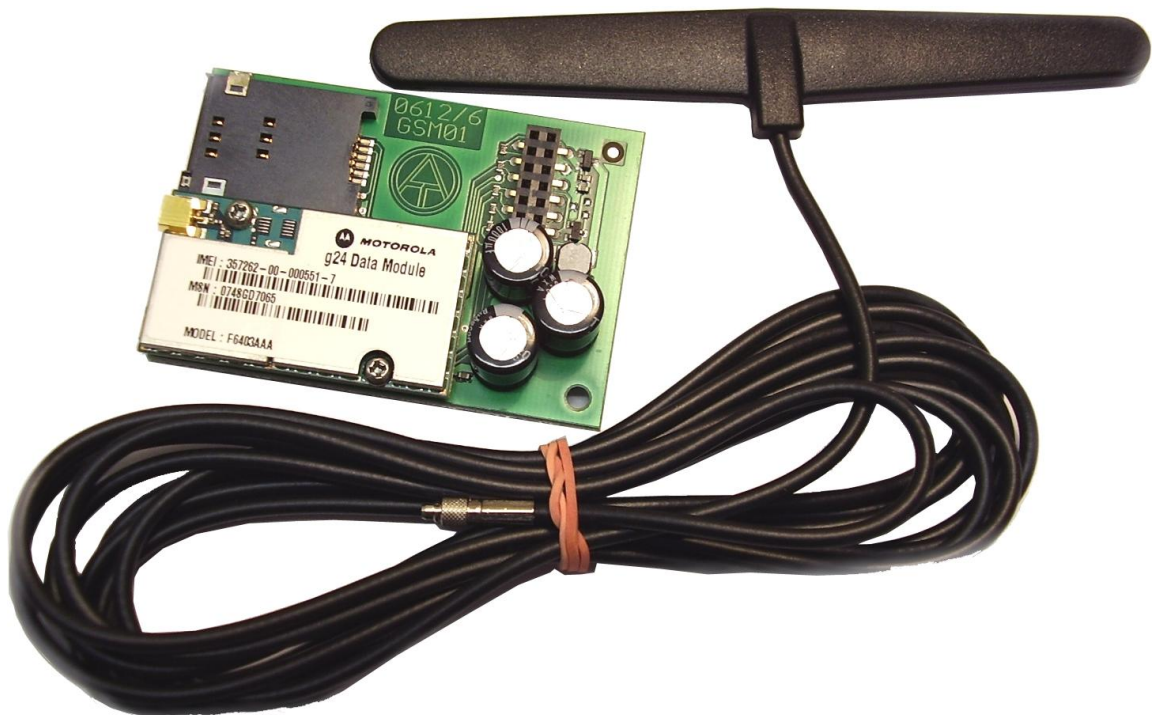


MD-GSM

Version 1.7 EN

GSM – Module



Operation

en



TECHNISCHE
ALTERNATIVE

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**This operating manual applies only to GSM modules of version \geq 1.1.
Older GSM Modules have to be updated in the factory.**

The BL-NET Bootloader used must have an operating system \geq 2.00.

GSM menu

Before the individual functions are defined, the GSM module must be parameterised via the "GSM" browser menu.

Before the SIM card is inserted, PIN querying must be deactivated. This can take place using a mobile phone.

Initialisation takes place upon initial setting up of the Bootloader with the GSM module and inserted activated SIM card: the red LED flashes and instead of the network operator being displayed, the following displays are sequentially output "No GSM module available", "Searching for network", "INIT", "DATEN" (Data) and "INIT". As soon as the red LED is continuously illuminated, the network operator is displayed and the initialisation is complete.

GSM settings

GSM signal strength :

bob

GSM firmware: 1.4

Telephone numbers / email:
Telephone numbers must start with country codes e.g. : +43...

1. Contact +43664123456789 ✓

Power supply Data logging
 Node failure

Test contact

2. Contact john.miller@ta.co.at ✓

Power supply Data logging
 Node failure

Test contact

Annotations:

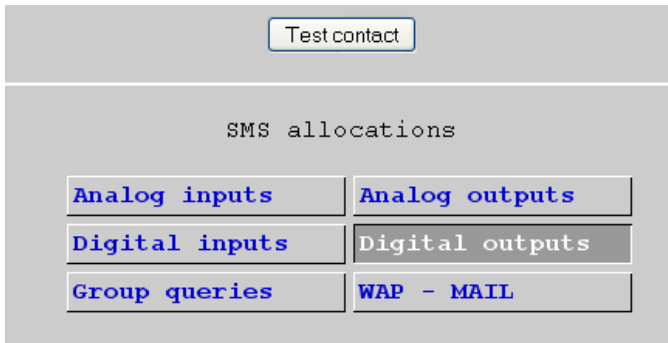
- Signal strength indicator: 1st Red bar - no signal. Green bars indicate the signal quality.
- Initialisation display or network operator.
- Display of the current module firmware.
- Up to 5 contacts can be saved.
- After selection of automatic messages for this contact, press the save button.

- Power supply:** In the event of a power failure, an SMS or email message is sent to this contact. However this requires a functioning 9V battery in the Bootloader.
- Data logging:** Once the memory capacity falls below the % value set in the "Data logging" sub-menu, an SMS or email message is sent to this contact.
- Node failure:** In the event of failure of a CAN network node, an SMS or email message is sent to this contact.

It is recommended that the contact settings are tested by clicking " Test contact ".

However, before an email contact can be tested, the WAP - MAIL settings must be made.

"GSM" menu continued:



Last row contact 5

Settings for the Bootloader network inputs and outputs, the group queries and WAP/MAIL.

Error messages

The following **Error messages** can be displayed in the GSM menu:

ERROR: Simkarte missing or faulty SIM card
ERROR: PIN non-activated or incorrect PIN code
ERROR: SMS Error when sending SMS (text message)
ERROR: MAIL Error sending email
ERROR: DATEN Error making a data connection

Text input

All text (Identifiers, Event texts), which can be sent by SMS (text message) or email, must only contain the characters A-Z or 0-9. I.e. they should not contain any special characters (e.g. ä, ü, ö, á, č, +, :, & etc.). Lowercase/uppercase is unimportant.

One exception is formed by the special text commands for the heating circuit and the on/off commands for the digital network outputs: These commands must **dependent on the BL-NET version language** (languages other than German from GSM module version 1.4) be written exactly as they are listed in the following table (incl. special characters):

German	Standby	Zeit	Normal	Abgesenkt	intern	ein	aus
English	standby	time	normal	lowered	internal	on	off
French	standby	temps	normal	réduit	interne	marche	arrêt
Italian	standby	tempo	normale	abbassato	interno	on	off
Spanish	standby	tiempo	normal	reducido	interno	on	off
Portuguese	standby	tempo	normal	reduzido	interno	ligar	desligar
Czech	pohotovost	cas	normal	snizeny	interni	zap	vyp
Dutch	standby	tijd	normaal	verlaagd	intern	aan	uit
Danish	Standby	Tid	Normal	Sänket	Intern	On	Off

Passwords are case-sensitive.

Analog inputs

This sub-menu is for configuring the analog inputs of the Bootloader BL-NET and the contact settings. The values of these inputs can be queried using the SMS query "*Identifier?*".

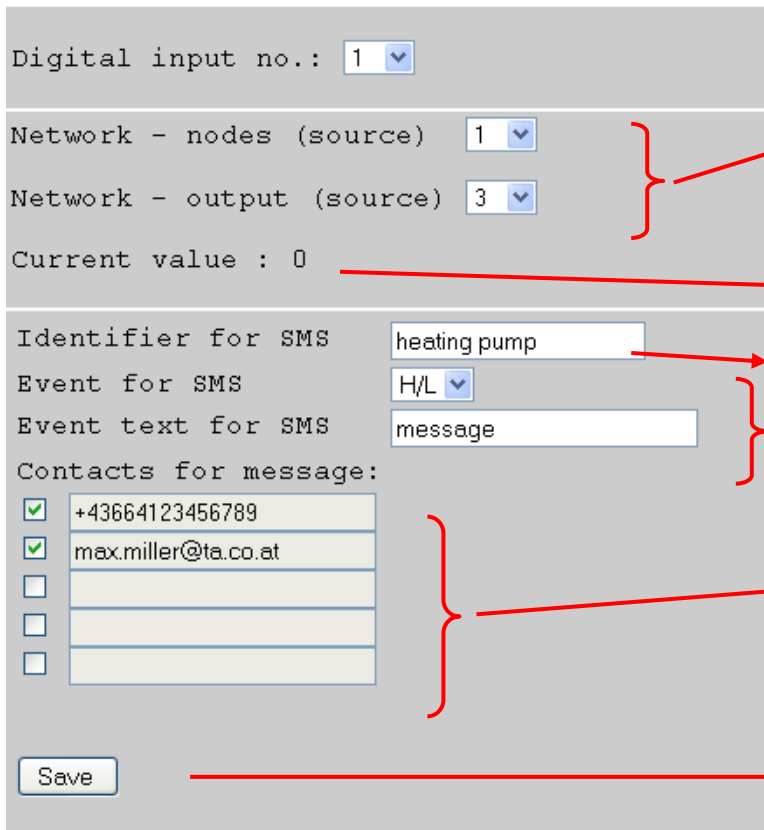
Example: Configuration CAN network input Analog 1:

- Network node and network output of the source
- Current value (if there is no decimal point or unit display, the Bootloader must be briefly disconnected from the CAN bus)
- Identifier for query
- Event threshold 30.0°C (no decimal point)
- Event text
- Display of the set contacts, selection of the event output by ticking.
- Termination of input by clicking "Save"

Example: If the event threshold is a **temperature**, it should be borne in mind that the value is indicated **without a decimal point**, in the example: "300" means 30.0°C. The **current value** can be queried with an SMS text message *tank?*. The response is an SMS message to the number from which the query was sent, with the text *tank = 46.8C!* ("C" means "°C"). Also an **Event** is defined in which should the temperature fall below 30°C, an SMS message or email is automatically sent with the text *malfunction/tank = 29.0C* to the selected contacts.

Digital inputs

This sub-menu is for configuring the digital inputs of the Bootloader BL-NET and the contact settings. The values of these inputs can be queried using the SMS query "**Identifier?**".



The screenshot shows a configuration form for a digital input. The form includes the following fields and controls:

- Digital input no.:** A dropdown menu set to '1'.
- Network - nodes (source):** A dropdown menu set to '1'.
- Network - output (source):** A dropdown menu set to '3'.
- Current value :** A text field displaying '0'.
- Identifier for SMS:** A text input field containing 'heating pump'.
- Event for SMS:** A dropdown menu set to 'H/L'.
- Event text for SMS:** A text input field containing 'message'.
- Contacts for message:** A list of contacts with checkboxes. The first two are checked: '+43664123456789' and 'max.miller@ta.co.at'.
- Save:** A button at the bottom left.

Annotations with red arrows and brackets point to specific elements:

- A bracket groups the 'Network - nodes (source)' and 'Network - output (source)' dropdowns, pointing to the text: "Network node and network output of the source".
- An arrow points from the 'Current value : 0' field to the text: "Actual value: 0 (OFF)".
- A bracket groups the 'Identifier for SMS', 'Event for SMS', and 'Event text for SMS' fields, pointing to the text: "Identifier for query" and "Event and event text".
- A bracket groups the 'Contacts for message' list, pointing to the text: "Display of the set contacts, selection of the event output by ticking.".
- An arrow points from the 'Save' button to the text: "Termination of input by clicking 'Save'".

Example: Configuration CAN network input Digital 1:

Example: The **current value** can be queried with an SMS text message **heating pump?**. The response is an SMS message to the number from which the query was sent, with the text **heating pump = off!** .

Moreover an **Event** is defined, where the switching off of the pump automatically sends an SMS message or email with the text **message/heating pump=off** to the selected contacts. The event "**H/L**" means a change in state from "ON" (=High or "1") to "OFF" (=Low or "0"), the event "**L/H**" a change of state from "OFF" to "ON".

If a CAN input is to be changed, the corresponding input number is entered and the desired entry modified and saved.

The CAN inputs can be parameterised from the menu "**CAN bus**" via the sub-menus "**Analog Inputs**" or "**Digital Inputs**".

Group queries

This menu permits the definition of groups, so that not only individual values can be queried, rather entire blocks of values via a group identifier. Up to 8 groups with a maximum of 20 values per group can be defined. The values of these groups can be queried using the SMS query "*Identifier?*".

Group : 1

Identifier for SMS system

Analog inputs	Digital inputs
<input checked="" type="checkbox"/> tank	<input checked="" type="checkbox"/> heating pump
<input checked="" type="checkbox"/> collector	<input checked="" type="checkbox"/> load pump
<input checked="" type="checkbox"/> flow1	<input checked="" type="checkbox"/> solar pump
<input checked="" type="checkbox"/> flow2	<input checked="" type="checkbox"/> WW requirement
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Maximum 20 values possible !

Save

Example: Group 1

Group identifier for SMS

Display of all defined analog and digital network inputs of the Bootloader. Selection of the values to be output by ticking

Termination of input by clicking "Save"

Example: The **current group values** can be queried with an SMS text message *system?*. The response is an SMS message to the number from which the query was sent, with the text for all values in the group. If the entire text comprises more than 160 characters, a second SMS message is sent.

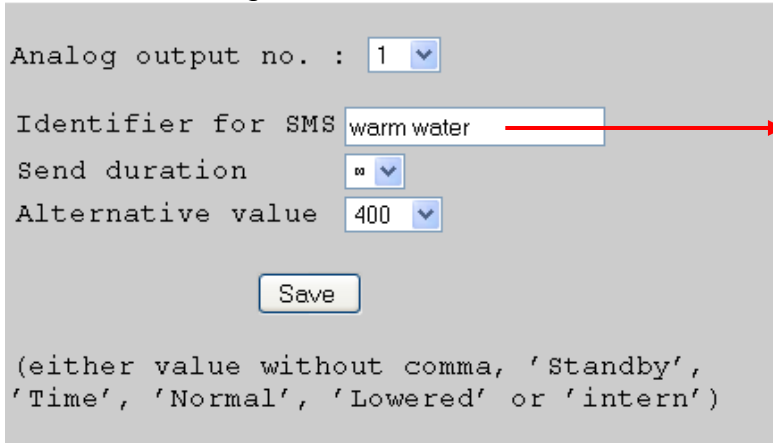
Important instructions:

Different names must be used to identify the analog and digital inputs and the groups.

SMS-queries always end with a **Question mark** after the identifier. The use of uppercase or lowercase letters in identifiers is ignored.

Analog outputs

In the menu "**Analog outputs**", analog CAN network outputs are configured in the Bootloader, whose value can be set by SMS. An **SMS command** is specified with a value without decimal points (e.g.: 250 for 25.0°C) (e.g. SMS: „**Identifier:250!**“). Additionally, the commands **standby**, **time**, **normal**, **lowered** and **internal** can be used to change the operating mode of a heating circuit via SMS.



Analog output no. : 1

Identifier for SMS warm water

Send duration ∞

Alternative value 400

Save

(either value without comma, 'Standby', 'Time', 'Normal', 'Lowered' or 'intern')

Example: Analog output 1

Identifier for SMS command

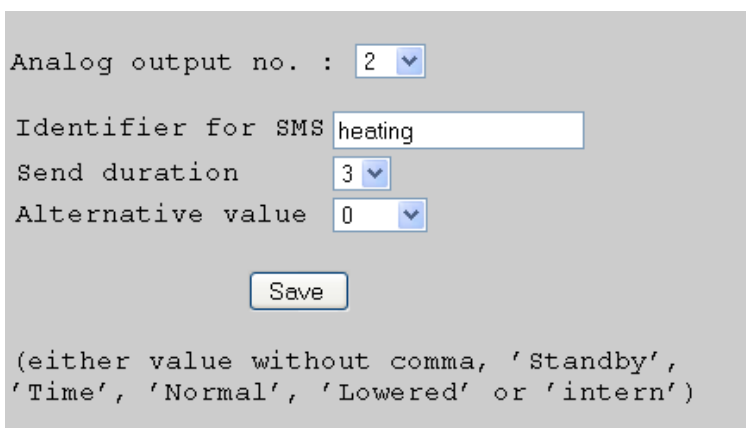
Termination of input by clicking "Save"

Send duration: Number of outputs to the CAN bus
Setting: 1, 3 or ∞ (infinity)

Alternative value: Output of a value upon ending of output of the command values to the CAN bus (value without a decimal point, e.g. 400 = 40.0°C)

Example: An SMS command **warm water:600!** sets the value of the analog network output with the identifier, Hot water, to the value 600 (=60.0°C). Likewise an SMS command **warm water:60.0!** is possible (the value **600** = 60.0°C is forwarded to the CAN-Bus). However, if only **warm water:60!** is sent, then only a value **60** (= 6.0°C) is transferred to the CAN bus. As confirmation, an SMS is received back, with the text **warm water=600** at the number from which the query was sent.

The commands **standby**, **time**, **normal**, **lowered** and **internal** can be used to change the operating mode of a heating circuit via SMS. The Bootloader forwards these commands to the CAN network as **analog** numbers.



Analog output no. : 2

Identifier for SMS heating

Send duration 3

Alternative value 0

Save

(either value without comma, 'Standby', 'Time', 'Normal', 'Lowered' or 'intern')

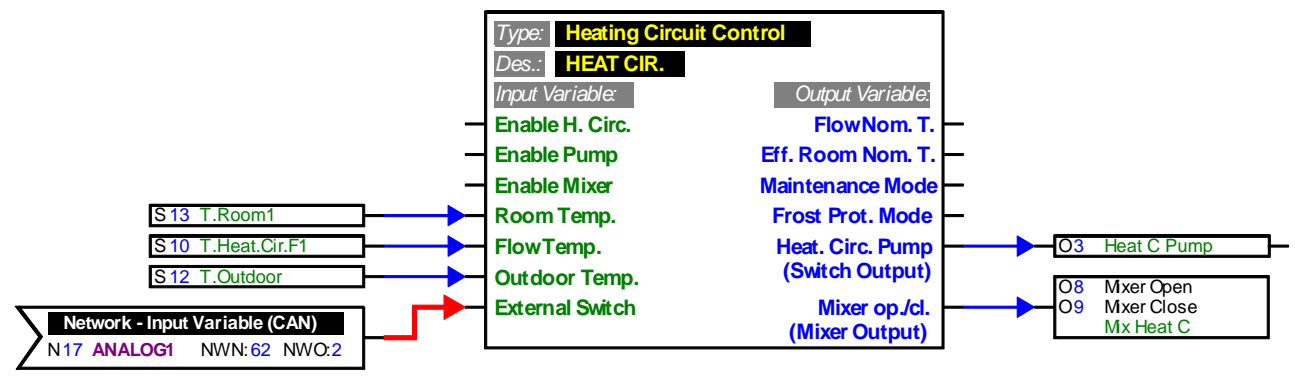
Example: Analog output 2

Identifier for SMS command

Termination of input by clicking "Save"

The commands **standby**, **time**, **normal**, **lowered** and **internal** are forwarded by the Bootloader as **analog** numbers to the CAN network. Accordingly the corresponding parameterised **analog** network input must be connected to the input "External switch" of the heating circuit control function of the UVR1611 (see UVR1611 operating manual, *Function Heating circuit controller/External switch*).

UVR1611 (Example: programming for the SMS (text) heating command: „standby“, „time“, „normal“, „lowered“ and „internal“)



In the above example the network output analog 2 of the Bootloader is allocated the identifier "heating". Via an SMS message **heating:lowered!** the heating circuit changes into lowered mode, while the SMS message **heating:internal!** causes the internal operating state of the control to become active. As confirmation for the command, an SMS is returned with the text **heating=lowered**.

Value output for analog commands with text input on the CAN bus:

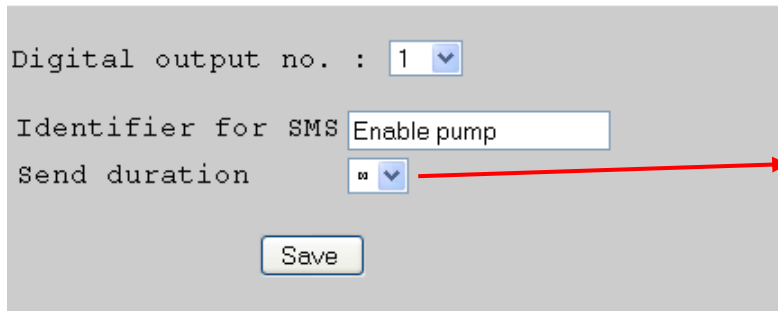
Text input	Value <u>inside</u> sending duration after SMS receipt	Value <u>after</u> sending duration after SMS receipt
standby	64	Alternative value
time	65	Alternative value
normal	66	Alternative value
lowered	67	Alternative value
internal	127	Alternative value

Within the selected setting "Send duration: 3" of the example, the Bootloader sends in a minute cycle, after 3 repetitions of the command value, the "Alternative value" (in the example: 0). This value (0) does not cause any further changes in the heating circuit controller. After the send duration has elapsed, the operating mode can again be manually changed (e.g. on the RAS room sensor, on the CAN monitor, on the controller itself or via a browser).

WARNING! If during the send duration a manual change to the operating mode is made, then the controller does indeed "notice" this change, however it only acts on it, once the SMS (text) command **heating:internal!** (or alternative value 127) is issued. If during this time an operating mode **other** than "RAS" is selected then, once the send duration elapses, this operating mode cannot be changed on the **RAS**, rather only on the controller, on the CAN monitor or via the browser.

Digital outputs

In the menu "**Digital outputs**", digital CAN network outputs are configured in the Bootloader, whose value can be set by SMS. An **SMS command** is specified with the value **on!** or **off!** (e.g. **Identifier:on!**).



Digital output no. : 1

Identifier for SMS: Enable pump

Send duration: ∞

Save

Example: Digital output 1

Identifier for SMS
Number of outputs to the CAN bus in 1 minute intervals
Setting: 1, 3 or ∞ (infinity)
Termination of input by clicking "Save"

An SMS command **Enable pump:on!** sets the value of the digital network output with the identifier "Enable pump" to the value ON. As confirmation, an SMS is received back, with the text **Enable pump=on** at the number from which the query was sent. After the send duration has elapsed (1 or 3) output to the CAN bus is set to zero (=OFF).

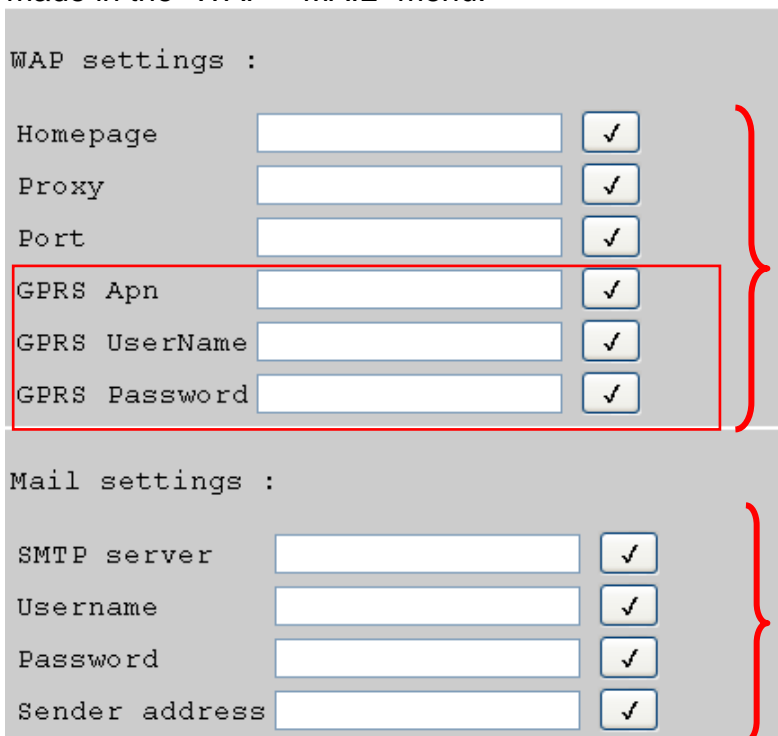
Important instructions:

Different names must be used to identify the analog and digital outputs.

SMS-Commands always end with an **Exclamation mark** after the identifier. The use of uppercase or lowercase letters in identifiers is ignored.

WAP – MAIL

The settings for the sending of email and the firmware updating of the GSM module are made in the "WAP – MAIL" menu.



WAP settings :

Homepage ✓

Proxy ✓

Port ✓

GPRS Apn ✓

GPRS UserName ✓

GPRS Password ✓

Mail settings :

SMTP server ✓

Username ✓

Password ✓

Sender address ✓

These details must be requested from the SIM card provider. The entries for the last 3 values "**GPRS Apn**", "**GPRS UserName**" and "**GPRS Password**" are **mandatory**, the other details need only be entered dependent on the Internet provider.

These details must be taken from your individual email program settings.

The save tick must be clicked each time a value is input.

GSM module password

A password should be set to prevent unauthorised access to the module.

To activate this password protection at least one contact number must be entered in the "GSM" menu. If no contact number is entered, then querying can take place from any number even if a password is set.

If a password is set and at least one entered contact number, it is possible to create queries or commands from another number, if the password is entered and then terminated with a semicolon (;).

Passwords are case sensitive!

Example: Password = ta (= factory setting)
SMS query: *ta;collector?*

Setting and deleting of the password

Setting and deleting of the password can only be carried out from one of the listed contact numbers. It is not sufficient if the password is positioned at the start of the SMS message.

Set password command: *setpw:password!*

Delete password command: *pwclear!*

Resetting the boot loader to factory settings does not delete the password in the GSM module.

Software version

The SMS command *software?* is used to query the version of the GSM module.

In response an SMS message is received specifying the software module (e.g. 1.7.0 = version 1.7) and the IMEI number.

Update

The update command can be used to set the GSM module to a new or older software version. This SMS command can only be sent from one of the registered contact numbers.

Update command: For example: update to version 1.7: *update:7!*

The necessary identifier can be taken from update instructions of our homepage.

Data transfer costs may arise during an update, dependent on the contract you have with your mobile phone provider! (approx. 70 KB)

Power supply

A 12V power unit (CAN-NT) must be used to provide a reliable power supply.

To ensure automatic sending of an SMS or email message in the event of a power failure, (Activation "power supply " in the contact data), the fitting of a 9V battery in the boot loader is necessary.

Special accessories

GSM-VERLÄNGERUNG (GSM EXTENSION): Aerial extension, length 2.5m

Warning: Only one extension per GSM module is possible!

EC- DECLARATION OF CONFORMITY

Document- Nr. / Date: TA12018 / 19.11.2012
Company / Manufacturer: Technische Alternative elektronische SteuerungsgerätegesmbH.
Address: A- 3872 Amaliendorf, Langestraße 124

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product name: MD-GSM
Product brand: Technische Alternative GmbH.
Product description: GSM expansion module

The object of the declaration described above is in conformity with Directives:

2006/95/EG Low voltage standard
2004/108/EG Electromagnetic compatibility
2011/65/EU RoHS Restriction of the use of certain hazardous substances

Employed standards:

EN 60730-1: 2011 Automatic electrical controls for household and similar use –
Part 1: General requirements
EN 61000-6-3: 2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emis-
+A1: 2011 sion standard for residential, commercial and light-industrial environments
EN 61000-6-2: 2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Im-
munity for industrial environments

Position of CE - label: On packaging, manual and type label



Issuer: Technische Alternative elektronische SteuerungsgerätegesmbH.
A- 3872 Amaliendorf, Langestraße 124

This declaration is submitted by



Kurt Fichtenbauer, General manager,
19.11.2012

This declaration certifies the agreement with the named standards, contains however no warranty of characteristics.

The security advices of included product documents are to be considered.

Guarantee conditions

Note: The following guarantee conditions do not in any way limit the legal right to a guarantee, rather expand your rights as a consumer.

1. The company Technische Alternative elektronische Steuerungsgerätegesellschaft m. b. H. provides a two-year guarantee from the date of purchase by the end consumer for all the devices and parts which it sells. Defects must be reported immediately upon detection and within the guarantee period. Technical support knows the correct solution for nearly all problems. In this respect, contacting us immediately will help to avoid unnecessary expense or effort in troubleshooting.
2. The guarantee includes the free of charge repair (but not the cost of on site fault-finding, removal, refitting and shipping) of operational and material defects which impair operation. In the event that a repair is not, for reasons of cost, worthwhile according to the assessment of Technische Alternative, the goods will be replaced.
3. Not included is damage resulting from the effects of overvoltage or abnormal ambient conditions. Likewise, no guarantee liability can be accepted if the device defect is due to: transport damage for which we are not responsible, incorrect installation and assembly, incorrect use, non-observance of operating and installation instructions or incorrect maintenance.
4. The guarantee claim will expire if repairs or actions are carried out by persons who are not authorised to do so or have not been so authorised by us or if our devices are operated with spare, supplementary or accessory parts which are not considered to be original parts.
5. The defective parts must be sent to our factory with an enclosed copy of the proof of purchase and a precise description of the defect. Processing is accelerated if an RMA number is applied for via our home page www.ta.co.at. A prior clarification of the defect with our technical support is necessary.
6. Services provided under guarantee result neither in an extension of the guarantee period nor in a resetting of the guarantee period. The guarantee period for fitted parts ends with the guarantee period of the whole device.
7. Extended or other claims, especially those for compensation for damage other than to the device itself are, insofar as a liability is not legally required, excluded.

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