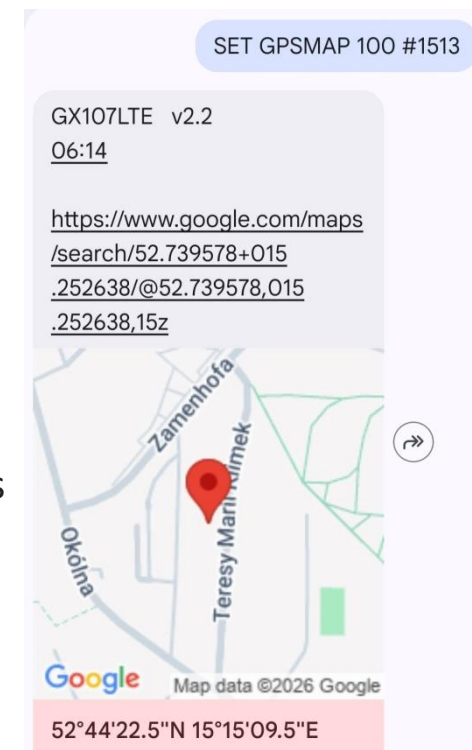
RESET GPS #1513

or

RESET GPSMAP #1513

energy save

To energy to save and so the Battery life to increase, becomes in the Battery operation (without external (Operating voltage) the GPS receiver the most Time off.



If the “GX-107” his position changes (The change the GSM cell) or the “GX-107” a GPS command receives, becomes the current GPS location immediately Updated.

Otherwise becomes the GPS receiver after one adjustable Time for a couple minutes reactivated. With dem the following command can man this Set time period:

SET GPSSAVE <Time in Minutes> #1513

Time = 0 - 250 minutes (0 = GPS becomes not off)

The battery life with a connected GPS receiver depends directly on this. Attitude away.

If e.g. the shutdown the GPS receiver off becomes (GPSSAVE) = 0”), then reduced itself the Battery life on few Hours (dependent from the Battery status and ambient temperature).

On Factory settings reset

Send She the following Command, to the Factory settings to produce (60 min):

RESET GPSSAVE #1513

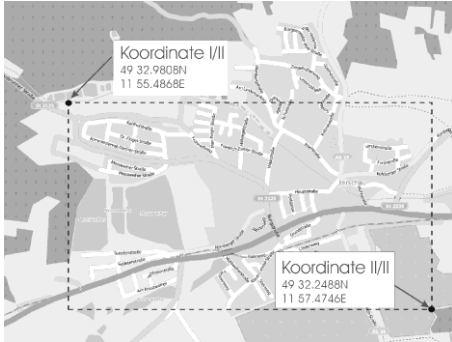
Check settings

To the Settings to check, use She the Command:

TEST GPSSAVE #1513

- **GPS zone**

The “GX-107” with connected GPS module can to Zone monitoring used become. After the programming the approved Zone(s) (max. 10) and after the activation alarm mode (“ENABLE”) becomes at everyone Exceedance the approved Zone(s) one Alarm message with the current GPS coordinates to all saved Telephone numbers and E-mail sent.



Note: The Map is dem OpenStreetMap project taken.

When the input voltage is connected, the current location will be updated every Checked for a second. If the "GX-107" is powered by the internal battery, then the current Location only in intervals updated to energy to save. This Time can with dem GPSSAVE command changed become.

Zone programming

To programming the Zones serves the Command:

SET GPSZONE <Latitude 1> <Longitude1> <Latitude 2><Longitude2> #1513

Latitude 1 = upper limit (northbound) Latitude 2 = lower latitude

Border (southbound) Longitude 1 = left boundary (westward direction) Longitude 2 = right Border

(Direction East)

Data entry format:

The Coordinates become in degree with 6 Decimal places needed. This is the same Format, that at Google Maps after a

Right-click – “What is here?” appears.

Latitude – gg.ggggggN (degrees) e.g.: 49° 59.5058' N -> 49.991763N

Longitude – ggg.ggggggE (degrees) e.g. 11° 57.0399' E -> 011.950665E

The GPS coordinates become at the “GX-107” in degree with 6 Decimal places specified. Accordingly can itself the Information in dem Area located:

XX,000000° until XX,999999°

Make sure to fill in any missing numbers with "0".

Example: e.g. 11.532°E = 011.532000

Example:

If She one particular Zone monitor want, give She the Data a,

How at the following Example of recognize:

SET GPSZONE 52.739370N 015.752390E 52.139370N 011.252390E #15135

As Return message receive She:

Regard She on it, that at each command "SET GPSZONE one new Zone

added becomes. If the Storage limit reached will receive She one Error message.

Delete all saved Zones

For the Delete all saved Zones serves the following Command:

RESET GPSZONE ALL #1513

Delete one individual Zone

For the Delete one individual Zone serves the following Command:

SET GPSZONE 52.739370N
015.752390E 52.139370N
015.252390E #1513

GX107 v2.1
Monitoring: off
GPS Zone: 2/2
Latitude:
52.739370N - 52.139370N
Longitude:
015.752390 - 015.252390

RESET GPSZONE < No. the Zone> #1513

After deletion, all remaining zones advance accordingly. If to For example, if zones 1-3 are programmed and zone 2 is deleted, then... thereafter Zone 3 so on dem 2. Storage space and becomes therefore as Zone 2 displayed.

Switching the zone alarm on and off

SET/RESET GPSZONE #1513

She can the alarm for the GPS zones separately steer. Through this can She the Turn off zone function , without the Delete data to must.

Check one programmed Zone

To the programmed Zone in dem certain Location to check, use She the Command:

TEST GPSZONE < No. the Location> #1513

Location number = values from 1 to 10 Example:

TEST GPSZONE 1 #1513

You can combine multiple zones into one corridor. The boundaries of the Zones run along the specified lines of

TEST GPSZONE 1 #1513

GX107 v2.1

Monitoring: off

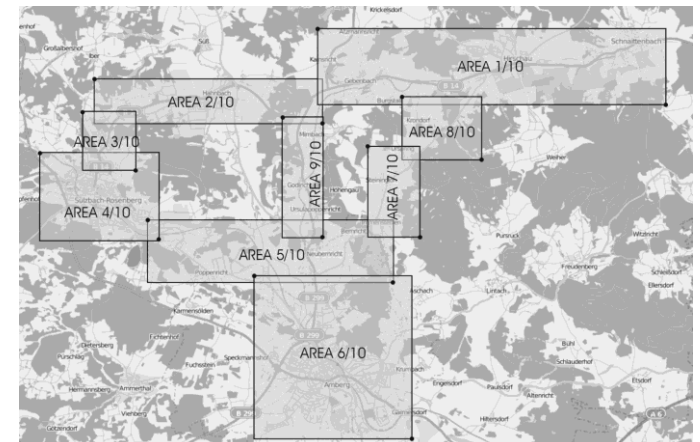
GPS Zone: 1/2

Latitude:

52.739370N - 52.739370N

Longitude:

015.252390 - 015.252390



longitude and latitude. Diagonal Zones can not specified become.
The zones must overlap if they are to form a corridor. belong together.

Note: The Map is dem OpenStreetMap project removed!

- **GSM cells - information**

If the “GX-107” none GPS receiver owns or none Location find can, can She itself at any time the current GSM zone designation and one Cell information send let.

Use She for this the the following SMS command:

TEST CELL #1513

To breakdown the Cell codes turn around She itself please to Your Mobile communications Provider.
Observe She, that the query the current location not from all Providers supports becomes.

Example: SMS report

GX-107LTE 1.xx

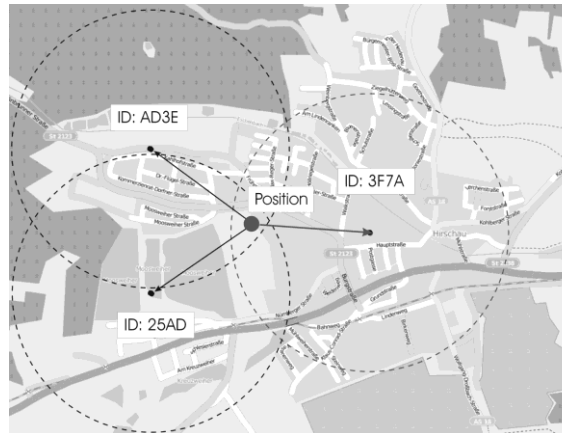
Battery : 90%

GSM: 50%

Zone: 3F7A Time: 1 cells info :

Hirschau Adjacent Cells:

AD3E 25AD



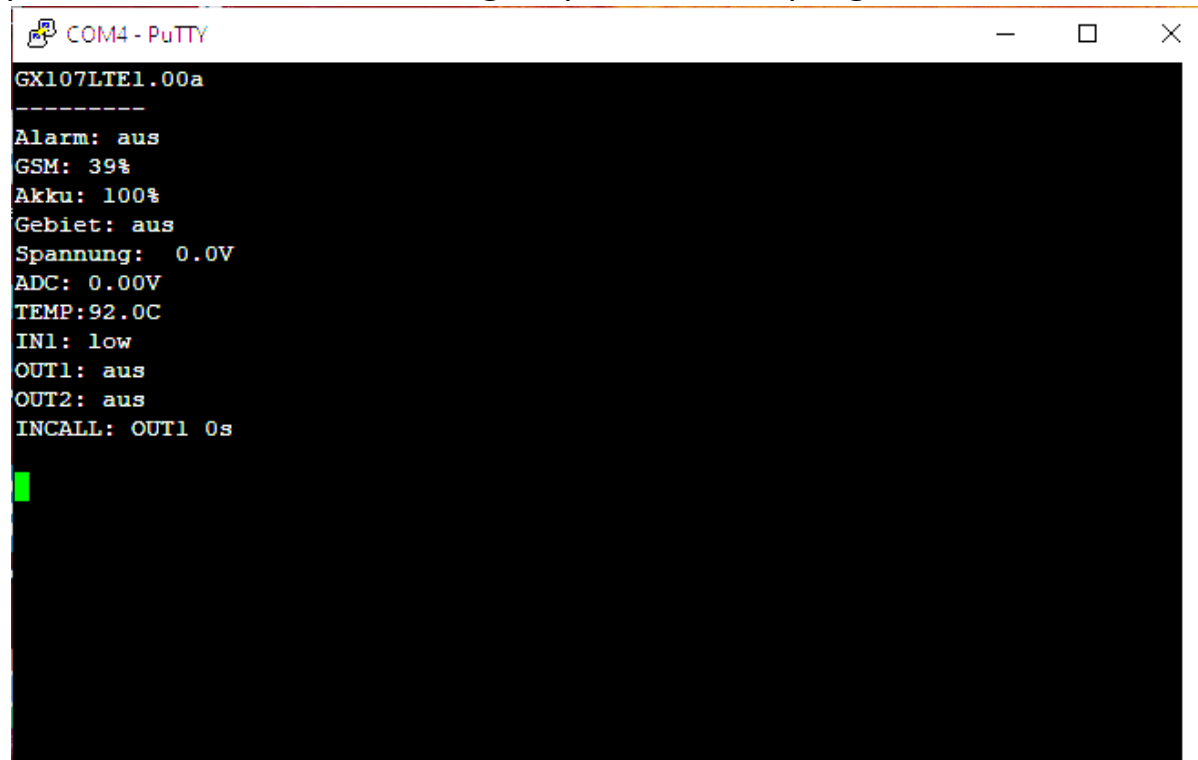
Note: The Map is dem OpenStreetMap project removed!

19. USB port

The device has a USB port. You can connect the device to your PC using a USB to mini USB cable (part number : **Z101-137**). Afterwards, you must turn on the device and wait until the driver is automatically installed via the port. Then, check in your Windows system settings which COM port the driver has been installed on. To operate the device, you need to download and install a free terminal program that... It allows operation from a serial port, e.g. Hyperterminal, PuTTY or others. In the program, you must select the port number where you installed the device. Other settings in Program: Baud rate - 9600, data bits – 8, stop bit – 1. After correctly configuring the device in the program You can communicate with the device.

When you send an SMS from a mobile phone to the device, you will see a preview of the message in the program window. The device's response to the sent SMS. If you send the command STATUS #1513 from your mobile phone to the device.

Send, and you can expect to receive the following response in the program, similar to an SMS:



```
COM4 - PuTTY
GX107LTE1.00a
-----
Alarm: aus
GSM: 39%
Akku: 100%
Gebiet: aus
Spannung: 0.0V
ADC: 0.00V
TEMP:92.0C
IN1: low
OUT1: aus
OUT2: aus
INCALL: OUT1 0s
```

You can also configure the device using a PC. The commands must be entered exactly as shown in the program window. This is how you send them via SMS. For example, if you send the command **TEST TEL #1513** , you will receive a reply showing which phone numbers have been registered.

You can update the software on the GX107LTE device yourself. The base version is version 2.1. Newer firmware, as soon as it is released, can be downloaded from the "Downloads" section of the website www.mobi-click.com and installed on your GX107 LTE via the USB port.

20. Reset on Factory settings

To do this, press the SW1 button. After approximately 6 seconds, the red ERR (Error) LED will light up, and after another 6 seconds, the LED will blink once. Now you can release the button. The device is reset to factory settings.

Another way to reset the device is to send the following SMS command to the device:

RESET SETUP 12345678 #1513

After that, the entire programming of the system must be redone (see chapter "First Steps").

Resetting to factory settings changes the PIN code of the "GX107" to "1513". The SIM card PIN code

The self itself will not be changed in the process!

If the PIN code of the "GX107" differs from that of the SIM card, the red LED will light up (error). To use the SIM card in the "GX107" again, you must change the PIN back to "1513" as described in the "Changing the PIN Code" section.

21. Disposal

Dispose You the product at the end of its lifespan according to the applicable statutory Regulations .

22. Declaration of Conformity

We hereby declare, mobi - click Sp . z o.o. , ul . Okólna 31, 66-400 Gorzów Wielkopolski, declares that this product complies with the essential requirements and other relevant provisions of Directive 1999/5/EC. We, mobi - click GmbH, Karl-Liebnecht-Str. 60, 15230 Frankfurt/Oder, declare under our full responsibility that the product : **GSM remote switching/alarm module: GX107 LTE**, complies with the following directives, standards, and/or regulations.

RED 2014/53/EU / RED 2014/53/EU

EN 301 511: V9.0.2

EN 301 489-1: V1.9.2

Final Draft EN 301 489-7: V1.3.1

EN 60950-1: 2006 +A11: 2009 +A1: 2010 +A12: 2011 +A2: 2013

RoHS Directive 2011/65/EU / RoHS directive 2011/65/EU

CE mark on the product/ CE

23. Technical Data

Operating voltage	5 to 32 V/DC, min. 700 mA
Simcom SIM7600CE-L module	
Frequency bands	GSM/GPRS/EDGE 900/1800 MHz
Transmit power	-102 dBm
GSM classes	quad-band TDD-LTE B38/B39/B40/B41 Tri-band FDD-LTE B1/B3/B8 Dual-band TD-SCDMA B34/B39 Dual band UMTS/HSDPA/HSPA+ B1/B8 CDMA 1X/EVDO BC0
SIM	3 V SIM card
External GSM antenna	Art.No .: ANT-107
External GPS antenna	Item no .: GPS-107
Current consumption (at 12 V	in standby): Approx. 40 mA with 1 relay : Approx. 70 mA with 2 relays : Approx. 100 mA max.: Approx. 430 mA (everything) active and battery charge)
IN1 input	logic L at 0 V to 2 V Logic H at 3.5 V up to max. 32 V 3 mA at 10 V/DC
ADC input	0 V to 2.8 V (10-bit resolution)
Output voltage ADC pin:	3.6 V to 4.5 V supply voltage
temperature sensor	Item No .: T-128
Switching capacity Relay	5 A, 30 V/DC or . 8A, 250V/AC
Battery	LiPo / Lilon 2200 mAh , 3.7 V
Charging time	: minimum 5 hours
Standby time	until to 70 hours (without active (Exits , no GPS) until to 40 hours (without active Exits (with GPS)
IP66 enclosure	
Operating temperature	-20 °C to +75 °C
Dimensions of	circuit board bottom (L x W x H): 80 x 56 x 21 mm Board top (L x W x H): 71 x 37 x 24 mm Housing (L x W x H): 88 x 64 x 43 mm
Weight	approx. 190 g
Data service	SMS, computer