GSM 12A+

User manual

Version 1.1a

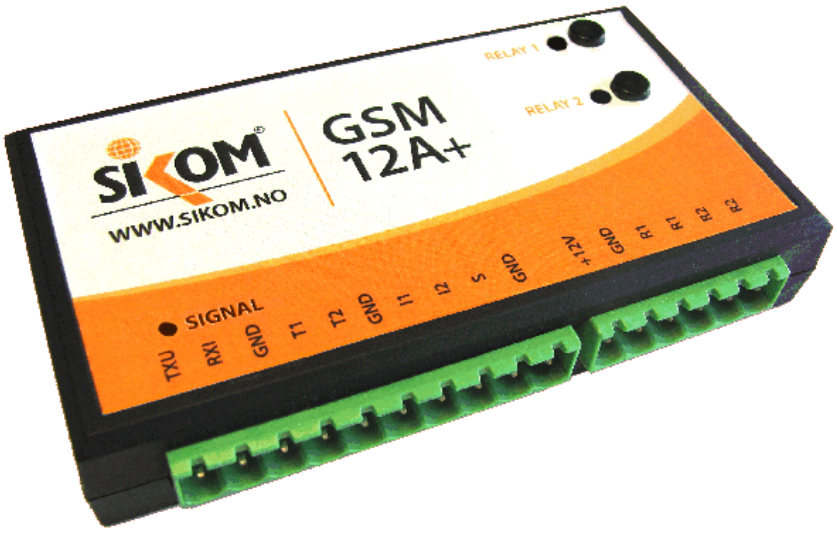


TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS

- Read the manual carefully.
- Pay attention to all warnings.
- Do not expose the unit to water or moisture.
- To clean the unit, use a dry cloth and wipe off carefully.
- Follow the mounting instructions.
- Do only use accessories specified by Sikom.
- In case of malfunction do not open the unit or try to repair it. All service must be performed by authorized service dealers. Contact your local Sikom dealer for more information.

Do NOT expose the unit to water or to wet environments
Water and other liquid can cause malfunctions. The warranty will not cover such damage. The unit is intended for indoor and dry environments. Should it be accidentally exposed to water, immediately unplug it and contact your Sikom dealer for inspection.

Do not open the product
In case of malfunction do not open the unit. This will void the warranty.

Mounting
Mount the unit onto a wall or some other firm support.
Avoid humid places.
Do not install the unit nearby heaters or below windows.

Cleaning
GSM 12A+ may be cleaned with a soft cotton or microfibre cloth. Do not use water or other liquid cleaning agents.

INTRODUCTION

GSM 12A+ is designed for communication over the GSM network. The features include remote control of 2 appliances, e.g. light and heating, as well as 2 individual alarm inputs and 2 temperature inputs. The unit can be ordered to switch relays on/off, to detect temperature levels and voltage levels, and to send alarms by SMS. Typical usage includes switching lights and heating on/off, monitoring temperatures for frost protection, as well as using detectors for burglary and fire alarm. The unit is remote controlled by SMS messaging. It can also be controlled locally by means of 2 built-in switches.

OPERATING GSM 12A+

The unit is controlled by SMS. Relay control, status, alarms and settings are easily controlled by SMS commands. When status information is requested, the unit replies with an easily understandable SMS containing all current settings. The chapter 'Controls' covers this topic.

The unit needs GSM coverage to be able to communicate. If the coverage is bad, we recommend replacing the enclosed GSM antenna with an external one. Signal strength is shown by a colour LED on the unit: green means good, whereas red is bad, and no light means no coverage. The signal LED will flash once approximately every 7 seconds. When the unit receives an SMS, the LED will become green for 1-2 seconds.

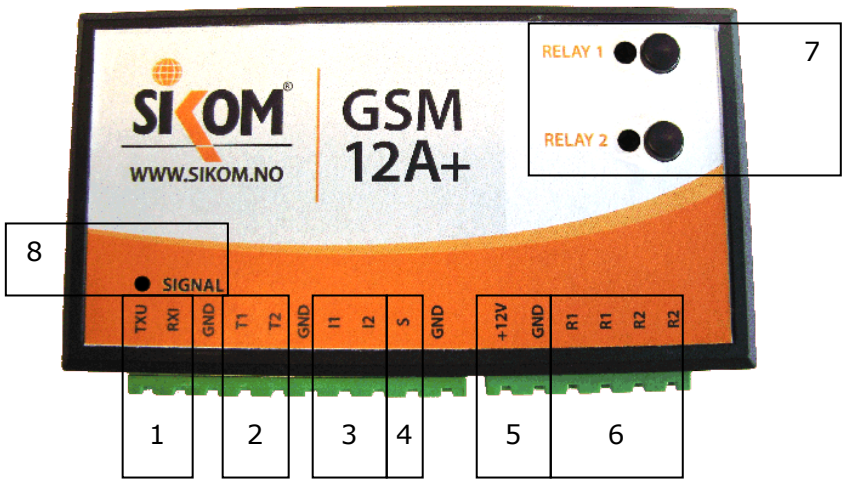
FURTHER INFORMATION

For additional information and accessories, please get in touch with your dealer.

Sikom AS and its distributors assume no responsibility for any errors that may appear in this manual. Information contained herein is subject to change without notice. The latest version of this manual will always be available on our website.

INSTALLATION

OVERVIEW OF INPUTS AND OUTPUTS



1. Serial communication port ([1])
2. Temperature sensor inputs
3. Alarm (detector) inputs
4. Sense input ([*])
5. Power supply input
6. Relay outputs
7. Buttons for local operation of relays and LEDs for the corresponding activation status
8. GSM signal LED

FIXING

If necessary, fix the unit to a steady and clean support using a double-sided tape.

[1] Only for communication with dedicated external equipment (see page 16).

GSM SUBSCRIPTION AND SIM CARD

All remote communication with GSM 12A+ takes place over the GSM network. In order to receive SMS command messages, it needs to have a SIM card installed, just like any standard mobile phone. SIM cards from most mobile phone operators will do (be they pre-pay or subscription based) as long as they enable SMS messaging and allow the PIN code to be deactivated.

NB: pre-pay solutions require you to follow up the credit utilization and will usually need to be recharged with credit at least once a year.

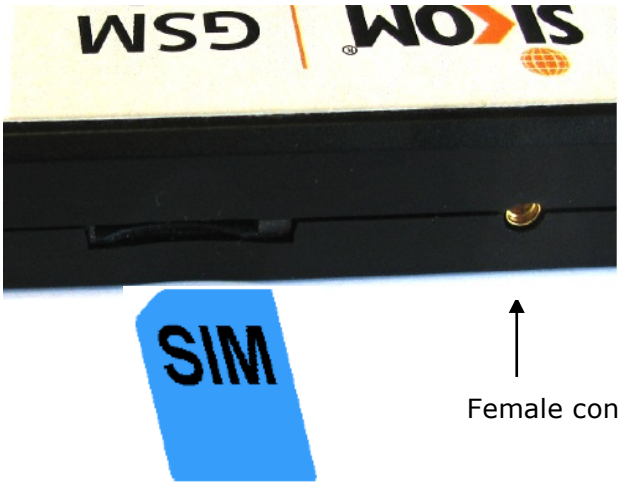
PREPARATION OF SIM CARD

GSM 12A+ requires the PIN code of the SIM card to be deactivated. This has to be done by temporarily inserting the SIM card into a normal GSM mobile phone and entering the phone security settings menu in order to turn off the PIN code of the SIM card. The exact procedure will be described in the manual of your mobile phone.

NB: if that mobile phone is locked to a given operator, it will not accept the new SIM card unless it comes from the same operator, even if it's inserted temporarily just for deactivating the PIN code. It will then be necessary to borrow an appropriate phone instead, or to ask a phone shop to deactivate the PIN code for you.

INSERTION OF SIM CARD

Always ensure that the unit is entirely powered off when manipulating the SIM card. Insert the card as shown below, with the notch in the same corner and the gold contacts facing down. Gently push the card until it clicks in place. If you later wish to withdraw the SIM card, gently push it inwards until a click signals that the locking mechanism is open. You may then pull the card out of the slot.



CONNECTIONS

WARNING: Do not power on before all connections are done.

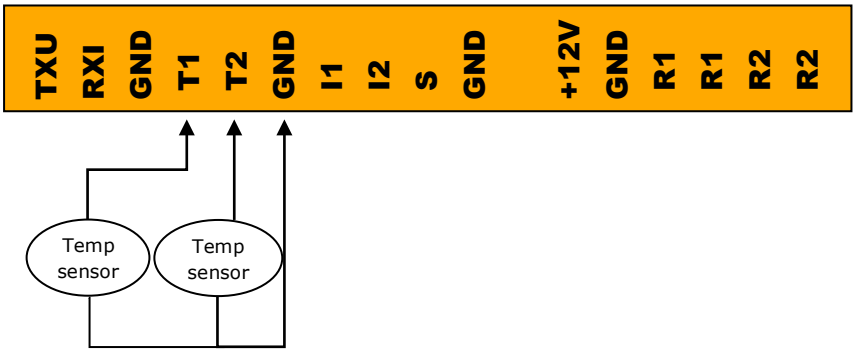
GSM ANTENNA

Try to place the antenna as high as possible in a **vertical** position.
Please note that the antenna must NOT be placed directly on a metal surface or close to metal items, as this may block the GSM signal. Any GSM antenna with MMCX connector can be used as long as it covers the GSM frequencies in use at the operating site.

TEMPERATURE SENSORS

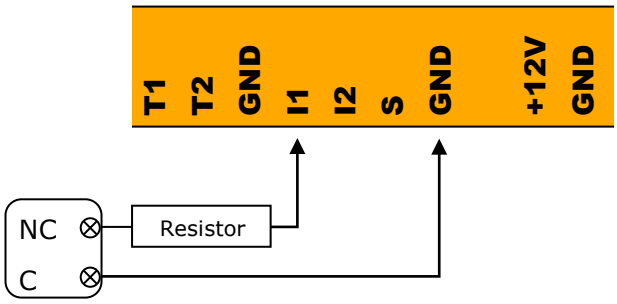
The enclosed temperature sensor is to be connected either to T1 and GND or to T2 and GND. The actual temperature sensor is located at the tip of the wire.

GSM 12A+ can read temperatures from 2 sensors, e.g. one indoors and the other one outdoors. Please contact your local dealer to order a second sensor.

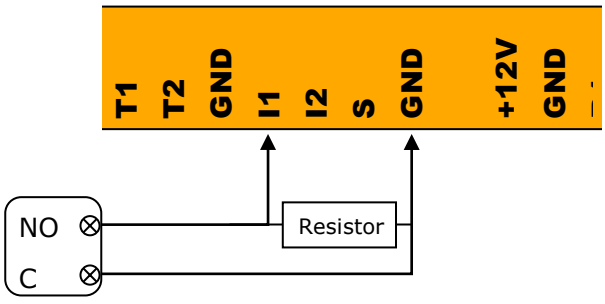


ALARM DETECTORS

GSM 12A+ has 2 alarm inputs (I1 and I2) into which usual detectors with standard output relays may be connected, e.g. smoke, flooding, gas, burglary, or more specialized ones like fault indicators. These inputs require a detection loop with a resistor mounted as shown below. The resistor must be in the range of 10kOhm to 27kOhm. The alarm input is activated whenever the detection loop is either short circuited or opened, depending on whether it is mounted as "normally open" (NO), respectively "normally closed" (NC). For further details, please also refer to the installation instructions enclosed with the detectors.



Normally closed (NC) detector loop:
Resistor mounted in series with the detector.



Normally open (NO) detector loop:
Resistor mounted in parallel to the detector.

RELAYS

GSM 12A+ has 2 potential-free, normally open relays, which can be controlled by SMS or with the 2 push buttons on the unit. Relay contact pairs are marked R1 and R2.

DATA INPUT

GSM 12A+ has 2 data terminals labelled TXU and RXI. These are only to be used for connecting dedicated external Sikom equipment. Please see page 16 or visit www.EcoStarter.com for more information.

POWER SUPPLY

GSM 12A+ requires a regulated 12VDC (1A output) power supply. Connect to terminals +12V and GND.

POWER-UP

Once all connections are done and the SIM card (with deactivated PIN code) is inserted, GSM 12A+ can be powered up.

Turn on the power supply and pay attention to the signal LED on the unit.

- During start-up the Signal LED will become red.
- If the SIM card is missing, or there is another issue with it, the LED will start flashing green after a few seconds. If this happens, check that the PIN code has actually been deactivated.
- Faults are signalled by 2 short flashes followed by a pause.
- If the LED flashes red, it means that an error has been found during the self-test routines. Contact your local dealer.

GSM SIGNAL STRENGTH

The Signal LED shows the strength of the GSM signal. This LED flashes approximately every 7 seconds.

1) Green means good signal
2) Red means medium to bad signal
3) No light means no signal. The unit cannot be remote controlled.

In cases (2) and (3) try to relocate the antenna to improve the reception. An alternative is to purchase an external antenna with improved sensitivity. Any GSM antenna with MMCX connector can be used as long as it covers the GSM frequencies in use at the operating site.

REMOTE CONTROL BY SMS

GSM 12A+ is remote controlled by SMS messages sent to it from any ordinary GSM phone. The commands must follow the scheme described in this chapter.

The unit has a range of control commands. Each command consists of a letter, followed by one or more parameters. The most frequent parameters are digits 1 and 0, which respectively stand for *on* and *off*. Examples are surrounded by quotes, which are NOT to be reproduced in actual messages. Commands may be equally written in uppercase or lowercase letters.
Please note that several commands can be combined in the same SMS message.

PLEASE NOTE!
GSM 12A+ requires a personal code. All SMS messages sent to the unit must begin with this code. This is a security feature to prevent anyone else from controlling the unit. The factory setting is 1234. Change the personal code as soon as possible.

General procedure for sending commands by SMS:

- Enter the SMS messaging application of your GSM phone.
- Start the SMS with the 4-digit personal code followed by the command(s).
- Send the message to the phone number (as determined by the SIM card) of your GSM 12A+.

OVERVIEW OF COMMANDS (*)

A	Alarm on/off.
B	Activate/deactivate detector inputs I1/I2.
D	Define alarm message.
E	Alarm repetition period for detectors.
F	Alarm repetition period for temperature surveillance.
L	Limits for temperature surveillance.
J	Activate/deactivate temperature surveillance.
N	New GSM number to which SMS warnings and alarms are to be addressed.
O	Start/stop sending alarm messages to a given GSM number.
V	Limits for voltage surveillance.
G	Activate/deactivate voltage surveillance.
R	Relay control (switch relay on/off).
P	Output a pulse on a relay.
K	Activate/deactivate thermostatic regulation on relay 1.
M	Target temperatures for thermostatic regulation.
T	Timer control.
S	Request a status message.
C	Change personal code (default is 1234).
!	Commentary follows.
Y	Change header text of status message obtained with command S1.

Note:
Space characters may be inserted between commands, but NOT in the middle of a command.
"1234 R1 S1" is OK, whereas "1234 R 1 S 1" will not be understood by GSM 12A+.

(*) Available on request: description of commands for modifying hysteresis of thermostatic regulation (from 1°C to 4°C) and for calibrating voltage measurement.

ALARMS AND SURVEILLANCE

"A" – ALARM

Switch alarms ON/OFF.
Parameter: 0 = OFF, 1 = ON

Example: **"1234 A0"** Turns alarms OFF
"1234 A1" Turns alarms ON

Note: Surveillance begins 1 minute after the activation command has been received.
Note: Relevant detector inputs must be activated with command B.

"B" – DETECTOR INPUTS ON/OFF

Command B is followed by the input number, and then 1 for ON or 0 for OFF
Parameter 1: Detector input number (1 or 2)
Parameter 2: 0 = OFF, 1 = ON

Example: **"1234 B10"** Deactivates detector input I1
"1234 B11" Activates detector input I1
"1234 B20" Deactivates detector input I2
"1234 B21" Activates detector input I2

Note: You only need to activate an input once; it will remain active until you deactivate it explicitly.

"D" – DEFINE ALARM MESSAGE

An alarm SMS message is sent off when the state of a detection circuit changes. The message is "Alarm x: " followed by a custom text.
Parameter 1: Detector input number (1 or 2).
Parameter 2: Alarm text (no more than 20 characters; it must end with a '#').

Example: **"1234 D1Fire in Garage#"**
"1234 D2Water leakage#"

"E" – ALARM REPETITION PERIOD FOR DETECTORS

When a detector triggers an alarm, GSM 12A+ will emit an SMS message. If, after a configurable duration, the same detector continues to signal an alarm condition, an SMS message will be sent again. This duration is factory set to 60 minutes, but can be changed to a value from 01 to 99 minutes.

Parameter: Number of minutes (always two digits).

Example: **"1234 E06"** Alarms will repeat after 6 minutes
"1234 E25" Alarms will repeat after 25 minutes

If necessary, use command "A0" to acknowledge receipt of a detector alarm and to deactivate the sending of further alarms. Re-enable alarms with command "A1".

"F" – ALARM REPETITION PERIOD FOR TEMPERATURE SURVEILLANCE

When a temperature alarm is triggered, GSM 12A+ will emit an SMS message. If the temperature continues to lie outside the specified limits, an SMS message will be sent again after a configurable duration. This duration is factory set to 00 minutes, but can be changed to a value from 01 to 99 minutes. A value of 00 minutes will prevent any repetition after the initial message; temperature surveillance must then be reactivated with command "J11" or "J21".

Parameter: Number of minutes (always two digits).

Example: **"1234 F09"** Temperature alarms will repeat after 9 minutes

If necessary, use command "J10" or "J20" to acknowledge receipt of a temperature alarm from sensor number 1, resp. 2, and to deactivate the sending of further alarms. Re-enable with command "J11", resp. "J21".

"L" – LIMITS FOR TEMPERATURE SURVEILLANCE

GSM 12A+ can be ordered to monitor the temperature on its two sensor inputs and to send an SMS message if any of the specified limits are exceeded. Limits can be set between -29 to +49 degrees Celsius. Temperatures are always written with a '+' or '-' followed by a 2-digits value: "-03" for -3°C, "+06" for 6°C, etc.

Parameter 1: sensor number (1 or 2).
Parameter 2: lower temperature limit ('+' or '-' followed by a 2-digits value).
Parameter 3: upper temperature limit ('+' or '-' followed by a 2-digits value).

Example: **"1234 L1-09+20"** Surveillance on input T1 is set to -9°C (lower limit) and +20°C (upper limit).

Note: Command "J" is needed to activate/deactivate temperature surveillance within the given limits. Phone numbers that shall receive alarms by SMS must be specified using command "N".

Note: If temperature alarms are only wanted for either a lower or an upper limit, just set the other limit to be so high/low that it will never be reached.

"J" – ACTIVATE TEMPERATURE SURVEILLANCE

Command "J" will activate or deactivate temperature surveillance within the limits specified using "L".
Parameter 1: sensor number (1 or 2).
Parameter 2: either 1 for *activation* or 0 for *deactivation*.

Example: **"1234 J10"** Deactivates temperature surveillance on input T1.
"1234 J21" Activates temperature surveillance on input T2.

Note: Commands "L" and "J" are often combined as follows:

Example: **"1234 L1-10+20 J11"** Temperature surveillance on T1 is turned ON, with levels set to -10°C and +20°C.

Any resulting alarm message will be sent to the GSM number(s) specified with command "N".

"N" – STORE GSM NUMBERS FOR ALARM MESSAGES

Command "N" stores recipients of warnings and alarms issued by GSM 12A+. Up to 9 GSM phone numbers can be stored in an internal list of recipients.

Parameter 1: Position (from 1 to 9) to be assigned to the GSM number in the internal list.
Parameter 2: The new GSM phone number, terminated by character '#'.

Note: If a country code is required, use + in front of the GSM number.

Example: **"1234 N1+47123456789#"** Means: +47 for Norway, phone number 123456789. This number is stored at position 1.

"1234 N3123456789#" Phone number 123456789 is stored at position 3.

Note: In contrast to status messages (which are sent back to the phone which issued the status request), SMS alarm messages are sent to the numbers stored with command "N". Also see command "O" for activating and deactivating these numbers.

"O" – START/STOP SENDING ALARMS TO A GIVEN PHONE NUMBER

Phone numbers stored with command "N" can be activated and deactivated via command "O". A deactivated number will not receive any alarm message.

Parameter 1: Position (2 to 9) of the relevant phone number in the internal list.
Parameter 2: Either *1* for *ACTIVATE* or *0* for *DEACTIVATE*.

Example: **"1234 O20"** Deactivates alarm recipient number 2.
"1234 O31" Activates alarm recipient number 3.

Warning: The number stored at position 1 can never be deactivated.

Note: Usual status messages are not affected by this command, since they are only sent to the phone number that issued the status request.

"V" – LIMITS FOR VOLTAGE SURVEILLANCE

GSM 12A+ is able to monitor its +12V power supply input and to send alarms when a given upper or lower limit is exceeded. Voltages are in the range from 7.5 to 15.0 VDC.

Parameter 1: Lower voltage limit (always a 3-digit value).
Parameter 2: Upper voltage limit (always a 3-digit value).

Example: "1234 V095138" Sets the lower limit 9.5V and the upper limit to 13.8V

Note: Always use 3 digits when specifying a voltage level: e.g. "138" for 13.8V, "095" for 9.5V or "080" for 8V.

Note: this command will only set surveillance limits; use command "G" to activate the surveillance.

"G" – ACTIVATE/DEACTIVATE VOLTAGE SURVEILLANCE

This command activates or deactivates voltage surveillance within the limits specified with command "V". If any voltage limit is exceeded, GSM 12A+ will send an alarm by SMS message.

Parameter: Either *1* for *ON* or *0* for *OFF*.

Example:	**"1234 G0"**	Voltage surveillance is turned OFF.
	"1234 G1"	Voltage surveillance is turned ON.
	"1234 V095138 G1"	Voltage limits are set to 9.5V (lower limit) and 13.8V (upper limit), and then voltage surveillance is turned ON.

CONTROL COMMANDS

"R" – RELAY CONTROL

Use command "R" to activate a relay (i.e. to turn it ON/OFF, when in normal manual control) or toggle between ECONOMY/COMFORT (only on relay 1, when it is in thermostatic regulation mode).

Parameter 1: Relay number (1 or 2)
Parameter 2: Either *0* for *OFF*, *1* for *ON*

Note: Only on relay 1: when thermostatic regulation is effective, parameter "0" will activate economy mode (i.e. the lower target temperature, instead of turning the relay off), and parameter "1" will activate comfort mode (i.e. the upper target temperature, instead of turning the relay on).

Example:	**"1234 R11"**	Turns relay 1 ON (or sets comfort mode)
	"1234 R20"	Turns relay 2 OFF
	"1234 R21 S1"	Turns relay 2 ON and then requests status information.

"P" – PULSE ACTIVATION

Command "P" activates a relay for a short time (1 to 9 seconds) and then deactivates it.

Parameter 1: Relay number (1 or 2)
Parameter 2: Pulse length in seconds (1 to 9)

Example:	**"1234 P11"**	Activates relay 1 for 1 second
	"1234 P18"	Activates relay 1 for 8 seconds

"K" – ACTIVATE/DEACTIVATE THERMOSTATIC REGULATION

This command activates or deactivates thermostatic regulation on relay output 1. Target temperatures ("comfort" and "economy") must be set with command "M".
Conditions: a temperature sensor is connected on T1/GND, and relay 1 is used to drive the activity of a heater. Typically, GSM 12A+ is connected to a heater via relay 1 so as to supersede its built-in thermostat (NB: max. load is 5 Ampere @ 50 Volt, use an auxiliary relay if necessary).

Parameter : Either *0* for *DEACTIVATE*, *1* for *ACTIVATE*

Example:	**"1234 K1"**	Activate thermostatic regulation.
	"1234 K0"	Deactivate thermostatic regulation.

"M" – TARGET TEMPERATURES FOR THERMOSTATIC REGULATION

A lower "economy" and an upper "comfort" target temperature are set with this command. When in thermostatic regulation mode, relay output 1 is used to drive a heater so as to reach the desired ambient temperature. Use command "R" to switch between "economy" and "comfort" target temperatures.

Parameter 1: "economy" temperature in °C (a "+" or "-" sign followed by 2 digits).
Parameter 2: "comfort" temperature in °C (a "+" or "-" sign followed by 2 digits).

Example:	**"1234 M+05+20"**	Sets "economy" to +5°C and "comfort" to +20°C.
	"1234 M+10+25 K1 R11"	Sets "economy" to +10°C and "comfort" to +25°C, then activates thermostatic regulation and requests the "comfort" mode.

"T" – TIMER

Relay outputs can be activated for a number of hours (1 to 99 hours).

Parameter 1: Relay number (1 or 2).
Parameter 2: Number of hours (always two digits, add a 0 when needed).

Example:	**"1234 T102"**	Activates relay 1 for 2 hours

OTHER COMMANDS

"S" - STATUS

This command requests a status message from GSM 12A+. The unit will send the status by SMS back to the requesting GSM phone (but not to the alarm recipients stored with command "N"). There are 3 kinds of status messages, obtained respectively with commands "S1", "S2" and "S3".

Sample status returned by command "S1":

SIKOM Alarm: OFF Input 1: OFF 2: OFF Rel 1: ON 2:OFF
Temp1:x Temp2:+20
*Volt:12.2V N1(*12345678*) N2(*12345678*)*

Explanations:

SIKOM	Some device identification text (use command "Y" to change this text).
Alarm: OFF	Alarm is not activated.
Input 1 : OFF 2: OFF	Detector inputs I1 and I2 are OFF.
Rel 1:ON 2: OFF	Relay 1 is ON, relay 2 is OFF.
Temp1: x	No temperature sensor connected on T1.
Temp2: +20	Temperature measured on T2 is 20°C.
Volt: 12.2V	Power supply voltage is 12.2V.
N1(12345678)	GSM phone number (alarm recipient) at position 1.
N2(12345678)	GSM phone number (alarm recipient) at position 2.

Sample status returned by command "S2":

T1:+20 Lim: OFF Lo:-10 Hi:+20
T2: x Lim: OFF Lo:-04 Hi:+15
I1 ready. I2 ready.
Volt: 12.2V Lim: OFF Lo:7.0 Hi:15.0
Term: OFF Lo:+10 Hi:+20

Explanations:

T1:+20	Temperature on sensor T1 is 20°C.
Lim: OFF	Temperature surveillance on T1 is OFF.
Lo:-10	Lower limit for temperature surveillance on T1 is -10°C.
Hi:+20	Upper limit for temperature surveillance on T1 is +20°C.
T2: x	No temperature sensor connected on T2.
Lim: OFF	Temperature surveillance on T2 is OFF.
Lo:-04	Lower limit for temperature surveillance on T2 is -4°C.
Hi:+15	Upper limit for temperature surveillance on T2 is +15°C.
I1 ready.	Detection circuit on input I1 is OK. Otherwise the text would be "trigged".
I2 ready.	Detection circuit on input I2 is OK. Otherwise the text would be "trigged".
Volt: 12.2V	Power supply voltage is 12.2V.
Lim: OFF	Voltage surveillance is OFF.
Lo: 7.0	Lower limit for voltage surveillance.
Hi: 15.0	Upper limit for voltage surveillance.
Term: OFF	Thermostatic regulation is OFF.
Lo: +10	Economy temperature: +10°C.
Hi: +20	Comfort temperature: +20°C.

Sample status returned by command "S3":

Command "S3" results in two status messages listing all GSM phone numbers stored as recipients of alarm messages, and if they are active or not.

Num:	
N1(123456789) Active	Phone number at position 1, this number is active.
N2(123456789)	Phone number at position 2.
N3(123456789)	Phone number at position 3.
N4(123456789)	Phone number at position 4.
Temptim: 0 min	Temperature surveillance: time between each alarm message. (*)
Alarmtim: 60 min	Detector inputs I1 and I2: time between each alarm message. (*)

(*) If the time (repetition interval) is set to 0, any subsequent alarm message will be sent off just once, and then the related surveillance will be deactivated. This means that no further alarm messages will be issued before the alarm or surveillance is activated again.

"C" – CHANGE PERSONAL CODE

The default code is "1234". We recommend that you change this code.
Parameter : The new 4-digit code

Example: **"1234 C5555"** This changes the personal code to 5555. The old code was 1234.

WARNING: Do not lose or forget the new code!

"!" – COMMENTS

This command introduces an optional free-text commentary or explanation of yours. Any text following this command will be ignored by GSM 12A+.
Parameter : The descriptive text

Example: **"1234 R11 ! Switch on living-room heater"**

"Y" – INFORMATION TEXT

The header text returned by status command "S1" can be changed with this command to better help you identify the unit or appliance(s) controlled by the unit.
Parameter : The header text (maximum 29 characters; must end with character '#').

Example: **"1234 YMy product.#"**

SPECIAL FEATURES FOR USE WITH WALLAS® STOVES

CONNECTIONS:

TXU	Data to Wallas	10 pin connector
RXI	Data from Wallas	10 pin connector
GND	GND Wallas	10 pin connector
T1	Temp 1 signal input	10 pin connector
T2	Temp 2 signal input	10 pin connector
GND	GND common	10 pin connector
I1	Input 1	10 pin connector
I2	Input 2	10 pin connector
S	Signal	10 pin connector
GND	GND	10 pin connector
+12V	Power 7-15VDC	6 pin connector
GND	GND	6 pin connector
R1	Relay 1	6 pin connector
R1	Relay 1	6 pin connector
R2	Relay 2	6 pin connector
R2	Relay 2	6 pin connector

GSM 12A+ gets its power from the central panel of the Wallas® heater.

DEDICATED SMS COMMANDS:

"S4"	Request status message.
"W0"	Stop the Wallas heater (off).
"W1"	Start the Wallas heater (on).
"W2xx"	Set the 2-digits target temperature of the Wallas heater.

Please Note: Command "W2" must be sent after "W0" or "W1".

Command "W2xx" can set temperatures in the range from +5 to +35 degrees Celsius. Please note that you shall not use the "+" sign when specifying temperatures for a Wallas heater.

Example: "1234 W218" sets Wallas target temperature to 18°C.

The information requested with command "S4" needs at least 15 seconds to be collected. Therefore it is recommended that any W0/W1/W2 command be sent separately, with an interval of at least 15 seconds.

FAQ

No signal light:

- Is the power supply connected correctly (polarity) ?
- Is the battery discharged?
- Is there any GSM signal?
- Is the antenna connected?

The Signal LED emits quick green flashes:

- Is the SIM card installed?
- Is the PIN code deactivated?
- Is the SIM card valid?

No contact by SMS:

- Is the GSM coverage good enough?
- Does the battery/power supply provide enough current?
- Is the antenna mounted correctly?
- Do you use the right personal access code?

GSM 12A+ does not send status messages:

- Is it equipped with a pre-pay SIM card? If so, is there any credit left on it?
- Has the card been blocked by the network operator?
- Check the syntax of your SMS command.
- Do you use the right personal access code?

REVERTING TO THE FACTORY-SET PERSONAL CODE

If you forget your personal code, the factory-set code can be reinstalled.
Do the following:

- Disconnect the power supply.
- Press and hold relay button 1.
- Power up the unit and keep the button depressed for at least 10 seconds.
- Release the button.
- The personal code is now 1234.

WARRANTY AND COMPLAINTS

Sikom A.S. provides this publication as is, without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability or fitness for any particular purpose. Further, Sikom reserves the right to revise this publication and to make changes from time to time to the content hereof, without obligation to Sikom and its local representatives to notify any person of such revision or changes. Some jurisdictions do not allow disclaimers of expressed or implied warranties in certain transactions; therefore, this statement may not apply to you.

LIMITED WARRANTY

Each Sikom A.S. product is covered by a two years warranty against any faults due to manufacturing errors, provided that the product was bought from an authorized Sikom dealer. The warranty is only valid in the country where the product was originally purchased. For information about warranty service, please contact your dealer or distributor. The warranty requires the customer to present a copy of the sales receipt for the original purchase, with place and date of purchase, as well as type of equipment clearly readable. Please attach a copy of this receipt when requesting a warranty repair.

WHAT IS COVERED BY THE WARRANTY?

The warranty protects the owner of the product against any faults due to material flaws or manufacturing errors, with the following exceptions:

1. Damage due to misfortune, unreasonable use or carelessness (including lack of reasonable and necessary cleaning).
2. External factors, such as lightning, power supply issues, mobile network issues, flood damage or fire.
3. Damages that occurred in transit (complaints are to be presented to the carrier).
4. Damage or deterioration in the surface due to failure to follow the instructions in the manual.
5. Any unauthorized repair, modification or disassembly.
6. Units with modified, removed or unreadable serial number.

This warranty only covers actual faults in the product itself, which limit or render useless certain functions described for the product, and **does not cover costs related to installing, dismantling and reinstalling the product, normal setup and adjustments**, demands based on inadequate expectations (possibly due to the seller), or faltering performance due to installation-related conditions such as sources of radio interferences or power supply issues.
NB: Any repair has to be carried out by Sikom A.S. Unauthorized repair will invalidate the warranty and be at the owner's entire risk.

HOW TO OBTAIN WARRANTY SERVICE

Should your Sikom product ever require service, you may return it to your dealer. Remember to use Sikom's return form, which you will find at the end of this manual. Please fill it out, and attach a copy of the original receipt if you require warranty repair.

WHO PAYS FOR SERVICE

Sikom A.S. will cover all expenses in manpower and materials for repairs covered by this warranty. If a necessary repair is not covered by the warranty, or if Sikom does not consider a requested service as a warranty repair, the owner will have to pay for the repair work or examination. The owner shall pay for any transport costs to the dealer or directly to Sikom A.S., and Sikom will pay for an economical return if the repair is covered by the warranty.

TECHNICAL SPECIFICATIONS

Manufacturer:	Sikom AS, Norway
Model:	GSM 12A+
Hardware revision:	300-8011V16
GSM module:	Quadband GSM/GPRS-modem (850 , 900, 1800, 1900 MHz) Output power: - Class 4 (2W) at 850 / 900MHz - Class 1 (1W) at 1800 / 1900MHz SIM-card holder: push/push type.
Housing protection rating:	IP20.
Antenna:	GSM with MMCX connector.
Power Supply:	7.5 – 15.0 V DC (1A).
Current consumption:	Average: 20 mA at 12 V DC. With both relays active: 32 mA at 12 V DC. Maximum: 68 mA at 12 V DC.
Relays:	2 potential-free relays, normally open (NO). Max. switching load: 5 A / 50 V (each).
Dimensions:	21 mm x 106 mm x 70 mm (D x L x H)
Weight:	105 g
Operating temperature:	– 20 to +40 °C
Storage temperature:	– 30 to +50 °C
Humidity:	< 93 % RH

GSM 12A+ is designed for indoor use only.

This equipment complies with the European R&TTE directive. Further information may be obtained by contacting either www.EcoStarter.com, or your local dealer or the manufacturer:

Sikom AS
Neptunveien 6
7650 Verdal
Norway

Internet address: www.sikom.no

IMPORTANT INFORMATION REGARDING FROST PROTECTION

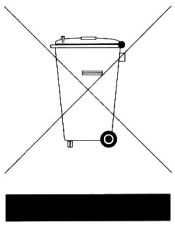
The thermostatic regulation function offered by Sikom devices may be used to maintain a base "eco" temperature in your premises, but **must not be taken as an infallible frost protection**.
Indeed, any electronic equipment is vulnerable to power surges and other perturbations that may come from the electricity network, e.g. due to lightning. In such an event, if the electronics is damaged, it may no longer ensure the thermostatic regulation, and hence the frost protection.
Therefore, if frost protection is a critical requirement (such as around water pipes), it is recommended to add a security mechanism. These are some alternatives:

1. Use an additional heating system, with its own thermostat, to ensure frost protection in critical premises.
2. Install a protection against power surges and other perturbations from the electricity network.
3. Set up a bimetal thermostat in parallel with your Sikom unit.

Sikom and its representatives will not assume liability for any damage due to frost!

RECYCLING

Waste Electrical and Electronic Equipment (WEEE) Symbol



The WEEE (Waste Electrical and Electronic Equipment) symbol indicates that this product must not be disposed of along with other household waste. It is the customer's responsibility to dispose of the product properly by taking it to a designated site for recycling. To locate a recycling/disposal site near you, contact your local city recycling program, your regular waste disposal service or the agent from whom you purchased this product.

For Switzerland, this product includes in its purchase price a contribution (the advanced recycling fee) to the SWICO Recycling Warranty, which means that used equipment can be handed in free of charge for recycling. Collection sites are listed at http://www.swicorecycling.ch

swico Recycling-Garantie
Garantie de recyclage

RETURN FORM

Company name:		Contact person:	
Address:		ZIP/City	
Invoice/order number:		Client number:	
Phone:		E-mail:	

RETURN NUMBER:

Before returning a product, always ask for a return number. This will be given to you by our support department.

Request for advanced replacement unit (please tick) **Yes** ☐ **No** ☐

A copy of the receipt for the original purchase is included **Yes** ☐ **No** ☐

Warranty service requires the customer to present a copy of the sales receipt for the original purchase, with place and date of purchase, as well as type of equipment clearly readable. Please attach a copy of this receipt when requesting a warranty repair.

Return codes: (to be used in the following grid)

1. Error by seller or order recipient
2. Ordering error by customer
3. Wrong delivery from warehouse
4. Complaint / warranty repair
5. Other problem (please specify)
6. Return of demo equipment
7. Return of advanced replacement products

Art. number	Product name	Quantity	Return code	Reason for return

Remarks:
Reserved for Sikom AS:

Date:_____ Signature:_____

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