MOLPIR

CommandCall® CC2

GSM communication module

User & Installations Manual

Order Number   **206300322701**   SW version 3.19 & 3.20
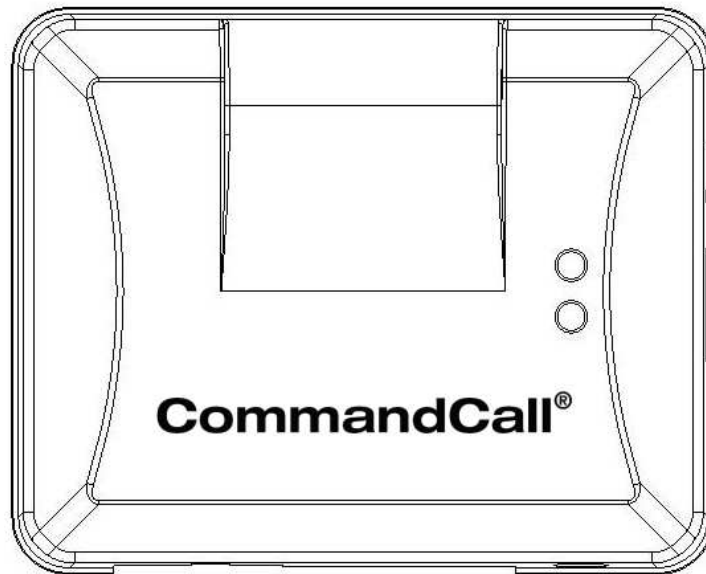
Dear user, many thanks for choosing CommandCall CC2 unit. We believe this unit will fulfil your needs and expectations.

Please leave ComamndCall installation into the vehicle to authorised Installation Centre as it must be connected with other equipment of the vehicle (independent heater, alarm, ...).

GSM communication module CommandCall CC2 can be used in any type of vehicle due to its voltage auto sensing feature (auto sensing 12 / 24V).

Integrated quad band GSM module Siemens enables CommandCall to work in all GSM networks. For user comfort it is possible to use temperature values either in degrees Celsius or Fahrenheit.

This manual describes step by step functions of GSM communications module CommandCall CC2 in point of view of the user - describes the format of SMS control commands, behaviour of the device and reports sent to the user, unit controls via phone call with tone dial functions, control via in the vehicle installed ON/OFF push button and control by external clock.

Installation and work with PC Setup program used for initial CommandCall CC2 setup, unit installation in the vehicle and its initialisation are described in separate Installations Manual.

Basic commands overview is helpful tool for the heater control in form of credit card which can be kept by the user all the time ready to use.

 this sign shows important warnings and remarks in this manual, please pay adequate attention to them.

 Before installing new SIM card into CommandCall control unit setup SIM card PIN to 0000 (default SIM PIN set during HW production). In the case you would like to have other SIM PIN than 0000 such SIM PIN code must be written to CommandCall unit before its installation to the vehicle by PC Setup !

By typing wrong SIM PIN code in the CommandCall PC Setup programme the SIM card will be blocked (system tries to register to GSM network repeatedly and will use all 3 allowed attempts to give correct PIN code of the SIM card).

It is possible to use SIM card with disabled PIN code. In such case is SIM PIN code written to CommandCall unit ignored.

SMS commands sent from free SMS gates of internet providers may be in some cases ignored (SMS commands starting with text information are intentionally ignored, because the format of SMS command is fixed and all SMS commands must start with number).

SMS reports are a kind of a feed back information on heater operation so it is important to enable sending at least SMS reports when heater/ventilation is switched ON.

Contents

1. General description

GSM communication module CommandCall CC2 is used for transfer of control commands and reports between the user and the vehicle via SMS in GSM network and via phone calls with tone dial function to control connected device (independent heater) via control signals 300 mA.

CommandCall CC2 enables:

- control and monitoring of the status of independent heater in vehicle via SMS commands and reports and by phone call with tone dial function
- to switch ON the heater (ventilation) by phone call ringing without establishing full connection - this requires no charges from network operator
- to switch ON the heater (ventilation) and to switch it OFF by ON/OFF push button with LED indication in the vehicle
- to toggle heater / ventilation mode by ON/OFF push button with LED indication in the vehicle
- to activate / deactivate external clock (e.g. if control signals of external clock are accepted or not by main control unit)
- voice messages language selection for heater/ventilation control by phone call with tone dial function (14 languages available)
- to measure actual in car temperature with indication of reaching preset limit values
- automatic temperature control within temperature interval (thermostat)
- to measure actual voltage of vehicle battery with indication of its decrease below preset limit value
- paging of car alarm and external device alarm status information with possibility to handle alarm states independently or as logically related
- activation / deactivation of optional outputs +300 mA and -300 mA (simultaneous activation / deactivation)

Integrated part of the CommandCall is built in GSM module (phone) supporting any GSM mobile operator at 850/900/1800/1900 MHz. In the system may be used any post-paid or prepaid SIM card. In the case of using prepaid SIM card it is important to watch SIM card validity (expiration) and keeping necessary credit available on the card to be sure the system is ready to send SMS report to the user when needed. Some mobile operators offer the feature of automatic maintenance of minimal credit.

Enabling / disabling functions of the system is done by activation/deactivating relevant checkbox (sending SMS related to execution of specific function, activation/deactivation of selected function, selection to show temperature in ℃ or ℉, ...).

CommandCall CC2 memory can store up to 6 so called VIP phone numbers with granted special rights for system control. VIP users can switch heater/ventilation by phone call ringing and they do not need to use password in SMS commands or in tone dial phone call. It is possible to allow all other users to send SMS commands without a password too (password disable function).

2. Unit control

The user communicates with in the car installed unit via sending and receiving SMS, by making phone call with tone dial function or directly by ON/OFF push button in the vehicle. All mentioned ways of control is possible to combine. Control signals of external clock can be override by SMS commands, by phone call commands or by ON/OFF push button operation. It means if heater was switched ON by external clock then SMS command "0" or pressing ON/OFF push button will switch OFF the heater.

Format of sent commands is fixed, the format (text) of SMS reports which CommandCall sends to the user may be set during the unit installation. All parameters except PIN code of SIM card may be changed / set during standard operation by specific SMS command.

Control by phone call is done through 2 way communication, when CommandCall CC2 delivers voice messages to the user and accepts user's commands given by pressing phone buttons during phone call. Communication can be in preset language from 14 languages available (English, German, Slovak, Czech, Swedish, Norwegian, Polish, French, Russian, Hungarian, Finish, Danish, Italian and Spanish).

It is important to activate only those checkboxes which reports are necessary for proper user information and correct operation of the unit especially for giving feedback information to user when switching ON the heater. Keep in mind, please, that sending SMS reports is charged according to used prepaid or post-paid program of respective GSM network operator.

2.1. Switching ON the heater by phone call ringing

This function is available only for calls made from phone numbers listed among VIP phone numbers and when checkbox No.25 - "Enable heater/ventilation ON by phone call ringing" is activated.

Incoming phone call will be handled as follows:

a. phone call is possible to cancel by user within 10 seconds from it start (before the third ring) and in such case nothing happens. Incoming phone call is not indicated in the vehicle and pressing ON/OFF push button has no influence on phone call handling.

b. after 10 seconds is phone call from phone number listed among VIP numbers rejected by the system and is processed as command to switch ON heater (ventilation) for time equal to HTP parameter value. If checkbox No.5 (9) is activated then SMS report "Heater ON by phone call ringing" or SMS "Ventilation ON by phone call ringing" is sent to the caller phone.

c. if heater or ventilation is already ON when the phone call is ringing then incoming phone call is accepted and handled in mode of phone call with tone dial function regardless it is VIP or normal phone number.

d. every phone call made from the phone number which is not listed among VIP phone numbers is accepted immediately and handled in mode of phone call with tone dial functions regardless heater (ventilation) is ON or OFF.

e. if checkbox No.25 is not activated then every phone call is accepted immediately and handled in mode of phone call with tone dial functions regardless it is made by VIP or non VIP phone number and regardless heater (ventilation) is ON or OFF.

f. after HTP minutes expiration heater (ventilation) is automatically switch OFF.

⚠ **In the case of switching ON the heater (ventilation) by phone call ringing no real phone connection is established and thus no fees are applicable / paid to mobile operator.**

2.2. Control via SMS commands - basic functions

Format of SMS commands is fixed in form: „**password**" „**command code**" „**command parameter**", while

„**password**"	consist of 4 digits (must contain 4 digits)
„**command code**"	consist of one to three digits
„**command parameter**"	is specific for each command and can contain phone number, time information, requested temperature value, ...

⚠ **Commands code with leading zero(s) may be used in short version, e.g. with leading zero(s) omitted. For example the command „003" can be used in short version as „3".**

There is no separator in between the password and command code (space, comma, ...). Between command code and command parameter is used separator "-" and between respective parameters is used comma as a separator.

User password is factory set to the value 1234. By SMS command "781" is possible to disable using user password in the system and then all SMS commands starts directly with the command code (in such case the password is not used at all). User password is possible to change any time by using SMS command „781". Users listed in VIP phone numbers list do not use password in SMS commands even when password is requested from other users.

⚠ **Execution and confirmation of individual command can be delayed depending on actual traffic in used GSM network.**

2.2.1. Switch OFF the heater (ventilation)

SMS command in form **xxxx0** (xxxx is user password) will switch OFF the heater (ventilation) and send back to the user confirmation SMS report „Eberspaecher OFF by SMS, ± ttt.tC, vv.vV"

Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 1. For SMS message construction are valid conditions ② and ③.

Remarks (conditions) for adding time, temperature and voltage values to confirmation SMS:
① - remaining heating (ventilation) time is shown only in the case checkbox No. 20 is activated.
② - actual temperature in the vehicle is shown only in the case checkbox No. 21 is activated.
③ - actual car battery voltage is shown only in the case checkbox No. 22 is activated.

2.2.2. Switch ON the heating for preset time HTP minutes

SMS command in form **xxxx1** (xxxx is user password) will switch ON heating for preset time HTP minutes, sets internal mode heating/ventilation to „heating" and sends back to the user confirmation SMS report „Eberspaecher ON by SMS, MMM min.,± ttt.tC, vv.vV"

Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 4. For SMS message construction are valid conditions ② and ③. The length of heating period is always shown in this message.

After HTP minutes expiration heater is automatically switch OFF.

In the case HTP=999 then heating is switch ON for unlimited time and confirmation SMS „Heater ON unlimited, ± ttt.tC, vv.vV" is sent to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 12. For SMS message construction are valid conditions ② and ③.

2.2.3. Switch ON ventilation for preset time HTP minutes

SMS command in form **xxxx2** (xxxx is user password) will switch ON ventilation for preset time HTP minutes, sets internal mode heater/ventilation to „ventilation" and sends back to the user confirmation SMS report „Ventilation ON by SMS, MMM min.,± ttt.tC, vv.vV"

Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 8. For SMS message construction are valid conditions ② and ③. The length of ventilation period is always shown in this message.

After HTP minutes expiration ventilation is automatically switch OFF.

In the case HTP=999 then ventilation is switch ON for unlimited time and confirmation SMS „Ventilation ON unlimited, ± ttt.tC, vv.vV" is sent to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 13. For SMS message construction are valid conditions ② and ③.

2.2.4. Check actual status of the device

SMS command in form **xxxx3** (xxxx is user password) sends back to the user Status SMS describing actual state of the device. Status SMS consist of several information fields concatenated into one SMS message. Structure of Status SMS is described in paragraph 4.1. Status SMS structure of this Manual.

Samples of Status SMS:
- heating was switched on by external clock, thermostat is activated (activated checkbox No.18), actual temperature decreased below UST2 and external clock is enabled:

Heater ON by clock,
Automatic mode,
1,
External clock enabled,
+14.5 C,
12.7 V

- ventilation is ON by ON/OFF button, thermostat control is deactivated (deactivated checkbox No.18), actual temperature decreased below UST2 and external clock is disabled:

Ventilation ON by button,
23 min.,
+14.5 C,
12.7 V

- unit is OFF, thermostat control is activated (activated checkbox No.18), actual temperature decreased below UST2 and external clock is disabled:

Eberspaecher OFF,
Automatic mode,
+14.5 C,
12.7 V

2.2.5. Switch ON heating / ventilation for given time (range 10 to 120 minutes or unlimited)

SMS command in form **xxxxMMM** (xxxx is user password) will switch ON heating or ventilation for MMM minutes (MMM is whole positive number in range 10 to 120 or 999). Actual state of internal mode heating/ventilation determines if „heating" or „ventilation" will be switched ON (if lastly was used heating or ventilation). Confirmation SMS „Eberspaecher ON by SMS, MMM min.,± ttt.tC, vv.vV" or „Ventilation ON by SMS, MMM min.,± ttt.tC, vv.vV" is sent back to the user.

Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.4 (for heating) or checkbox No.8 (for ventilation) . For SMS message construction are valid conditions ② and ③. The length of heating / ventilation is always shown in this message regardless checkbox No.20 actual setting. After expiration of given number of minutes heater or ventilation is automatically switched OFF.

In the case HTP=999 then heating / ventilation is switch ON for unlimited time and confirmation SMS „Heater ON unlimited, ± ttt.tC, vv.vV" or „Ventilation ON unlimited, ± ttt.tC, vv.vV" is sent to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.12 for heating or No.13 for ventilation. For SMS message construction are valid conditions ② and ③.

2.2.6. change of the length of preset heater / ventilation ON time

SMS command in format **xxxx281-HTP=MMM** (xxxx is user password) will set HTP parameter to MMM minutes value and sends confirmation SMS "281 OK". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

For example: command xxxx281-HTP=35 will set HTP value to 35 (xxxx is user password).

2.3. Heater control by phone call with tone dial functions

Control by phone call with tone dial functions is made as 2 way communication where CommandCall CC2 plays voice messages to user and accepts user commands by pressing phone buttons during phone call. This method is used to control only basic functions of the unit:

Button	Function
0	switch OFF heater / ventilation
1	switch ON heater for preset time (duration) HTP minutes
2	switch ON ventilation for preset time (duration) HTP minutes
3	request for actual status of the unit
4	activate external clock (control signals of external clock will be taken into consideration)
5	deactivate external clock (control signals of external clock are not taken into consideration)

After phone call is established system requires password from unknown phone numbers (not listed among VIP phone numbers). When valid password is entered system announces actual status of the unit (Heater / ventilation ON or OFF) and requests user to input command. User gives valid command by pressing some of phone buttons 0 to 5. System acknowledges accepting of the command by voice message and requests next command.

User has 5 seconds time limit to input command (to press button). In the case user will press no button within time limit system requests command input again. If user input no command even after the third request phone call is terminated.

⚠️ Pressing any other button than 0, 1 to 5 is evaluated as invalid command and system requests to input command again. If user inputs 3 times invalid command in the sequence then phone call is terminated.

In the case checkbox No.24 is activated and during phone call was given command „3" then immediately after phone call termination Status SMS will be sent to the user (caller phone).

Communication (playing voice messages) can be selected in one from 14 languages. Language selection which will be used for voice messages (parameter LANG) can be done by SMS command 281:

xxxx281-LANG=LL,   xxxx is user password and LL is positive whole number in range 1 to 14.

(1 = English, 2 = German, 3 = Slovak, 4 = Czech, 5 = Swedish, 6 = Norwegian, 7 = Polish, 8 = French, 9 = Russian, 10 = Hungarian, 11 = Finish, 12 = Danish, 13 = Italian, 14 = Spanish).

2.4. Heater control by ON/OFF push button with LED indication (orange LED)

Heater/ventilation is possible to control by ON/OFF push button installed in the vehicle:

Function	Description	Status indications / SMS
Switch heater ON	Short pressing of the push button (max. 1 second). The heater will be ON depending on parameter HTP preset time in the range of 1 to 120 minutes or unlimited in the case HTP=999. If checkbox No.7 is activated then SMS "Heater ON by switch, MMM min., ±ttt.t C, vv.v V" is sent to the first VIP phone number.	After button release LED will lit ON indicating heater status „ON".
Switch ventilation ON	The same as for heating but LED will flash. If checkbox No.11 is activated then SMS "Ventilation ON by switch, MMM min., ±ttt.t C, vv.v V" is sent to the first VIP phone number.	After button release LED will flash indicating ventilation status „ON".
Switch heater OFF	Short pressing of the push button (max. 1 second) when heater/ventilation is ON. If checkbox No.3 is activated then SMS "Eberspaecher OFF by switch, ±ttt.t C, vv.v V" is sent to the first VIP phone number.	After button release LED will switch OFF indicating status „OFF"
Heater / ventilation mode change	Pressing of the push button for 5 seconds will toggle heater/ventilation mode. After 5 seconds LED will start to indicate actual mode - when entering heater mode LED will lit 5 seconds while when entering ventilation mode LED will quickly flash for 5 seconds. When this indication starts release the push button to accept mode change. Note: heater/ventilation mode change perform only when heater/ventilation is OFF, otherwise LED indication can not be seen correctly.	After 5 seconds LED will start indication of mode change. Indication of entered mode lasts 5 seconds, during this period release the button to accept mode change. Then system indicates new mode by 5 seconds lit for heater mode or 5 seconds flashing for ventilation mode.
System RESET	Pressing of the push button for at least 40 seconds will reset the system. System RESET will restart CommandCall control unit, will restart GSM module, resets outputs overload protection circuits and clears internal counters. **System RESET will not change checkboxes settings or preset values** (UST, TS, ..., timer preset).	After 5 seconds LED will flash 5 times - please keep push button pressed. When the time 40 sec. is reached LED will flash 4 times - **release the push button now**. After release of push button LED will lit 2 sec. to indicate RESET
Backup battery cut OFF	Press and hold the push button for at least 20 seconds when the power is OFF, this will cut OFF CommandCall backup battery	After cutting off backup battery all LEDs will switch OFF

Note: Status will be changed after button is released (system reacts on signal „fall down edge").

2.5. Heater control by external clock

When checkbox No.27 is activated then signals of external clock will be accepted, when is deactivated then signals of external clock will be ignored by the system.

SMS and tone dial commands "4" and "5" are used for activation/deactivation of checkbox No.27.

SMS command **xxxx4** (xxxx is user password) enables system to accept external clock signals (sets checkbox No. 27 to "1") and sends SMS „External clock activated" to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 14.

SMS command **xxxx5** (xxxx is user password) disables system to accept external clock signals (sets checkbox No. 27 to "0") and sends SMS „External clock deactivated" to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 15.

Device will be switched ON by external clock signal in actual mode heater/ventilation and stays ON according to external clock settings.

If checkbox No.6 (10) is activated then after switching ON by external clock SMS "Heater ON by clock, ±ttt.t C, vv.v V" or SMS „Ventilation ON by clock, ±ttt.tC, vv.vV" is sent to the first VIP phone number stored in control unit. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 6 (for heating) or No. 10 (for ventilation). For confirmation SMS message construction are valid conditions ② and ③ (see point 2.2.1).

In the case heater or ventilation is ON and checkbox No.27 is activated then falling edge of the signal of external clock will switch the heater OFF (regardless how it was switched ON) and SMS „Eberspaecher OFF by clock, ±ttt.t C, vv.v V" is sent to the first VIP phone number. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 2. For confirmation SMS message construction are valid conditions ② and ③ (see point 2.2.1).

If checkbox No.27 is not activated then falling edge of the signal of external clock has no effect on heater/ventilation operation.

Description of external clock is included with External clock and is not subject of this manual.

Note for all methods of control of heater/ventilation: if heater preset time (HTP) is set to 999 then heater/ventilation is switched ON for unlimited period of time and SMS "Heater ON unlimited, ±ttt.t C, vv.v V" or SMS "Ventilation ON unlimited, ±ttt.t C, vv.v V" is sent to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 12 (for heating) or No. 13 (for ventilation). For confirmation SMS message construction are valid conditions ② and ③ (see point 2.2.1).

2.6. Parameters set up

All system parameters of the system (except SIM card PIN code) is possible to set / modify by SMS commands either one by one or for the whole parameters group. For checking (reading) parameters values are used specific SMS commands returning actual value of requested parameters.

CommandCall CC2 uses following parameters:

P1 to P6 - phone numbers with special rights, so called VIP numbers

| **S1 to S28** | - single checkboxes, value 0 (OFF/Deactivated) or 1 (ON/activated) |

S1 to S28   - single checkboxes, value 0 (OFF/Deactivated) or 1 (ON/activated)

T1 to T12   - triple checkboxes

HTP   - Preset heating time, range: 1 to 120 and 999 [minutes]; whole positive numbers only

AP   - alarm pulse length, range: 0.1 to 9.9 [seconds]

APH   - alarm ON status length, range: 1 to 999 [seconds]; whole positive numbers only

CBV   - car battery voltage, range: 5.0 to 40.0 [Volt]

VS   - time constant for voltage change stability, range: 1 to 999 [seconds]; whole positive numbers only

PTD   - periodical connectivity test - days, range: 0 to 99 [days]; whole positive numbers only

PTH   - periodical connectivity test - hours, range: 0 to 24 [hours]; whole positive numbers only

PTM   - periodical connectivity test - minutes, range: 0 to 60 [minutes]; whole positive numbers only

UST, UST1, UST2   - limit temperatures, range: - 40.0 to +125.0 [℃] (- 40.0 to +257.0 [℉])

TS, TS1   - time constants for temperature change stability, range: 0 to 999 [seconds]; whole positive numbers only

LANG   - language of voice messages for tone dial phone calls, range: 1 to 14; whole numbers only

⚠️ CommandCall CC2 uses internal format of decimal numbers with decimal point and sent SMS reports also contain decimal point as separator of whole and decimal part of the numbers.

2.6.1. one parameter / phone number / checkbox setting or modification

SMS command **xxxx280-parameter** (xxxx is user password) sends back to the user SMS message showing actual value or requested parameter in form: 280-parameter=value.

Example: xxxx280-UST sends back actual value (setting) of UST parameter, xxxx is user password.

SMS command **xxxx281-parameter=value** (xxxx is user password) sets selected parameter to given value and sends confirmation SMS „281 OK" to user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 17.

Example: xxxx281-UST=23.3 sets parameter UST to 23.3, xxxx is user password.

2.6.2. all VIP phone numbers setting

SMS command **xxxx380-parameter** (xxxx is user password) sends back to the user SMS message showing all VIP phone numbers in form: 380-P1=TT...T,P2=TT...T,P3=TT...T,P4=TT...T,P5=TT...T,P6=TT...T

SMS command **xxxx381-P1=TTT...T,P2=TTT...T,P3=TTT...T,P4=TTT...T,P5=TTT...T,P6=TTT...T** (xxxx is user password) sets VIP phone numbers P1 to P6 to given values and sends confirmation SMS „381 OK" to user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

Example:

xxxx381-P1=00902123456,P2=0042190223456,P3=,P4=,P5=00421902345678,P6=0903123456

sets the first VIP phone number to 0902 123456, the second VIP phone number to 00421 902 234567 (including international prefix), the third and fourth positions for VIP phone numbers will be empty, the fifth VIP phone number will set to 00421 902 345678 an the sixth VIP phone number will set to 0903 123456, xxxx is user password.

2.6.3. all single checkboxes setting

SMS command **xxxx480** (xxxx is user password) sends back to the user SMS message 480-NNN...NNN containing sequence of 28 characters „0" and „1", where each "0" means OFF/deactivation and „1" means ON/activation of respective checkbox while position in the sequence determines order number of the relevant checkbox (S1-28).

Example: xxxx480 shows actual setting of all single checkboxes , xxxx is user password.

SMS command **xxxx481-NNN....NNN,** (xxxx is user password) sets all single checkboxes to given values and sends confirmation SMS „481 OK". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 17.

Example: xxxx481-1001111101010100000001010000 sets checkboxes No. 1, 4, 5, 6, 7, 8, 10, 12 14, 22, 24 to ON (activated) and sets checkboxes No. 2, 3, 9, 11, 13, 15, 16, 17, 18, 19, 20, 21, 23, 25, 26, 27, 28 to OFF (deactivated), xxxx is user password.

2.6.4. all triple checkboxes setting

SMS command **xxxx580,** (xxxx is user password) sends back to the user SMS message 580-T1=PPP,T2=PPP, ... ,T12=PPP containing actual setting of all triple checkboxes T1 to T12 (corresponding to SMS reports 29 to 40). Every triple checkbox contains 3 fields where are stored positions of VIP phone numbers where relevant SMS report should be sent.

Example: xxxx580 shows actual setting of all triple checkboxes , xxxx is user password.

SMS command **xxxx581-T1=PPP,T2=PPP, ...,T12=PPP,** (xxxx is user password) sets all triple checkboxes to given values and sends confirmation SMS „581 OK". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No. 17. Every P in the command represents phone number position in VIP list where relevant SMS should be sent (P range is 0 to 6).

Example: xxxx581-T1=120,T2=160,T3=100,T4=160,T5=000,T6=000,T7=000,T8=300,T9=000,T10=000, T11=000,T12=100 sets triple checkboxes this way - when car alarm is triggered then SMS message "Car Alarm" will be send to the first and to the second VIP phone numbers, when External device alarm is triggered then SMS message "External Device Alarm" will be send to the first and to the sixth VIP phone numbers, when car battery is disconnected (power cut) then SMS message "Power cut" will be send only to the first VIP phone number, when battery voltage decreases below preset level then SMS message "Car battery voltage decrease" will be send to the first and to the sixth VIP phone numbers. SMS messages related to triple checkboxes T5, T6, T7, T9, T10, T11 will not be sent at all and when short circuit appears on CommandCall CC2 outputs then SMS message "Short circuit" will be send only to the first VIP phone number.

2.6.5. all parameters setting

SMS command **xxxx680** (xxxx is user password) sends back to the user SMS message 680-HTP=mmm, AP=s.s,APH=sss,CBV=vv.v,VS=sss,PTD=dd,PTH=hh,PTM=mm,UST=±ttt.t,TS=sss,UST1=±ttt.t,UST2= ±ttt.t,TS1=sss,LANG=ll containing actual setting of all parameters.

Example: xxxx680 shows actual setting of all parameters, xxxx is user password.

SMS command **xxxx681-HTP=mmm,AP=s.s,APH=sss,CBV=vv.v,VS=sss,PTD=dd,PTH=hh,PTM=mm, UST=±ttt.t,TS=sss,UST1=±ttt.t,UST2=±ttt.t,TS1=sss,LANG=ll,** (xxxx is user password) sets all parameters to given values and sends confirmation SMS „681 OK". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

Example: xxxx681-HTP=20,AP=2.0,APH=30,CBV=12.7,VS=5,PTD=14,PTH=00,PTM=00,UST=23.0, TS=30,UST1=5.0,UST2=-5.0,TS1=30,LANG=3

2.6.6. user password setting

SMS command **xxxx781-NNNN** (xxxx is user password) changes actual password xxxx to new value NNNN and sends confirmation SMS „Password change OK" to the user. Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

Example: xxxx7816554 will change user password from xxxx to 6554

SMS command **xxxx781** (xxxx is user password) disables using password in SMS commands for all users and sends confirmation SMS „Password disable". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

Example: xxxx781 disables using password in SMS commands for all users

SMS command **781-NNNN** restores using password in SMS commands for non VIP users, sets it to NNNN value and sends confirmation SMS „Password change OK". Confirmation SMS is sent to the user only in the case it is enabled by activating checkbox No.17.

Example: 7819932 restores using password in SMS commands for non VIP users and sets it to 9932

Note: For setting parameters by SMS commands it is suggested to request first actual value of respective parameters for example by command 680 and then edit received SMS message in mobile phone to form suitable for sending it as command 681

2.7. checkboxes

In the system are used "single" checkboxes which enable / disable sending specific SMS report to the user - checkboxes No.1 to 17, or for activation / deactivation system function - checkboxes No.18, 19 and 24 to 28. Activation of checkboxes No.20 to 23 determines if information on remaining heating/ventilation time, car battery voltage, actual in car temperature and preset limit temperatures is added to respective reports (where it has meaning). These checkboxes are named S1 to S28.

There are also "triple" checkboxes which enable / disable sending warning SMS messages up to 3 VIP users - checkboxes No. T1 to T12. In the case of triple checkboxes No. T1 to T4 and T12 is user warned twice - by phone call ringing and by sending warning SMS message.

Single checkboxes (S1 to S28)

No.	Function of checkbox
1	Send SMS when heater is switched OFF by SMS command
2	Send SMS when heater is switched OFF by external clock
3	Send SMS when heater is switched OFF by ON/OFF push button
4	Send SMS when heater is turned ON by SMS command
5	Send SMS when heater is turned ON by phone call ringing
6	Send SMS when heater is turned ON by external clock
7	Send SMS when heater is turned ON by ON/OFF push button
8	Send SMS when ventilation is turned ON by SMS command
9	Send SMS when ventilation is turned ON by phone call ringing
10	Send SMS when ventilation is turned ON by external clock
11	Send SMS when ventilation is turned ON by ON/OFF push button
12	Send SMS when heater is turned ON for unlimited time
13	Send SMS when ventilation is turned ON for unlimited time
14	Send SMS when control by external clock is activated
15	Send SMS when control by external clock is deactivated
16	Send SMS when receiving invalid command
17	Send confirmation SMS
18	Activate temperature control by thermostat
19	Temperature values in ℉
20	Add remaining heating / ventilation time to SMS messages No. 4, 5, 7 8, 9, 11
21	Add actual in car temperature to SMS messages No. 1 to 13 and „Eberspaecher OFF"
22	Add actual car battery voltage to SMS messages No. 1 to 13 and „Eberspaecher OFF"
23	Add limit temperature values to SMS messages
24	Send Status SMS when button „3" was pressed during tone dial phone call
25	Enable turning ON heating / ventilation by phone call ringing
26	Activate optional outputs
27	External clock activated
28	„Alarm trigger" and „External device trigger" handling as logically tight together

Triple checkboxes (T1 to T12)

No.	Function of checkbox
1	Send SMS - Alarm trigger
2	Send SMS - External device trigger
3	Send SMS - Power cut
4	Send SMS - Car battery voltage decrease
5	Send SMS - Periodical connectivity test
6	Send SMS - Temperature decreased bellow UST
7	Send SMS - Temperature increased over UST
8	Send SMS - Temperature decreased into interval
9	Send SMS - Temperature increased into interval
10	Send SMS - Temperature left interval up
11	Send SMS - Temperature left interval down
12	Send SMS - Short circuit

SMS reports are factory preset but it is possible to modify them before installation of CommandCall control unit installation into vehicle by PC Setup. SMS message text can be set in local language of the user, however it can contain only characters of English alphabet and numbers (no special characters can be used).

CommandCall CC2 after processing specific event (pressing ON/OFF push button, switching the heater ON or OFF by external clock, signal received from the car alarm, periodical test timeout, ...) sends SMS report relevant to performed activity. SMS reports with "single" checkbox (SMS reports No.: 2, 3, 6, 7, 10 to 13) are sent to the first phone number stored in VIP phone numbers list. SMS reports with single checkbox No.: 1, 4, 5, 8, 9, 14, 15 and 16 are always sent back to the user who sent relevant SMS command.

SMS reports with "triple" checkbox can be sent up to 3 VIP phone numbers according to actual setting of respective triple checkbox (warning type SMS where may be needed to send such message to more phone numbers).

2.8. Basic commands memo card

As a help for the user to control independent heater by SMS commands this card shows an overview of mostly used commands for the heater control in form of credit card, which can be permanently present in user's wallet.

<table>
<tr>
<td colspan="2">

MOLPIR
Každý *má* **sny**...

CommandCall® CC2
Functions controled by SMS commands and tone dial phone call

</td>
<td colspan="2">

MOLPIR
Každý *má* **sny**...

CommandCall® CC2
Functions controled by SMS commands only

</td>
</tr>
<tr>
<td colspan="2">Code Command</td>
<td colspan="2">Code Command</td>
</tr>
<tr>
<td>0</td>
<td>Switch OFF heater/ventilation</td>
<td>10</td>
<td>Switch ON heater/ventilation for 10 minutes</td>
</tr>
<tr>
<td>1</td>
<td>Switch heater ON for preset time</td>
<td>11</td>
<td>Switch ON heater/ventilation for 11 minutes</td>
</tr>
<tr>
<td>2</td>
<td>Switch ventilation ON for preset time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Send status SMS</td>
<td>120</td>
<td>Switch ON heater/ventilation for 120 minutes</td>
</tr>
<tr>
<td>4</td>
<td>Activate control by external clock</td>
<td>281</td>
<td>Set new heater/ventilation preset time</td>
</tr>
<tr>
<td>5</td>
<td>Deactivate control by external clock</td>
<td colspan="2">(format: xxxx281MMM, MMM = requested time in minutes)</td>
</tr>
<tr>
<td colspan="2">Format SMS: xxxxNNN (xxxx is password, NNN is command code)</td>
<td colspan="2">Format SMS: xxxxNNN (xxxx is password, NNN is command code)</td>
</tr>
</table>

front side   reverse side

3. Supplementary functions

3.1. System Reset

Pressing the ON/OFF push button and keeping it pressed for 40 seconds will lit LED for 2 seconds and system will RESET. (LED will flash 5 times after push button is pressed for 5 seconds - please ignore this flashing and keep push button pressed. When 40 seconds time is reached LED will flash 4 times - then release the push button).

⚠ System RESET will restart CommandCall control unit, will restart GSM module and will clear internal counters. Reset will clear also counter of elapsed time for periodical connectivity test, so if „Periodical connectivity test" is activated, the time for sending relevant SMS report starts from zero again.

RESET will not change checkboxes settings or parameters values (UST, TS, HTP, ...).

3.2. Power cut / Back up battery

In any operation state of the heater when the power is OFF for at least 5 seconds system sends SMS report "Power cut" to the phone number stored as the first one in triple checkbox T3 and than makes a phone call to this number. User can press "Call terminate" button on his mobile phone to terminate phone call, otherwise system will cancel phone call automatically after approximately 15 seconds. In the case in

triple checkbox T3 are stored more phone numbers then system makes the same procedure with the second and then with the third phone number (according to position of the number in VIP phone numbers list).

⚠️ Back up battery is cut off automatically after sending SMS reports "Power cut" to designated phone numbers (backup battery keeps system operation for limited period of time after disconnecting vehicle battery to enable sending emergency reports to the user). After that system will cut off backup battery and switch off the whole system.

After disconnecting power supply it is possible to disconnect backup battery immediately, press and keep pressed ON/OFF push button for 20 seconds. LED will flash twice after elapsing 20 second time to indicate to release the push button.

3.3. Paging of alarm states

⚠️ CommandCall CC2 is not car alarm, this device is a GSM communication module transporting commands and reports for control of independent heater in the vehicle. It is possible to connect car alarm outputs and external device alarm output to CommandCall and then CommandCall CC2 takes in consideration also these signals and sends relevant information to the user.

Vehicle Alarm

After car alarm defence area was triggered CommandCall sends SMS report "Alarm trigger" to the phone number stored as the first one in triple checkbox T1 and than makes a phone call to this number. User can press "Call terminate" button on his mobile phone to terminate phone call, otherwise system will cancel phone call automatically after approximately 15 seconds. In the case in triple checkbox T1 are stored more phone numbers then system makes the same procedure with the second and then with the third phone number (according to position of the number in VIP phone numbers list).
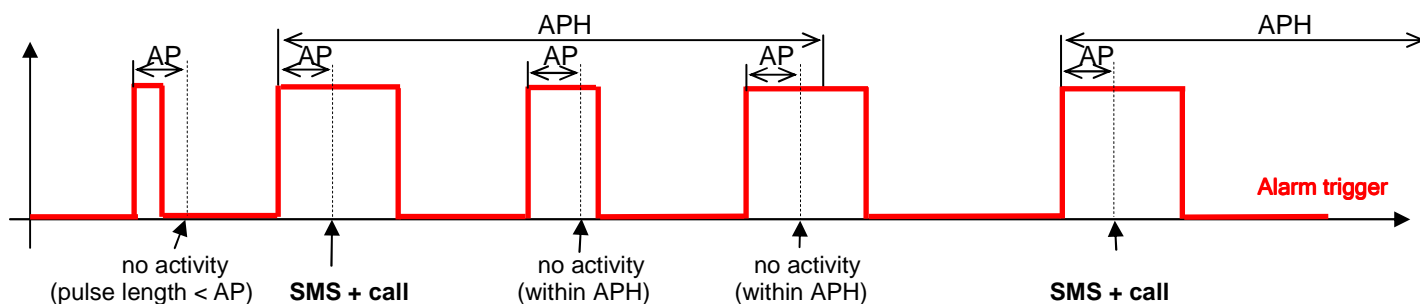
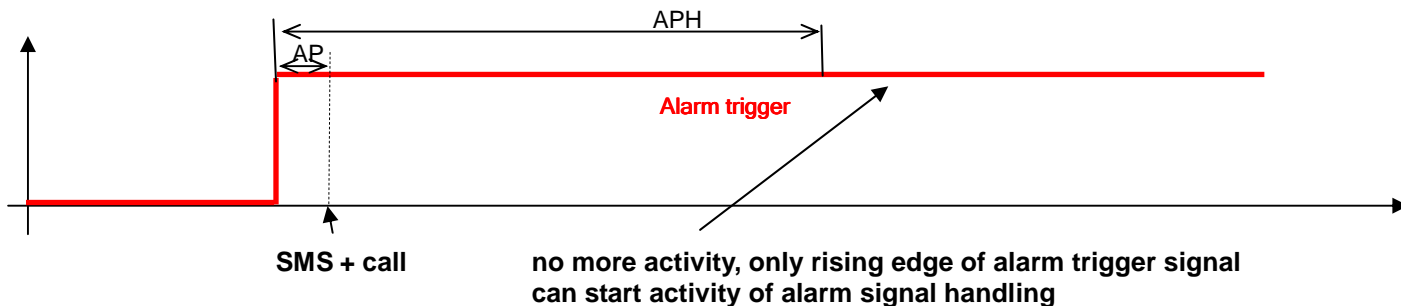For alarm trigger signal it is possible to set 2 parameters:

- AP - minimal signal pulse length which will be accepted by system
- APH - time interval in which system holds alarm signal ON after receiving valid alarm trigger pulse

⚠️ **Note to APH setting** - APH value should be set long enough to cover the whole alarm cycle, if shorter, then message Alarm trigger may be sent to user several times.

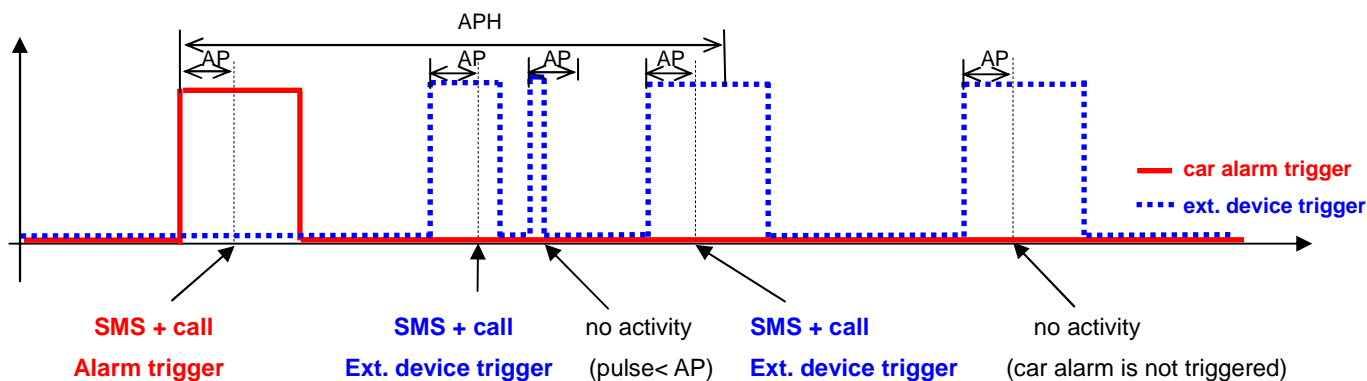Alarm triggers handling, checkbox No. T1 is activated

SMS + call

no more activity, only rising edge of alarm trigger signal can start activity of alarm signal handling

External device alarm

After triggering alarm of external device installed in the vehicle CommandCall CC2 sends SMS report "External device trigger" to the phone number stored as the first one in triple checkbox T2 and than makes a phone call to this number. User can press "Call terminate" button on his mobile phone to terminate phone call, otherwise system will cancel phone call automatically after approximately 15 seconds. In the case in triple checkbox T2 are stored more phone numbers then system makes the same procedure with the second and then with the third phone number (according to position of the number in VIP phone numbers list).

Depending on checkbox No.28 setting alarm signals „Alarm trigger" and „External device trigger" handled either as fully independent functions or as logically tight together.

When checkbox No.28 is activated then message „External device trigger" can be sent to the user only in the case vehicle alarm is triggered. This is suitable especially in the case when ACC is connected on External device alarm input. In this situation ACC report (ext. device trigger) is sent to the user only in the case vehicle alarm is triggered. If vehicle alarm is disarmed (deactivated) in normal way switching ACC ON will not be indicated to the user. When alarms are handled logically tight together every valid pulse of ACC (ext. device trigger) will be processed (even repeated ACC ON (ext. device trigger) within APH period of vehicle alarm trigger.

Logically tight handling of car alarm and ext. device alarm, checkboxes No.28, 29 and 30 are activated

SMS + call
Alarm trigger

SMS + call
Ext. device trigger

no activity
(pulse< AP)

SMS + call
Ext. device trigger

no activity
(car alarm is not triggered)

In the case checkbox No.28 is deactivated SMS report „External device trigger" will be sent to user every time valid signal of Ext. device trigger is recorded regardless + and - vehicle alarm triggers.

For external device trigger signal are used the same AP and APH parameters values.

⚠ **In specific conditions some notification phone call during vehicle alarm or ext. device alarm trigger may be omitted if they should be processed in short period of time.**

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3.4. Indication of reaching limit temperatures

CommandCall enables to measure actual in car temperature and to compare it with 3 stored temperature limit values UST, UST1 and UST2.

UST is processed in the system as independent limit temperature value. System monitors actual temperature, reaching limit value UST and the direction of temperature change. If the limit value UST is exceeded and the temperature is stable „behind" the limit value for time period longer then parameter value TS (0 to 999 seconds), system will send to maximum 3 phone numbers listed in triple checkbox T6 SMS report "Temperature decreased bellow UST" or "Temperature increased over UST" depending on situation explained in the chart:
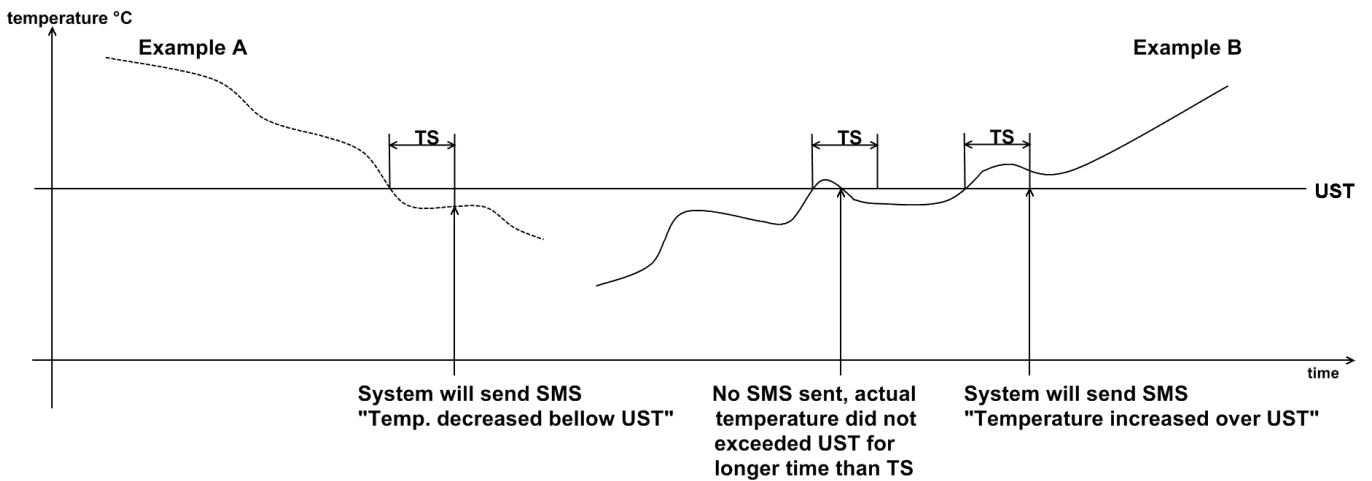
The values UST1 and UST2 are in the system handled as temperature interval. System monitors actual temperature, entering and leaving interval limits and the direction of temperature changes (temperature increase or decrease). If the limit value is exceeded and the temperature is stable „behind" the limit value for time period longer than parameter value TS1 (0 to 999 seconds) system will send to maximum 3 phone numbers listed in triple checkboxes T8 to T11 respective SMS report depending on situation explained in the chart:
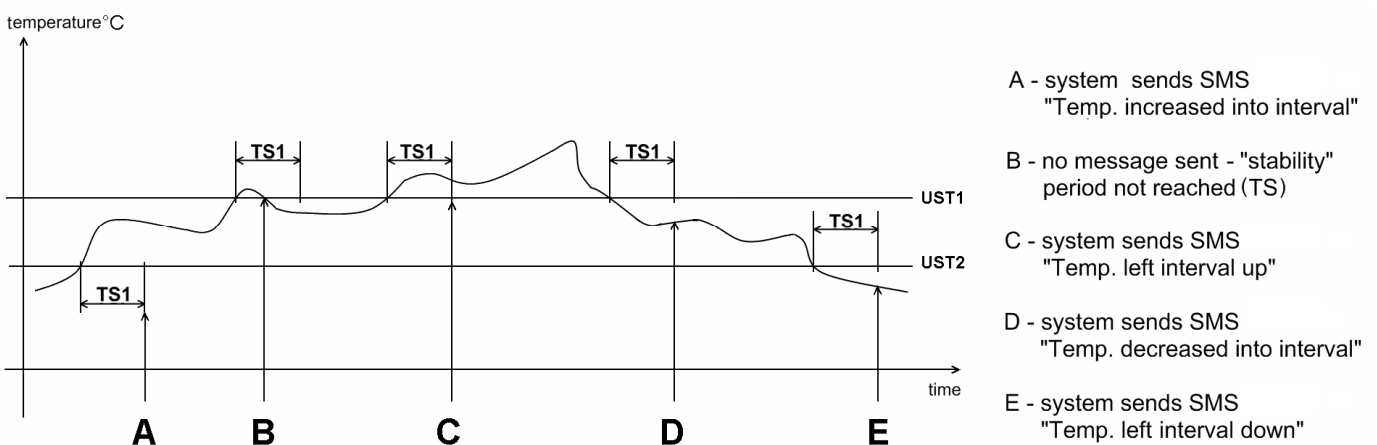
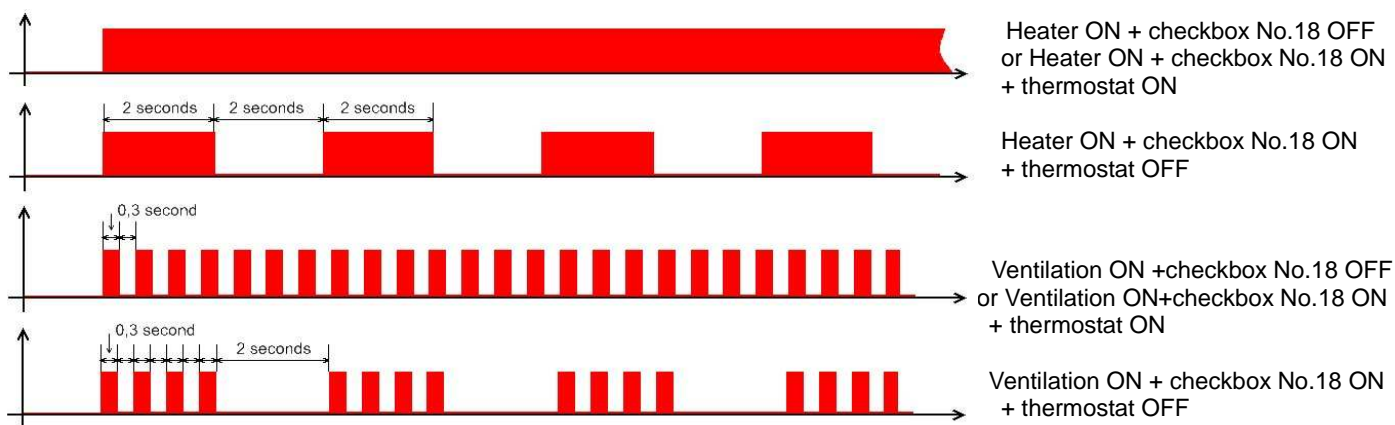## 3.5. Thermostat - automatic temperature control within preset temperature interval

CommandCall offers automatic temperature control within preset temperature interval in the case device is switched ON (device switched ON by any method in heating or ventilation mode).

By activating checkbox No.18 thermostat function is enabled. Temperature interval limits UST1 and UST2 must be set as well as TS1 value.

In heating mode: when temperature decreases below UST2 for longer time as TS1 value then heating is switched ON. Indication LED in ON/OFF push button will lit and actual thermostat status is set to "1". This is till actual temperature cross over UST1 for time longer than TS1 value. In this moment thermostat will temporarily switch OFF heating, indication LED will flash slowly (in cycle: 2 seconds ON and 2 seconds OFF) and thermostat status is changed to "0". Temperature starts slowly decrease and when it decrease below UST2 for time longer than TS1 value the whole cycle will be repeated again. This cycle is repeated while device is switched ON.

In ventilation mode: when temperature decreases below UST2 for longer time as TS1 value then ventilation is temporarily switched OFF. Indication LED in ON/OFF push button will flash quickly (in cycle: 2 seconds flashing and 2 seconds OFF) and actual thermostat status is set to "0". This is till actual temperature cross over UST1 for time longer than TS1 value. In this moment thermostat will switch ON ventilation, indication LED will flash quickly and thermostat status is changed to "1". Temperature starts slowly decrease and when it decrease below UST2 for time longer than TS1 value the whole cycle will be repeated again. This cycle is repeated while device is switched ON.

LED indication of heating / ventilation during active thermostat control

Heater ON + checkbox No.18 OFF or Heater ON + checkbox No.18 ON + thermostat ON

Heater ON + checkbox No.18 ON + thermostat OFF

Ventilation ON + checkbox No.18 OFF or Ventilation ON + checkbox No.18 ON + thermostat ON

Ventilation ON + checkbox No.18 ON + thermostat OFF

3.6. Indication of car battery voltage decrease under preset limit

Activation of checkbox T4 enables measurement of car battery voltage and its comparison to limit level CBV stored in the system. When battery voltage decreases bellow CBV value and stays bellow for time longer than is VOST value system sends SMS "Car battery voltage decrease" to maximum 3 VIP phone numbers shown in triple checkbox T4.

3.7. Periodical connectivity test

Functionality „Periodical connectivity test" enables to set up automated process of sending SMS report to maximum 3 VIP phone numbers shown in triple checkbox T5 in preset time intervals which shows operability of CommandCall (for example system will send SMS report "Periodical connectivity test OK" every 15 days). The user has possibility to recognize that something wrong happened to CommandCall if he/she does not receive SMS report in expected time. It can be caused by system malfunction or just by missing credit for sending SMS reports.

For activating this feature triple checkbox T5 must contain reference to at least one VIP phone number and desired time interval for sending SMS report must be set by combination of 3 values - number of days,

hours and minutes. These values can be freely combined in allowed ranges, for example SMS report sending can be repeated every 5 days and 14 hours and 23 minutes (of course it is necessary to set up meaningful time period).

Note: System RESET will clear the counter of elapsed time from last SMS report sent to the user.

3.8. Optional outputs activation

Activation of checkbox No.26 will simultaneously activate optional outputs +300mA and -300 mA. Deactivation of checkbox No.26 will simultaneously deactivate these outputs. These outputs may be used to control optional accessories.

3.9. Short circuit

If short circuit occurs on the 300mA outputs of the CommandCall system sends SMS "Short circuit" to the phone number stored as the first one in triple checkbox T12 and than makes a phone call to this number. User can press "Call terminate" button on his mobile phone to terminate phone call, otherwise system will cancel phone call automatically after approximately 15 seconds. In the case in triple checkbox T12 are stored more phone numbers then system makes the same procedure with the second and then with the third phone number (according to position of the number in VIP phone numbers list). After short circuit disappears the system will recover automatically and restores standard operation. In the case the system will not start normal operation within 10 minutes, RESET CommandCall unit, please.

4. Appendixes
4.1. Status SMS structure
Field 1: actual status of the heater/ventilation represented by SMS report relevant to checkbox No.: 4 - 13 or "Eberspaecher OFF"

Field 2: if checkbox No.18 is activated then text „Automatic mode" will be included in the Status SMS

Field 3: if checkbox No.18 is activated then depending on thermostat actual status value „0" or „1" will be included in the status SMS indicating actual thermostat status. Thermostat status table is given below. In the case heater is switched OFF then Field 3 is not included in Status SMS.

Field 4: if External clock is enabled (system accepts control signals of external clock) then text "External clock activated" will be included in final message

Field 5: remaining ON time in format „MMM min." (MMM is value of remaining minutes)

Field 6: actual in car temperature in format „±ttt.t C" when °C is selected or „±ttt.t F" when °F is selected by checkbox No.19.

**Field 7**: actual voltage of vehicle battery in format „vv.v V" (vv.v is car battery voltage value)

In Status SMS containing SMS message corresponding to checkbox No.: 4, 5, 7 - 9, 11 - 13 then Fields No.: 1, 5, 6 and 7 must be always present regardless respective checkboxes setting.

In Status SMS containing SMS message corresponding to checkbox No.:6, 10 or "Eberspaecher OFF" then Fields No.: 1, 6 and 7 must be always present regardless respective checkboxes setting.

Individual fields of the Status SMS are separated by comma and next field starts on new line.

Thermostat actual status depends on actual temperature and its evaluation in relation to preset temperature levels UST1 and UST2. Following states can appear:

Actual temp. vs. temp. interval	Actual thermostat status	
	heating	ventilation
A - Temp. interval entered from top	OFF (0)	ON (1)
B - Temp. interval entered from bottom	ON (1)	OFF (0)
C - Temp. interval left upwards	OFF (0)	ON (1)
D - Temp. interval left downwards	ON (1)	OFF (0)
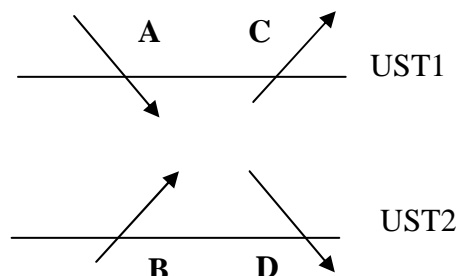
CommandCall CC2 answers to the user request by sending SMS report to the phone number from which original request / command was sent to CommandCall.

4.2. Trouble shooting

Actual status	Possible reason	Measures to be taken
system does not respond	power failure	check the fuses and all connections
	weak GSM signal	check GSM antenna change vehicle position change CommandCall in car installation location use external GSM antenna
	no GSM signal	check the coverage map of your GSM mobile operator
	blocking of GSM network	check the GSM network blocking at your operator
	GSM network overload	try later
	SIM card expiration	check expiration of used SIM card and remaining credit
	incorrectly inserted SIM card	check SIM card insertion
	poor contacts of SIM card	clean SIM card contacts
	damaged SIM card	replace damaged SIM card at your GSM network operator
delayed operations	GSM network overload	try later
command is executed but no SMS is sent to the user	no credit on SIM card	check remaining credit on SIM card
short circuit		remove the short circuit on output(s) and wait approximately 10 minutes, system will recover automatically. If the problem persist, RESET the system. If the problem still persist, contact authorised service centre.
system ignore received SMS	incorrect SMS command format	system intentionally ignores SMS commands starting with text (SMS sent by the operator - advertisement or service SMS, messages sent from free or paid GSM gates) and answers only to the phone number from which respective SMS was sent.
system does not send SMS of periodical test	checkbox T5 is not activated no credit on SIM card	activate triple checkbox T5 check remaining credit on SIM card
system sends string "- - - -" instead of temperature value	temperature sensor is not connected or is damaged	check connection and functionality of temperature sensor

4.3. Technical specifications:

Model: CommandCall CC2

DC power (auto sensing)	12 / 24 V
DC power range	9 - 35 V
Average current draw (GSM online)	≤ 6 mA
Working temperature range	- 35 to + 80℃
Antenna connector	M SMA (male)
Antenna impedance	50 Ω

GSM module parameters (Siemens MC55i)

Frequency range	850/900/1800/1900 MHz
SIM card power supply	1,8V; 3V
Normal working temperature range	-20℃ up to + 70℃
Restricted working temperature range	-40℃ up to + 70℃

Control unit dimensions: 105 x 65 x 27mm (l x d x h); weight   95 gr.

CommandCall unit is electronic device and thus can not be disposed as communal waste. Used product dispose at dedicated recycling collection spot.

This unit contains plastics and other recyclable materials.

This product was tested and approved for use in accordance with relevant EC directives.

This product conforms with the type approved by Ministry of Transport, Post and Telecommunication of the Slovak Republic on September 28, 2007 under Approval No. E27*10R-02*1199*00 and EC type-approval No. e27*72/245*2006/96*1011*00.

For this product following marks were allotted:
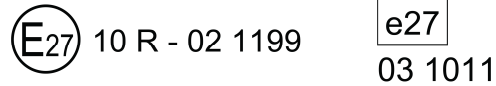
E27 10 R - 02 1199

e27
03 1011

Product parameters are subject to change without prior notice.

MOLPIR

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