MDC-GSM

Version 2.03 EN

GSM – module
for C.M.I.

en

Operating manual

TECHNISCHE ALTERNATIVE

Table of Contents

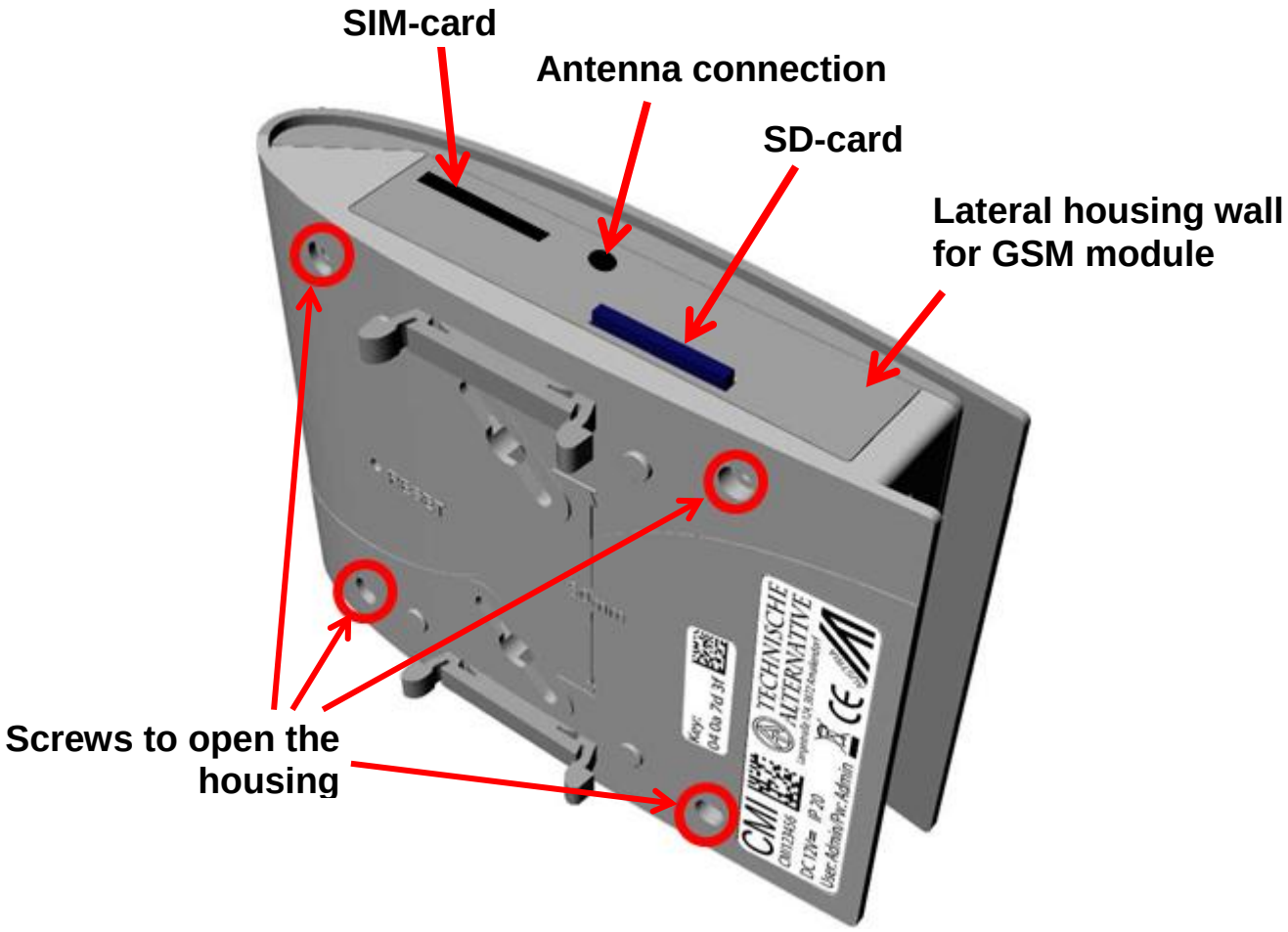
Description

The GSM module is an **expansion module** for the C.M.I. (Control and Monitoring Interface) and enables communication with SMS messages via CAN bus devices (e.g. UVR1611, UVR16x2) and devices with DL Bus.

- SMS messages with occurrence of specific events
- Automatic SMS messages with electricity failure, CAN node failure, CMI restart
- Query of the current status of monitored values via SMS
- SMS commands generate network outputs of the C.M.I. that can be accepted as network inputs in CAN bus devices.

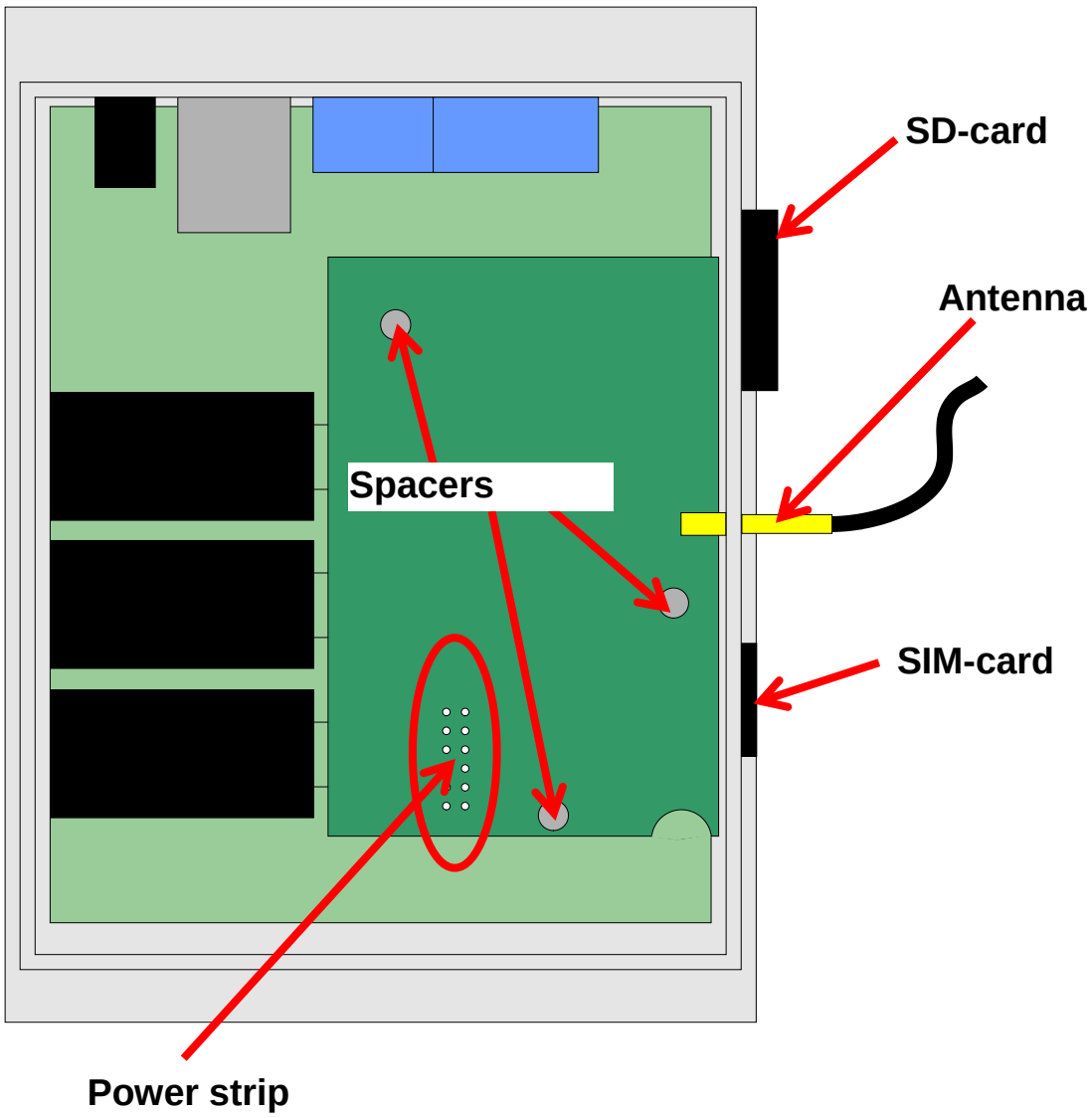
Commissioning

1. Inserting the SIM card in the provided slot. **Before the SIM card is inserted, PIN querying must be deactivated.** This can be done with a mobile phone.
2. Open the C.M.I. by removing the 4 screws on the rear of the C.M.I.



3. Installing the **spacers** and **placing** the GSM module on the C.M.I. board power strip according to the following diagram.

The GSM module must be put on only with de-energised C.M.I. (CAN bus and power pack unplugged).



Caution! If the module is incorrectly put on the **power strip** (e.g. if the pins are left open), C.M.I. and also the GSM module can be **damaged**.

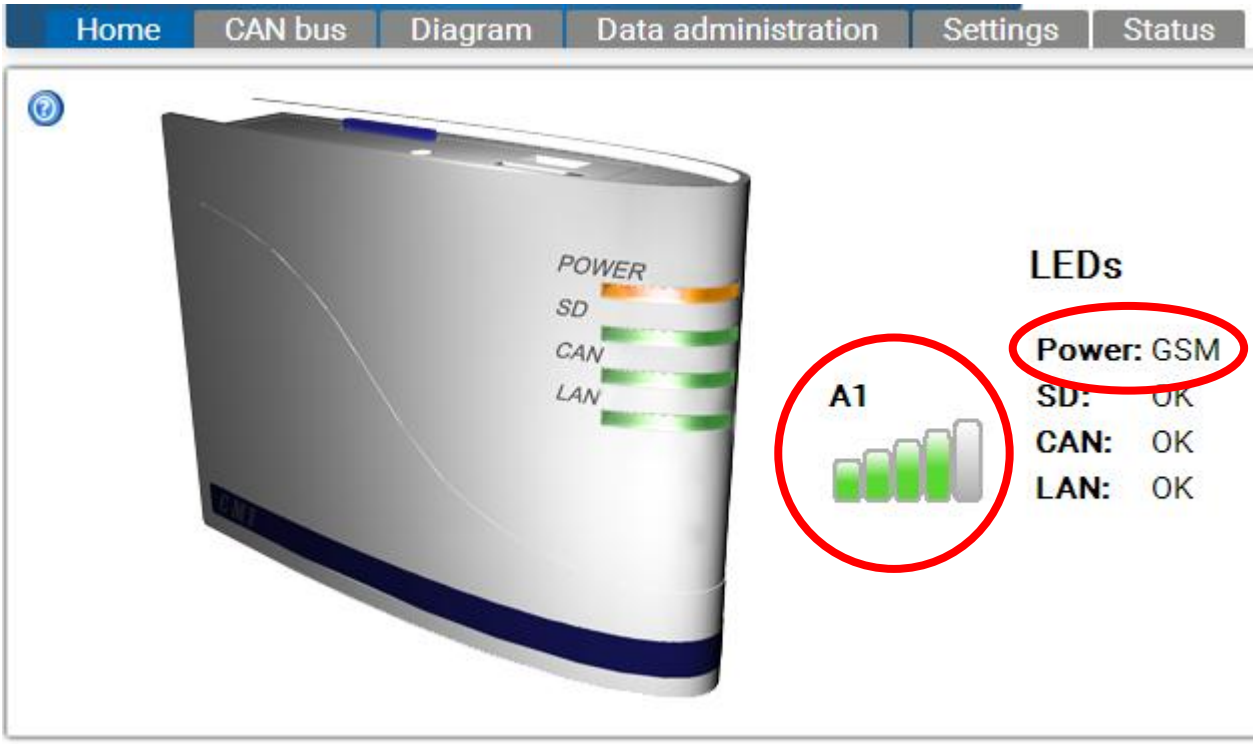
4. Replacement of the lateral **housing wall** with the openings for antenna and SIM card.

5. Connection of the **antenna**. To operate the GSM module, the enclosed antenna must be connected **without** fail.

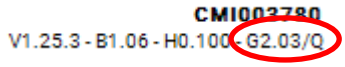
6. **Close** the housing with the 4 screws on the rear of the C.M.I.

7. Connection of the **power pack** and the **CAN bus plug.** This is followed by the **initialisation** of the C.M.I. and of the GSM module. During the initialisation the power LED **flashes orange**. After initialisation is completed, the power LED goes to **permanent light orange**.
With **malfunctions** of the GSM module, the power LED flashes orange.

8. In the menu "**Home**", the **network operator** and the **receiver quality** are displayed.



On the bottom right, next to the C.M.I. version information, the GSM module version is provided:



Power supply

For a safe power supply, a 12V power unit **must** be connected.

Rules for text input

All texts (designations, event texts), that are sent via SMS, must **not contain special characters** (e.g. ä, ü, ö, á, č, etc.). Uppercase or lowercase spelling need **not** be observed.

An exception are the special text commands for the **heating circuit** and the commands **on/off**: These commands must be written, **depending on language,** exactly the way they are listed in the following table (incl. special characters, uppercase and lowercase spelling need **not** be observed.):

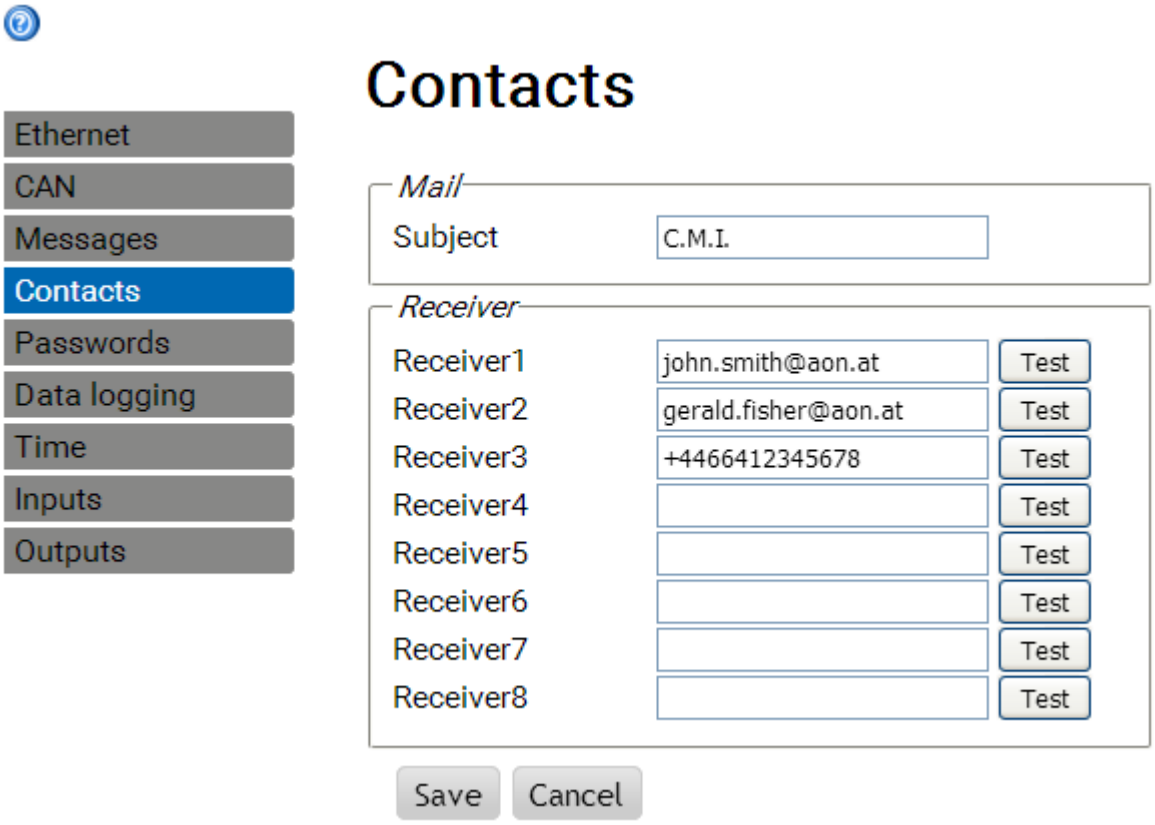
Deutsch	Standby	Zeit	Normal	Abgesenkt	intern	ein	aus
English	standby	time	normal	lowered	internal	on	off
Français	standby	temps	normal	réduit	interne	marche	arrêt
Italiano	standby	tempo	normale	abbassato	interno	on	off
Español	standby	tiempo	normal	reducido	interno	on	off
Português	standby	tempo	normal	reduzido	interno	ligar	desligar
Čeština	pohotovost	cas	normal	snizeny	interni	zap	vyp
Nederlands	standby	tijd	normaal	verlaagd	Internal	aan	uit
Dansk	Standby	Tid	Normal	Sänket	Intern	On	Off

Settings

In the menu "**Settings**" of the C.M.I., the GSM module is configured.

Contacts

E-mail addresses and phone numbers for text messaging are entered in this menu.
Up to 8 contacts can be listed and tested.



The phone numbers must begin with the **international area code** (e.g. +44 ... or 0044…).
If one message condition applies (see "**Queries and messages**"), mails or SMS are sent to these contacts.
SMS queries and commands can be sent to the GSM module from the telephone contacts.

SMS inputs

This menu is used for entering the designations and settings for **SMS commands**.

Up to 16 SMS commands for analogue values and 16 for digital values can be defined.

If an SMS message is transmitted to the GSM module with the **designation** (along with value and call sign), an **SMS input** is generated which can then act as the source for a **CAN output**, for example.

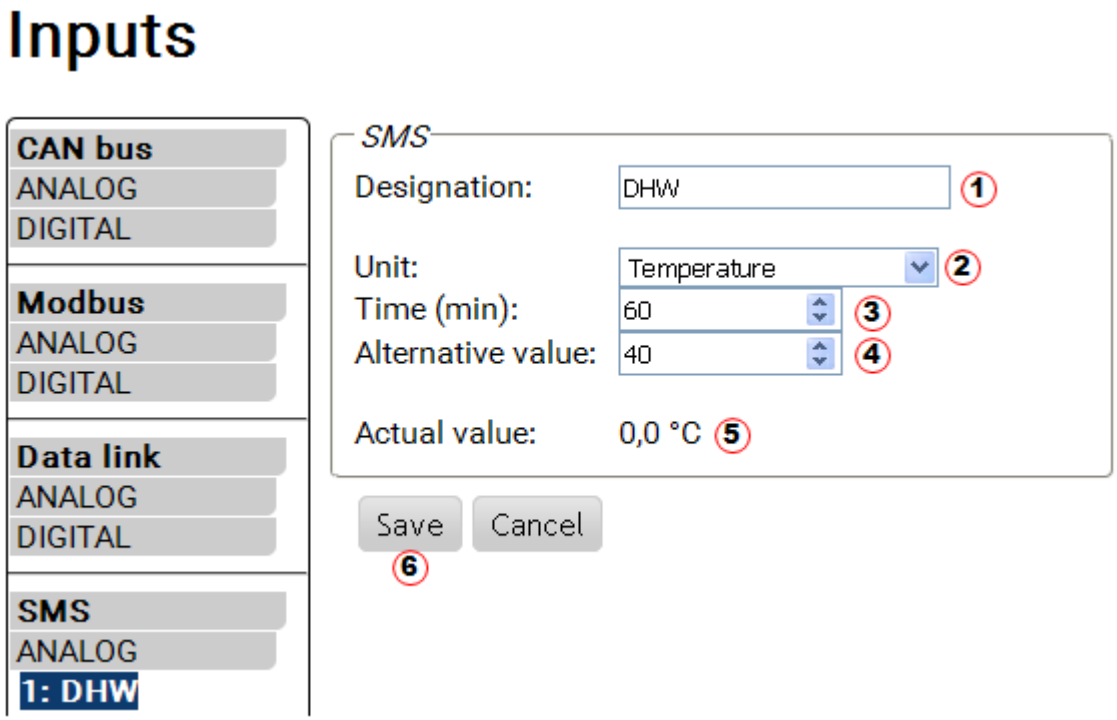
SMS **commands** always end with a **call sign** according to the designation. It does not matter whether the designations are upper or lower case, but special characters must not be used (e.g. ä, ü, ö, á, č, etc.).

Analogue commands

The C.M.I. analogue **SMS inputs**, whose value can be set via SMS command, are configured under **Analogue**. The command must always be completed with a **call sign**.

Example:

SMS with the designation "***DHW***" for analogue input



1. **Input designation** (= SMS designation)
2. Select the **unit**: a wide range of units are available to choose from.
3. **Time**: within the specified time period, the value indicated in the SMS is read as the **actual** value. Following this, the **alternative** value is adopted. With a setting of "0", the SMS value remains unchanged until another value is transmitted via SMS.
4. **Alternative value**: at the end of the set time, the alternative value is adopted as the current value.
5. **Actual value**: this value is currently adopted by the C.M.I., subject to the time setting.
6. After completing the entry: **Save**

Example:
The SMS command ***DHW 60!*** sets the SMS input value **analogue 1** with the designation "DHW" to the value of 60.0 °C.

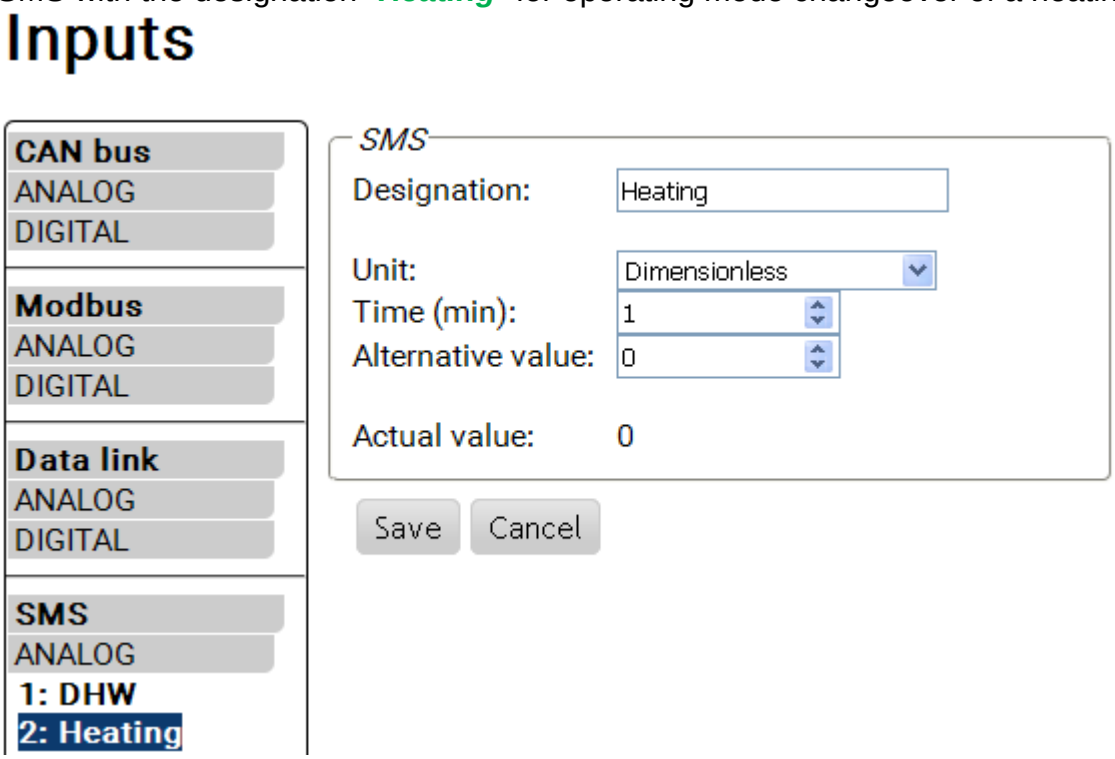
As confirmation, an SMS message with the text ***C.M.I. SMS OK!*** is returned to the number from which the command was sent.

After 60 minutes (= "time" setting), the alternative value is adopted (in the example: 40.0 °C).

If the time is set to "**0**", the SMS value (60 °C) is maintained, providing it is not changed by another SMS command.

Change of the heating circuit operating mode

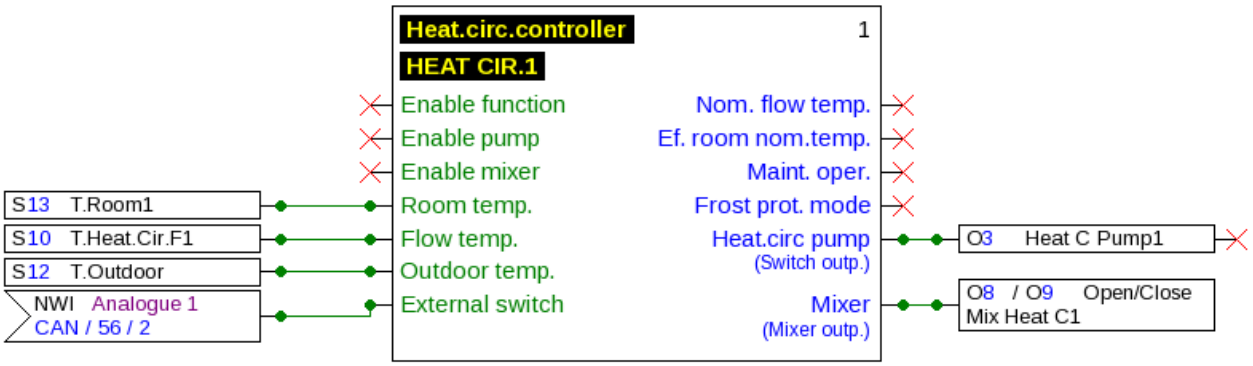
Example:
SMS with the designation "***Heating***" for operating mode changeover of a heating circuit



With the additional texts ***standby***, ***time***, ***normal***, ***lowered*** and ***internal***, the operating mode of a heating circuit can be changed via SMS. These commands are adopted by the C.M.I. as **analogue** numbers and can be passed on to the CAN network (CAN output of the C.M.I.).

To do this, the appropriately programmed **analogue** CAN input on the UVR1611 or UVR16x2 must be linked to the "**external switch**" input of the "**heating circuit controller**" function (see operating instructions: *Heating circuit controller/external switch function*).

Programming example UVR1611



In the example above, the SMS input "**Heating**" was assigned to the CAN output analogue 2 of the C.M.I. (node 56).

With the SMS command ***Heating lowered!***, the heating circuit changes to setback mode.

As confirmation, an SMS message with the text ***C.M.I. SMS OK!*** is returned to the number from which the command was sent.

With the SMS command ***Heating internal!***, the internal operating status of the controller is reactivated before transmitting SMS commands.

Value transfer with analogue commands using text entry:

Text input	**The value is sent <u>once</u> after receipt of the SMS**	**Value <u>after</u> one-time sending**
Standby	64	Alternative value
Time	65	Alternative value
Normal	66	Alternative value
Lowered	67	Alternative value
Intern	127	Alternative value

Note:

Settings **time > 0** and **alternative value 0**: **at the end of the time**, after the value 64-67 or 127 has been transferred, the C.M.I. issues the alternative value 0.

The **alternative value 0** does not result in any further changes in the heating circuit controller. After this, the operating mode can be changed again manually (at the RAS room sensor, at the CAN monitor, at the CAN-TOUCH, at the controller itself or via the browser).

If no alternative value 0 is transmitted (e.g. for **time = 0**), the operating mode cannot be changed manually.

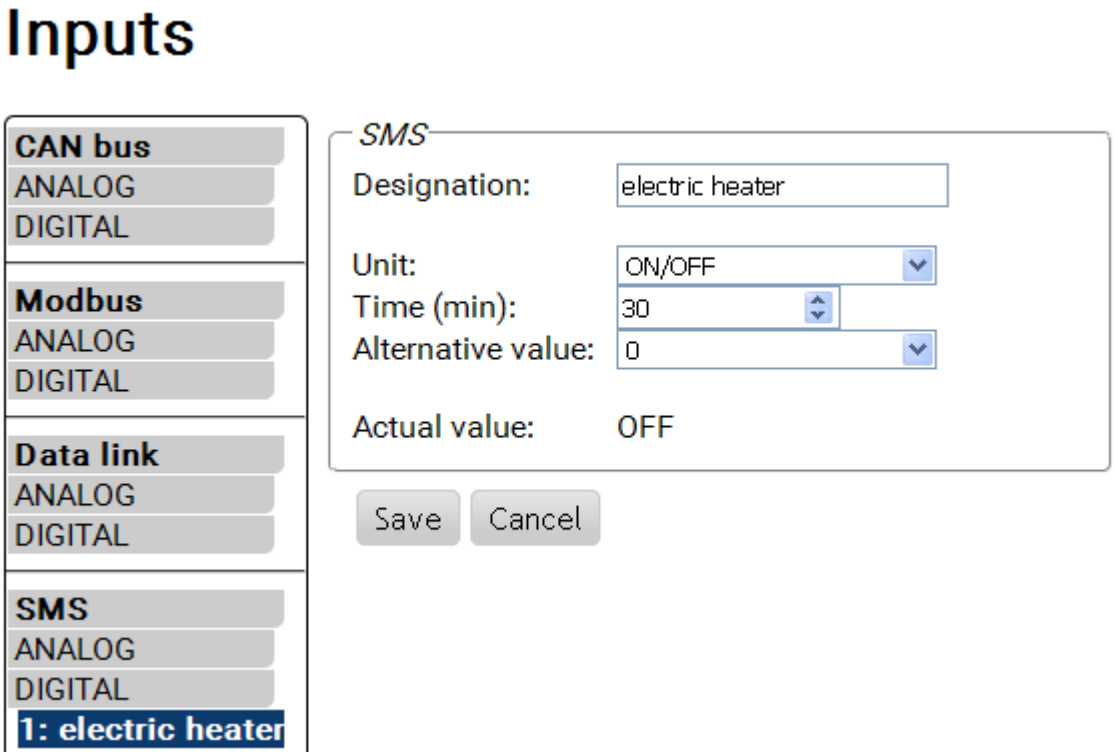
Digital commands

The C.M.I. **digital SMS inputs**, whose value can be set via SMS command, are configured under **Digital**. An **SMS command** is set with the values ***on!*** and ***off!*** or ***0!*** and ***1!*** (e.g. ***designation on!*** or ***designation 1!***). The command must always be completed with a **call sign**.

The alternative value "0" corresponds to OFF/No; the value "1" corresponds to ON/Yes.

Example:

SMS with the designation "***electric heater***"

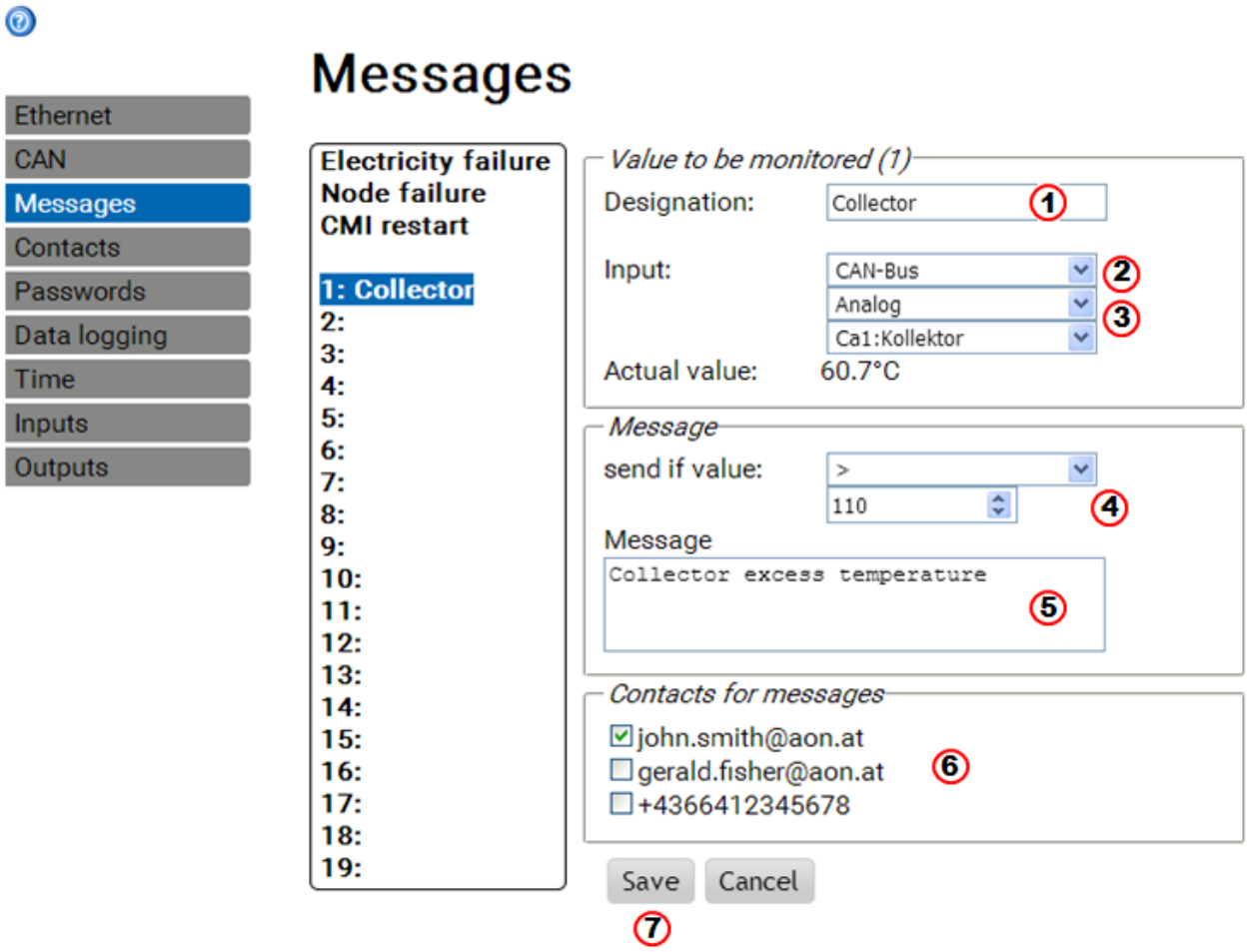


The SMS command ***electric heater on!*** sets the SMS input value **digital 1** with the designation "electric heater" to the value **ON**.

At the end of the time (= 30 minutes), the current value is set to the alternative value 0 (= OFF).

Queries and messages

The values to be monitored and the conditions for mail and SMS dispatch are determined in the menu "**Messages**". The values are adopted from the C.M.I. inputs. Up to 32 messages are available.



1. Message designation (= text for SMS **query**)
2. Select the input type (CAN bus, Modbus or data link)
3. Select analogue or digital and define the input number
4. **Sending condition**: Analogue values: equal =, greater >, greater or equal >=, smaller <, smaller or equal <=, digital values: ON or OFF
5. Text input for the mail or SMS in the event of a **message**
6. Selection of contacts to send a mail or SMS to if the message condition applies. The contacts are determined in the menu “**Contacts**".
7. After completing the entry: **Save**.

Messages

If the message conditions apply, then SMS messages and mails with the entered text will be sent to all contacts **selected** in the menu Messages.

Example: Also, an **event** is defined in which, should the temperature for example exceed 110°C, an SMS message or email with the text ***Collector excess temperature*** is automatically sent to the selected contacts.

Queries

The values of the "**Inputs**" can be queried from one of the saved contacts with the SMS query ***Designation?***. A query must always end with a **question mark**. The queries always correspond to the designations in the "**Messages**" menu. Therefore, all values to be queried must **firstly** be defined in the "**Messages**" menu.

Example: The **current value** can be queried with the SMS ***collector?***. The response is an SMS message to the number from which the query was sent, with the text ***collector = 60,7***.

Automatic messages

The automatic messages "**electricity failure**", "**node failure**" and "**CMI restart**" can be set in the menu "Messages".

Electricity failure

The internal backup power supply with 3 condensers enables the sending of **one** SMS message to **one** receiver in case of electricity failure.

Example:

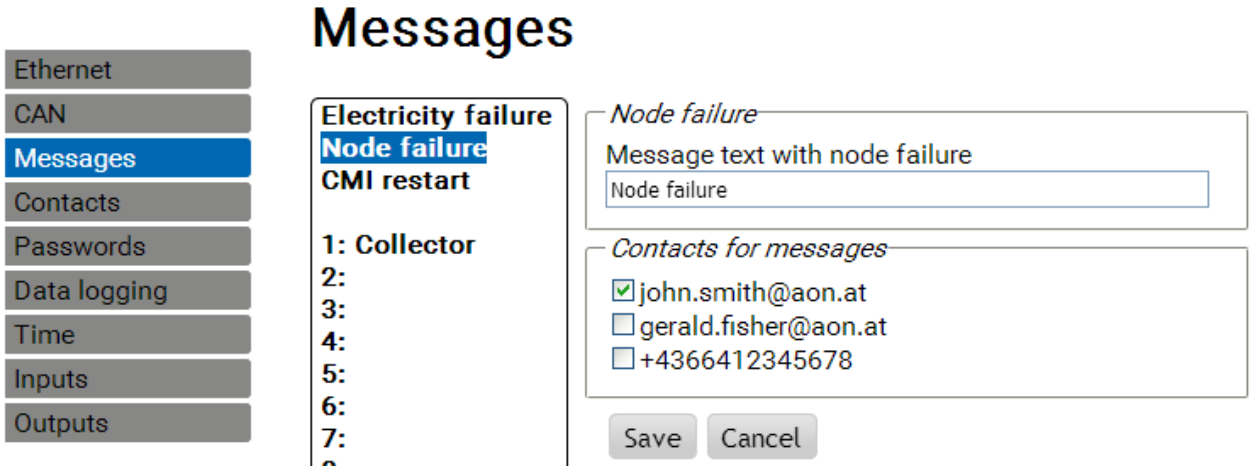
You can always select only **one** telephone number. Mails are not possible. Input is completed with "**Save**".

If an already once defined message "Electricity failure" is **deactivated** again, then this will be done by deleting the SMS text and "**Save**".

CAN node failure

An SMS message can be sent in case of a CAN node failure. A CAN node failure is detected only after a timeout of **20 seconds**. Mail dispatch is also possible.

Example:



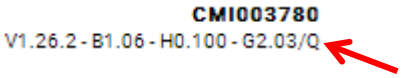
C.M.I. restart

A restart of the C.M.I. that was caused by e.g. electricity failure or an update, can trigger an SMS message. Mail dispatch is also possible.

Example:

Update

To update the module, load the operating system (e.g. "GSM_V_203_H.bin" ("H" = Huawei GSM module) or GSM_V_203_Q.bin ("Q" = Quectel GSM module), depending on the GSM module fitted) onto the SD card and then drag & drop onto the C.M.I. The time of GSM module fitted can be seen at the bottom right of the CM homepage:



Special accessories

GSM EXTENSION: Aerial extension, length 2.5m

Caution: Only one extension per GSM module is possible!

EU conformity declaration

Document no. / Date: TA17024 / 02.02.2017

Manufacturer: Technische Alternative RT GmbH

Address: A- 3872 Amaliendorf, Langestraße 124

The sole responsibility for the issuance of this declaration of conformity rests with the manufacturer.

Product name: MDC-GSM

Brand names: Technische Alternative RT GmbH

Product description: GSM add-on module

The item described above complies with the regulations of directives:

2014/53/EU, 2014/30/EU, 2014/35/EU, 1999/519/EC, 2011/65/EU

Harmonising standards applied:

ETSI EN 300 328 V1.7.1: 2006, ETSI EN 301 489-1 V1.8.1:2008& ETSI EN 301 489-17 V2.1.1:2009, EN 55022:2010, EN 55024:2010, EN 61000-3-2:2006+A1:2009+A2:2009, EN 61000-3-3:2008, EN60950-1:2006+A11：2009+A1:2010+A12:2011, EN 62311:2008, EN 301 893, EN 302 502, EN 50581: 2012

Attachment of CE label: On packaging, operating manual and rating plate

CE

Applicant: Technische Alternative RT GmbH
A- 3872 Amaliendorf, Langestraße 124

Legally binding signature

Dipl.-Ing. Andreas Schneider, Managing Director,
02.02.2017

This declaration certifies conformity with the named directives, but does not however guarantee any properties.

The safety instructions of the supplied product documents must be observed.

Guarantee conditions

Note: The following guarantee conditions in no way limit the legal right to a guarantee, but rather expand your rights as a consumer.

1. Technische Alternative RT GmbH 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.

Technische Alternative RT GmbH

A-3872 Amaliendorf Langestraße 124
Tel ++43 (0)2862 53635 Fax ++43 (0)2862 53635 7
E-Mail: mail@ta.co.at --- www.ta.co.at ---