# Table of Contents

**Description** ........................................................................................................................................... 4  
**Commissioning** .................................................................................................................................... 4  
**Power supply** ......................................................................................................................................... 6  
**Rules for text input** ................................................................................................................................. 6  
**Settings** .................................................................................................................................................. 7  
  - Contacts .................................................................................................................................................. 7  
  - SMS inputs ............................................................................................................................................. 8  
    - Analogue commands ............................................................................................................................ 8  
      - Change of the heating circuit operating mode ............................................................................... 9  
    - Digital commands .............................................................................................................................. 11  
  - Queries and messages ............................................................................................................................. 12  
    - Messages .......................................................................................................................................... 12  
    - Queries ............................................................................................................................................. 13  
    - Automatic messages ....................................................................................................................... 13  
      - Electricity failure ..................................................................................................................... 13  
      - CAN node failure ..................................................................................................................... 14  
      - C.M.I. restart ............................................................................................................................. 14  
**Update** .................................................................................................................................................. 14  
**Special accessories** ................................................................................................................................. 14
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:

CM12942780
V1.25.3 - 81.06 - H0.100.0 - 62.03/G

**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.):

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

### Inputs

<table>
<thead>
<tr>
<th>CAN bus</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIGITAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modbus</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIGITAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data link</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIGITAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: DHW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: Heating</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

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:**

<table>
<thead>
<tr>
<th>Text input</th>
<th>The value is sent once after receipt of the SMS</th>
<th>Value after one-time sending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby</td>
<td>64</td>
<td>Alternative value</td>
</tr>
<tr>
<td>Time</td>
<td>65</td>
<td>Alternative value</td>
</tr>
<tr>
<td>Normal</td>
<td>66</td>
<td>Alternative value</td>
</tr>
<tr>
<td>Lowered</td>
<td>67</td>
<td>Alternative value</td>
</tr>
<tr>
<td>Intern</td>
<td>127</td>
<td>Alternative value</td>
</tr>
</tbody>
</table>

**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**"

<table>
<thead>
<tr>
<th>CAN bus</th>
<th>SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG</td>
<td>Designation: electric heater</td>
</tr>
<tr>
<td>DIGITAL</td>
<td>Unit: ON/OFF</td>
</tr>
<tr>
<td>Modbus</td>
<td>Time (min): 30</td>
</tr>
<tr>
<td>ANALOG</td>
<td>Alternative value: 0</td>
</tr>
<tr>
<td>DIGITAL</td>
<td>Actual value: OFF</td>
</tr>
</tbody>
</table>

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:**

<table>
<thead>
<tr>
<th>Ethemet</th>
<th>CAN</th>
<th><strong>Messages</strong></th>
<th>Contacts</th>
<th>Passwords</th>
<th>Data logging</th>
<th>Time</th>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Electricity failure</em></td>
<td><em>Node failure</em></td>
<td><em>CMI restart</em></td>
<td>1: <strong>Collector</strong></td>
<td>2:</td>
<td>3:</td>
<td>4:</td>
<td>5:</td>
<td>6:</td>
</tr>
</tbody>
</table>

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:

Messages

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:

Messages

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!

We reserve the right to make technical changes © 2017
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:

Harmonising standards applied:

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

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.

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