



WarmUp

GB

SmartStart™

User and installation guide



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ABOUT THE USER GUIDE

Here is an explanation of the meaning and use of symbols in the user guide.

Important information



The warning triangle signifies important information. Not necessarily critical information.

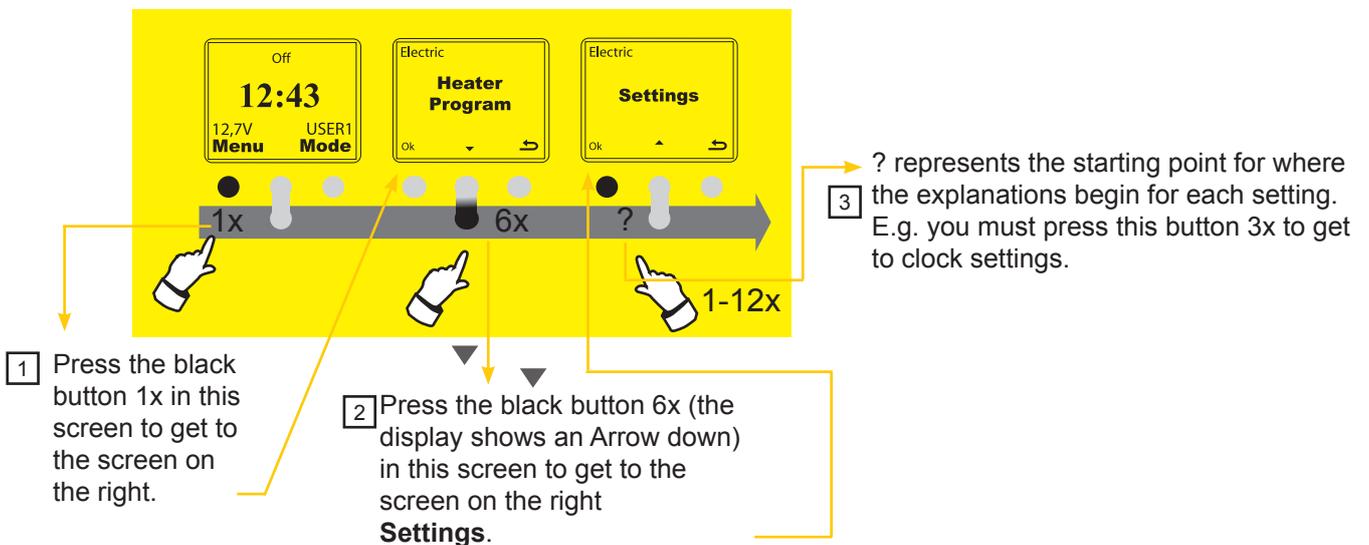
Opening screen



The opening screen may vary, based on the selected settings, but the screen will always contain a large clock in the centre of the display and the functions **Menu** and **Mode**.

Start sequence

Many of the settings and functions are found in the same main group (See Main screens, page 6). The start sequence can be found at the head of the page in the user guide. The example below shows the meaning of the buttons and how you find the **Settings** menu from the opening screen in SmartStart™.



FUNCTIONS

SmartStart™ consists of two units – The hand-held remote control (RC) and vehicle unit (VU). All communication between the units is initiated by RC. In addition to the key pad lock and “Back light”, all of the settings and data are stored in the VU. This means that the RC only listens for responses from the vehicle when the RC itself initiates a communication. Such communication is initiated on the following occasions.

- The RC wakes from inactivity, either when the right button is push down in normal Sleep Mode or by the right button being push down twice in the course of 1 second if the key pad lock is activated (see Power saving)
- A parameter that applies to the VU has been changed (e.g. Pickup Time)

Each time the RC and VU communicate, a complete data set is sent to the RC (based on which user is active).



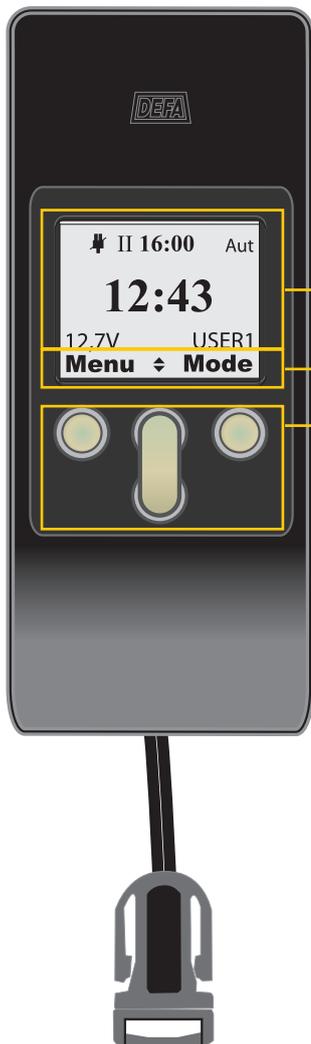
RC



VU

RC= Remote Control, VU=Vehicle Unit.

DISPLAY

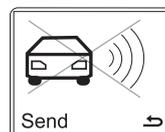


The display is a grey scale full-graphic LCD, with a resolution of 80x64 (BxH). All text is presented as black and white (maximum contrast) with the exception of text in menus that are not available.

The symbols in the display are explained on the next page.

The bottom line in the display shows which functions the buttons have at the time.

The function of the buttons changes according to where you are. See next page.



If the units cannot contact each other, the display shows the symbol “crossed out car” and shows data from the last time RC was in contact with VU.

SYMBOLS

Here is a brief explanation of the various display symbols in DEFA SmartStart™. More information about these symbols and their settings can be found on the page number that is shown in parenthesis (XX).

- I** Centred at the top of the display are the symbols for retrieval time **I** or **II** with the time. Default retrieval time is 8 am and 4 pm. (15).
- II**
- On** Always on. **On** is shown with the symbol  if the vehicle is connected to mains power.
- Off** Heating is de-activated and remains de-activated.

Heating medium

-  Shows that the vehicle is not connected to main power.
-  Shows that it is in Fuel-based mode (18).

12:43
Shows clock (7).

12,7V
Shows battery level.

Menu

Activates a 7 item sub-menu. Browse with the down arrow to see the other sub-menus. Select **Ok** (left button) to enter sub-menu (6).

 
Both of the arrow symbols indicate that there are several options over and under the existing screen.

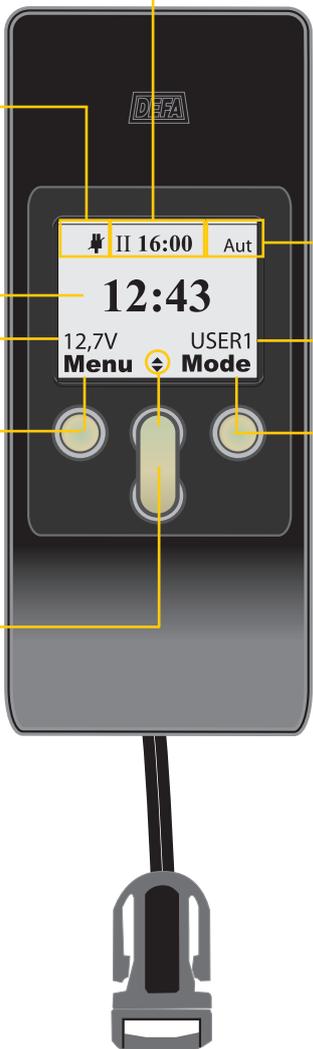
An arrow symbol shows that there are options only in that direction. The arrows are not shown in this screen if you only have electric car heating.

- The upper right corner shows the programmed Pickup time.
- Aut** **Automatic** shows that WarmUp connects automatically. The connection time is then controlled by the ambient temperature (15).
- 1h** Heating is turned on 1 hour before programmed Pickup time.
- 2h** 2 hours before programmed Pickup time.
- 3h** 3 hours before programmed Pickup time.
- 4h** 4 hours before programmed Pickup time.
- On** Starts the system at the programmed Pickup time **I** or **II** and stays **On** until the next Pickup time even if you in the meantime are using the vehicle.
- Off** ... Is NOT turned on at the programmed Pickup time **I** or **II**
- Aut Aut** **Aut** and **Aut** show that SmartStart™ has been set to control the engine and compartment heaters independently. E.g. that the engine heater will start at another time than the compartment heater (16).
-  Shows that heating is in process

USER1
It is possible to select two different user set-ups. The default is **USER1** and **USER2**. These can be replaced by initials or other identification (10).

Mode
showing the next retrieval time, **On** and **Off** (15).

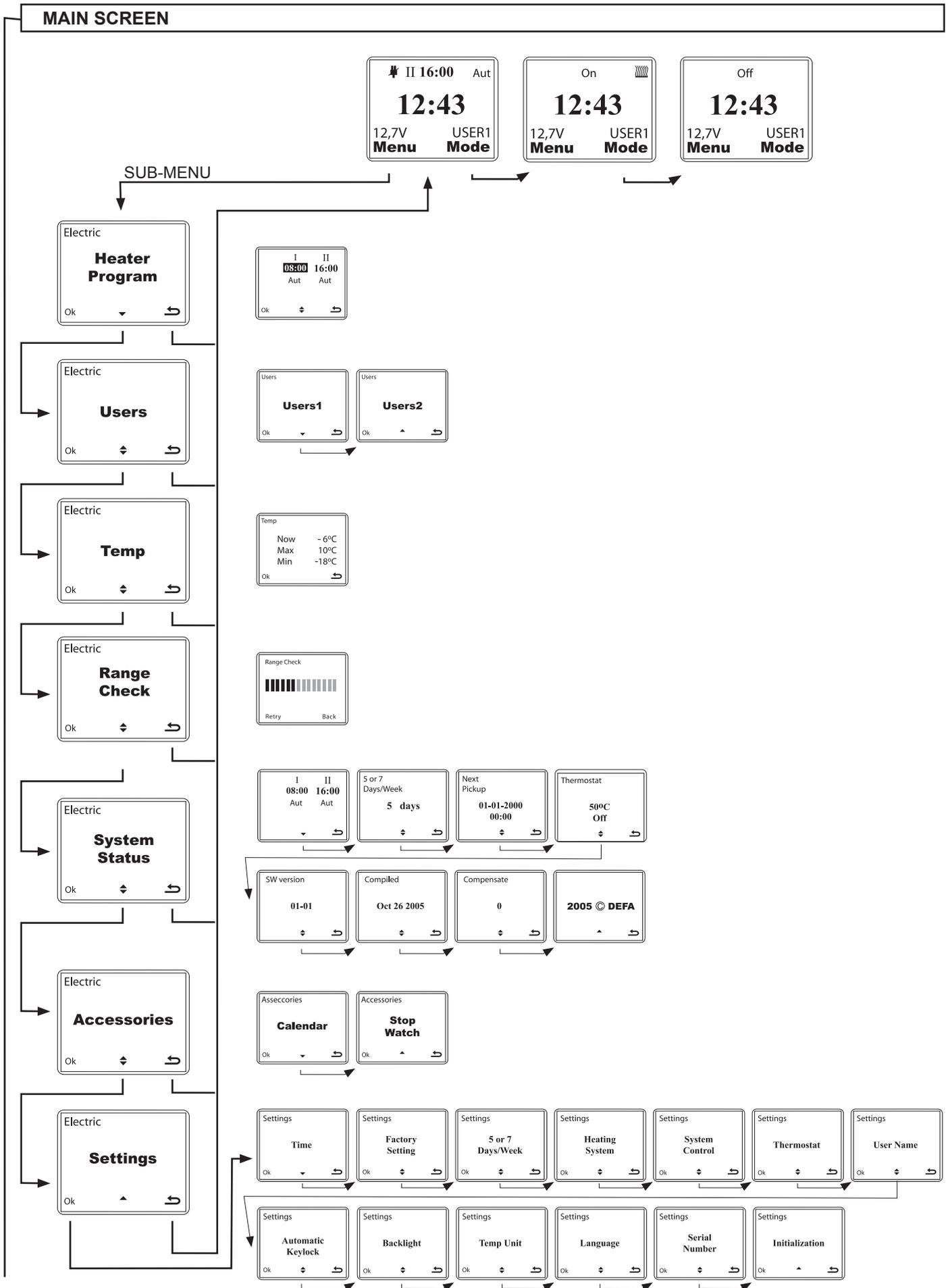

Means that you go one step back (Undo).



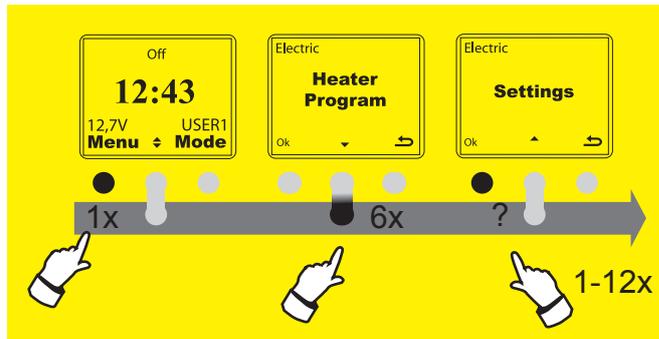

PickUp time = Retrieval time = The time you want the vehicle to be warm - When you are going to use the vehicle.
PickUp time – I or II. Also called Program. The display shows the next retrieval time. See page 15 for setting these

* () = Page reference

DISPLAY



SETTINGS



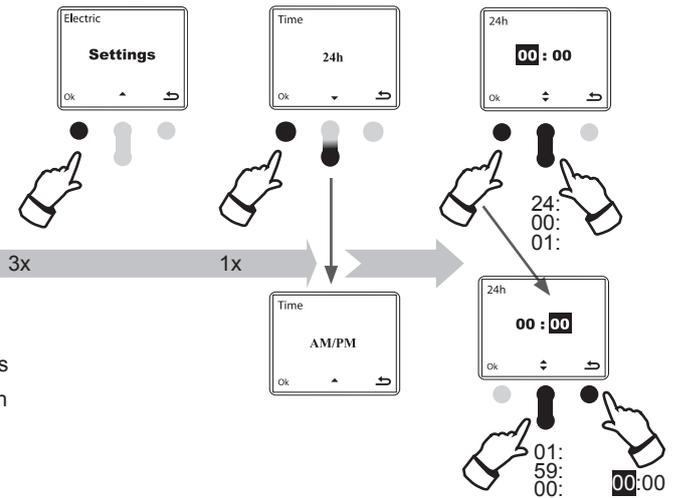
CLOCK

This is where you set the correct time. The selected retrieval times relate to this time.

Clock setting can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**.
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 3x **Ok**
- 5 - This is where you use the **arrow key** to select **AM/PM** or **24h**. Press **Ok** when done.
- 6 - Now you set the time with the **up/down arrow key**. Change to minutes setting with **Ok** and set with the up/down **arrow key**. Press right button (back) to change back to time or **Ok** to store new time.



If you press the right key according to point 4, the setting process is interrupted.

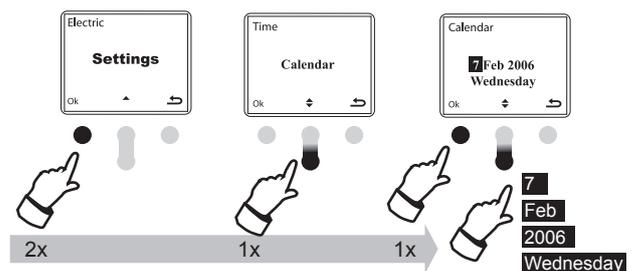
DATE

This is where you set the date. If you choose the 5 days week (page 8), it is important that the date is correct.

Date setting can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 2x **Ok**
- 5 - Press 1x **Arrow down** to **Calendar**
- 6 - Press 1x **Ok**
- 7 - Select date with **Arrow up/down**. Accept date with **Ok**. SmartStart™ then goes to Month.
- 8 - Browse with **Arrow up/down** to the correct month and accept with **Ok**. SmartStart™ then goes to Year. Browse with **Arrow up/down** to the correct year and accept with **Ok**. The date is then set.

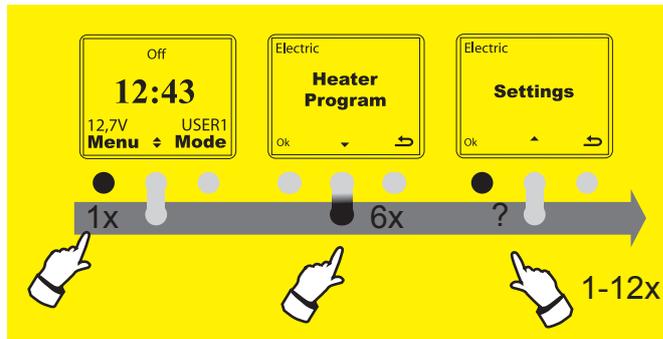


If you press the right key according to point 4, the setting process is interrupted.



5 or 7 days week= See page 8

SETTINGS



FACTORY SETTINGS

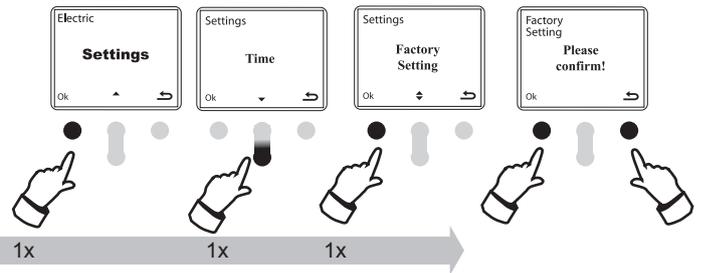
This is where you select the **Factory Settings** (default) for SmartStart™ Pickup times. It is only the relevant user (**USER1** or **USER2**) Settings that are returned to default.

The **Factory Settings** can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**.
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**.
- 5 - Press 1x **Arrow down** to get to **Calendar**
- 6 - Press 1x **Ok** to select **Factory settings**.
- 7 - Press 1x **Ok** to accept **Factory settings** or right key to undo.
(The display will go back to **Factory Setting** when **Ok**)
- 8 - Go back to the main screen by pressing the right key three times.

If you press the right key according to point 4, the setting process is interrupted.



⚠

Factory settings = Default . The language will not be resetted.

5 OR 7 DAY WEEK

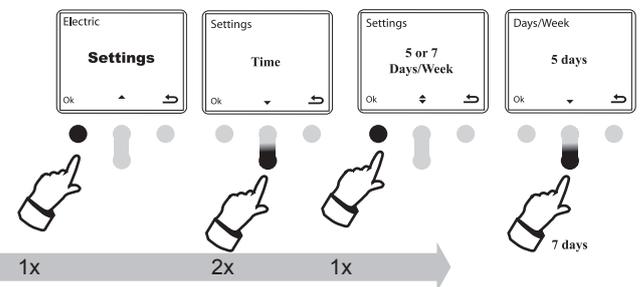
This is where you select whether the retrieval times should be active in **5 or 7 day weeks**. If you select 5 day week the retrieval times are inactive on Saturdays and Sundays.

The setting can be found under **Settings**.

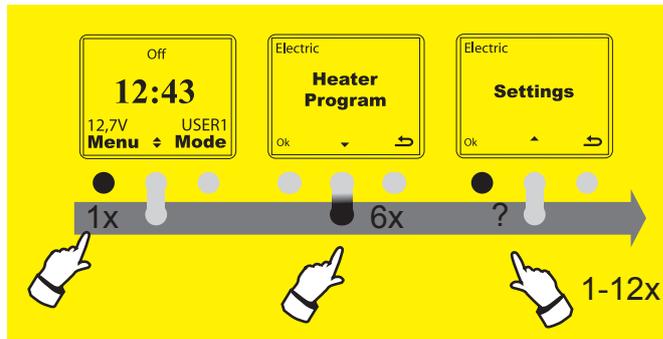
- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**.
- 5 - Press 2x **Arrow down** to get to "5 OR 7..."
- 6 - Press 1x **Ok** to select **Setting**.
- 7 - Press 1x **Ok** to select 5 day week or to change to 7 day week.
- 8 - Go back to the main screen by pressing the right key 3x.

If you press the right key according to point 4, the setting process is interrupted.



SETTINGS



HEATING SYSTEMS

DEFA WarmUp is an electrically powered system and Smartstart™ is factory set with **Electric** as default. SmartStart™ is ready to also control other fuel powered systems, either in conjunction with DEFA WarmUp or independently.

The **Heating System** settings can be found under **Settings**.

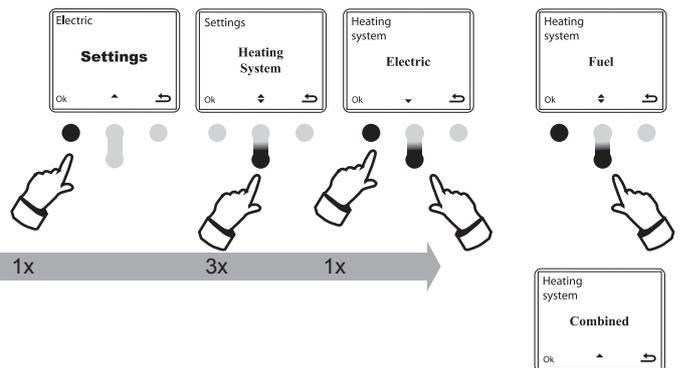
- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**.
- 5 - Press 3x **Arrow down** to get to **Electric**
- 6 - Press 1x **Arrow down** and select **Fuel** and **Ok** to select **Fuel**.

This assumes that a fuel heating system is installed (Connecting diagram at page 21).

- 7 - Press 1x **Ok** to accept or right key to undo.

If you press the right key according to point 4, the setting process is interrupted.



In the case of fuel-based heating, the system will always return to **Off** mode after heating. If, however, both **Electric** and **Fuel** have been selected (**Combined**) as active, the system will return to **Electric** after a fuel-based heating.

- Electric** = The vehicle is connected to mains power through a cable.
- Fuel** = A fuel vehicle heating system is installed in the vehicle. See Special Settings page 18
- Combined** = Both **Electric** and **Fuel** vehicle heating systems are installed.

SYSTEM CONTROL

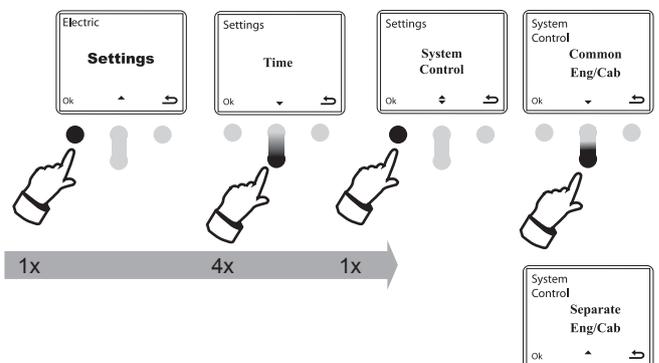
DEFA SmartStart™ can be set for independent control of both engine and compartment heaters. (Heating program page 16). The default setting is with common control. In other words, the connection time is the same for engine and compartment heaters.

The **System Control** can be found under **Settings**.

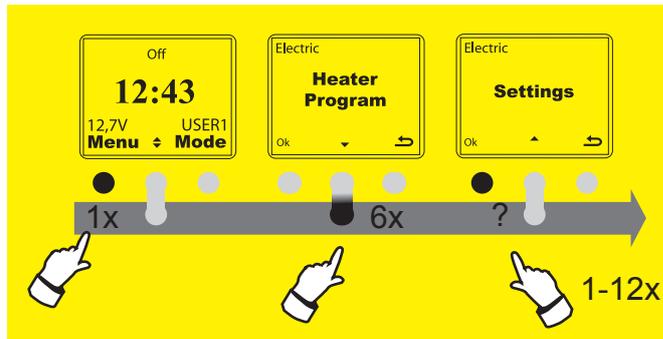
- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**
- 5 - Press 4x on **Arrow down** to get to **System Control**.
- 6 - Press **Arrow down** and 1x **Ok** to select **Separate Engine/Compartment**. This assumes that the temperature sensor has been fitted in the compartment.

If you press the right key according to point 4, the setting process is interrupted.



SETTINGS



THERMOSTAT

It's possible to use the temperature sensor as a thermostat in the compartment or the engine room. This function requires that the **System Control (9)** is set to **Separate Engine/Compartment**.

The **Thermostat** settings can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

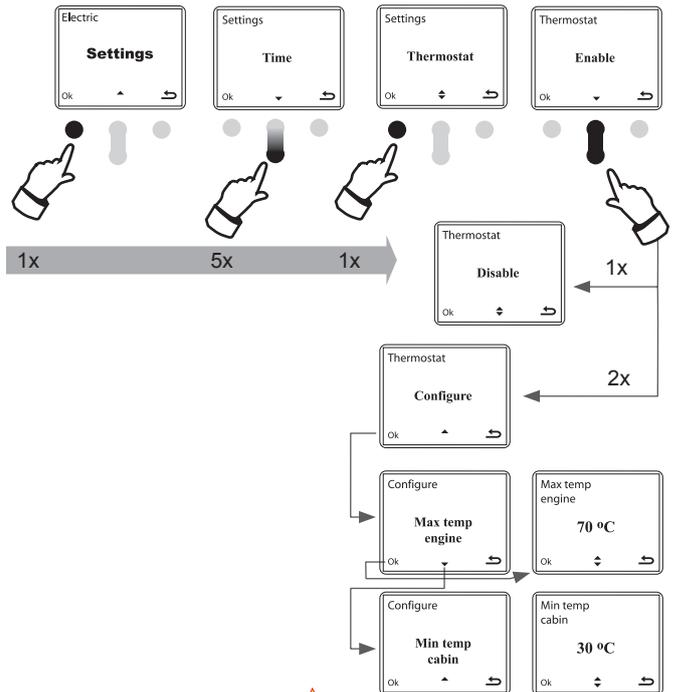
- 4 - Press 1x **Ok**
- 5 - Press 5x **Arrow down** to get to **Thermostat**
- 6 - Press 1x **Arrow up** and select **Enable** and **Ok** or press arrow 1x to get to **Configure**. Select **Ok**
- 7 - Select max engine temperature **Ok** or Arrow down and **Ok** to select Min. compartment temperature.

Max temp engine: (10-80°C). The thermostat turns off heating at the set temperature. Re-connects at 5°C below the set temperature.

Min temp cabin: Connects the compartment (cabin) temperature when the temperature falls below the set temp. Disconnects at 2 degrees above the set temp.

- 8 - Set the temperature with **Arrow up** or **down** and press **Ok** to store the selection or back without storing with the right button.
- 9 - Remember to activate the Thermostat by pressing **Ok** when the display are showing **Enable**.

If you press the right key according to point 4, the setting process is interrupted.



If you are using the temp. sensor as a interior thermostat, a temp. sensor in the VU unit will control the **Aut** program for the engine heater.

USER NAME

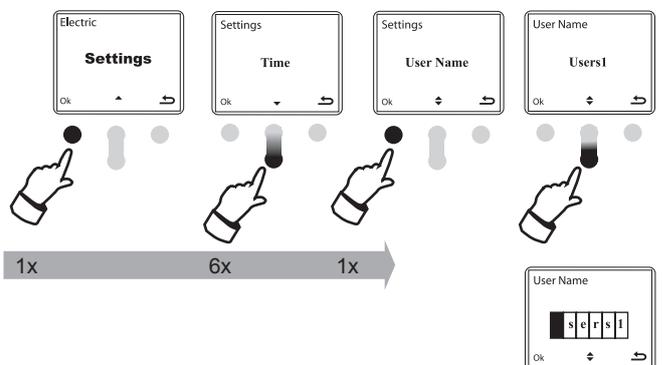
DEFA SmartStart™ allows you to store two different user profiles, which may be appropriate when several people use the same vehicle. Default values for user profiles are **USER1** and **USER2**. This is how they are changed:

User Name settings can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**
- 5 - Press 6x **Arrow down** to get to **User Name**
- 6 - Press 1x **Arrow down** and select **USER1** and select **Ok** to get to **Settings**
- 7 - Browse with Arrow up/down to choose the letters, symbols or figures in the black field. Go on to the next field with **Ok** and select the next letter, symbol or figure. There are a total of 6 fields that can be used to name a user.

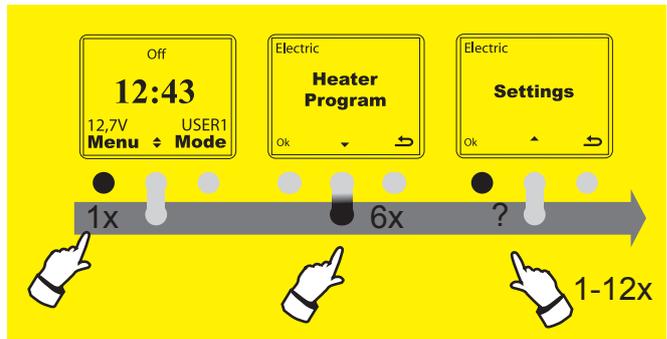
If you press the right key according to point 4, the setting process is interrupted.



You can switch user under the menu **Users**.
To get there press 1x **Menu** , 1x **Arrow down** and 1x **Ok**.
Switch user by using **Arrow up/down** and press **Ok** to confirm.

Tip: Leave black a field and continue by pressing **Ok**.

SETTINGS



AUTOMATIC KEYLOCK

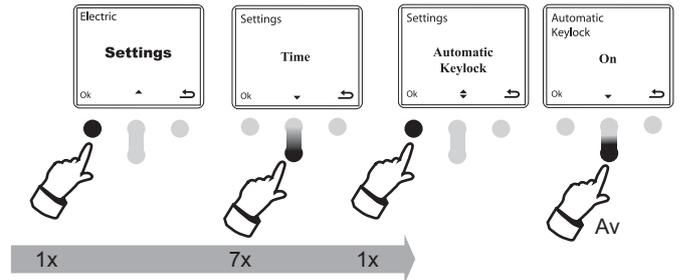
If this is activated, the lock will be automatically activated 20 seconds after the last activity. The keypad is opened by pressing the right button twice in one second.

The **Keylock** settings can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**
- 5 - Press 7x **Arrow down** to get to **Auto Keylock**
- 6 - Press 1x **Arrow down** and select **On** with **Ok** or press 1x **Arrow down** to get to **Off**. Select **Ok**.

If you press the right key according to point 4, the setting process is interrupted.



LIGHT

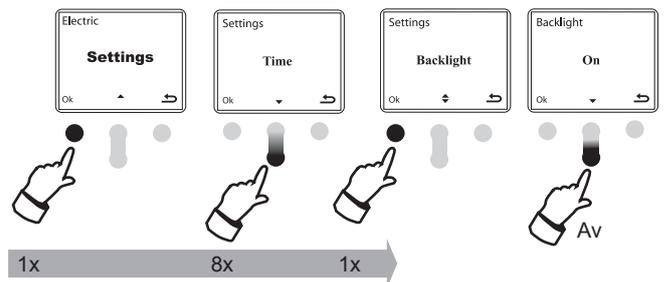
If the display light, **Backlight**, is activated it will be active for 5 seconds after the last key is pressed.

The **Backlight** setting can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

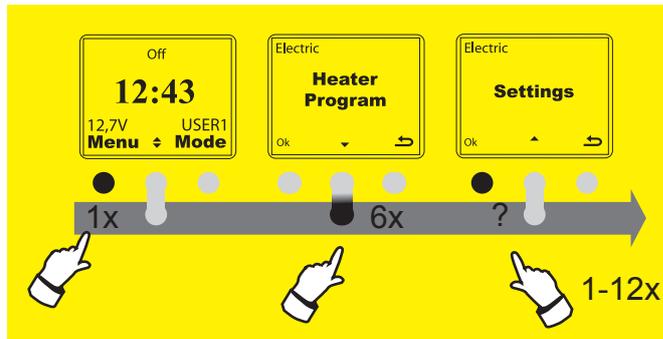
- 4 - Press 1x **Ok**
- 5 - Press 8x **Arrow down** to get to **Backlight**.
- 6 - Press 1x **Arrow down** and select **On** using **Ok** or push one more time on the **Arrow down** for **Off** and select **Ok**.

If you press the right key according to point 4, the setting process is interrupted.



 The battery lifetime is reduced when the backlight is used.
Battery spare part no: # 418103

SETTINGS



TEMPERATURE UNITS

Select display in **Celsius** or **Fahrenheit** degrees.

The temperature format can be found under **Settings**.

1 - Activate SmartStart™

2 - Press 1x **Menu**

3 - Press 6x **Arrow down** to go to **Settings**.

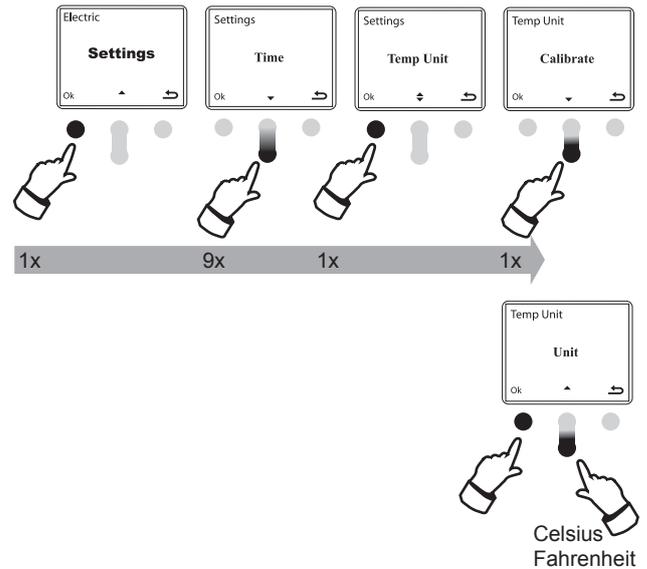
4 - Press 1x **Ok**

5 - Press 9x **Arrow down** to get to **Temperature units** and select **Ok**

6 - Press 1x **Arrow down** and select **Unit** and **Ok**.

Use arrow key up or down to change between **Celsius** and **Fahrenheit**. Confirm selection with **Ok** or cancel with the right button.

If you press the right key according to point 4, the setting process is interrupted.



TEMPERATURE CALIBRATION

Select calibration to calibrate the temperature sensor with other equipment in your vehicle.

Temperature calibration can be found under **Settings**.

1 - Activate SmartStart™

2 - Press 1x **Menu**

3 - Press 6x **Arrow down** to go to **Settings**.

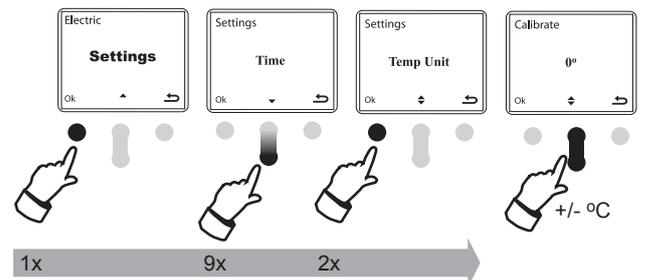
4 - Press 1x **Ok**

5 - Press 9x **Arrow down** to get to **Temperature units**

6 - Press 2x **Ok** to get to **Calibrate**

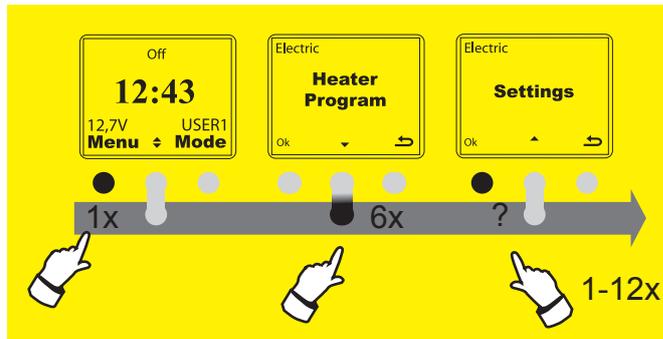
7 - Use **Arrow up/down** to **Calibrate**. Confirm selection with **Ok**.

If you press the right key according to point 4, the setting process is interrupted.



Calibrate with other equipment in the vehicle. Use the arrow keys to correct in the area +/- 3°C. The correction takes place in Celsius equivalent to 1.8°F. Save the correction with **Ok**.

SETTINGS



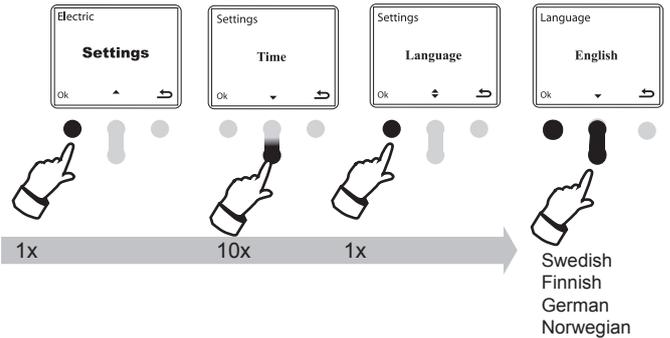
LANGUAGE

English is the default language. This is how you change the language.

The **Language** setting can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

- 4 - Press 1x **Ok**
- 5 - Press 10x **Arrow down** to get to **Language** and **Ok**.
- 6 - Press 4x **Arrow down** and select **English** and **Ok**. Use the **Arrow key up/down** to select other languages. Confirm with **Ok**.



If you press the right key according to point 4, the setting process is interrupted.

SERIAL NUMBER

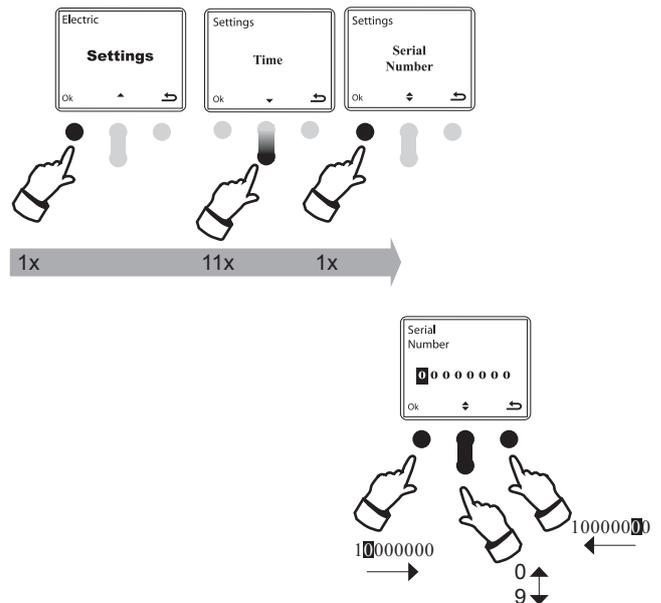
To get the hand-held RC to communicate with the unit in the vehicle VU, the vehicles serial number (Number on the VU) has to be entered in the handheld unit. You only have to do this if the RC or VU is bought as a spare part.

The **Serial Number** can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

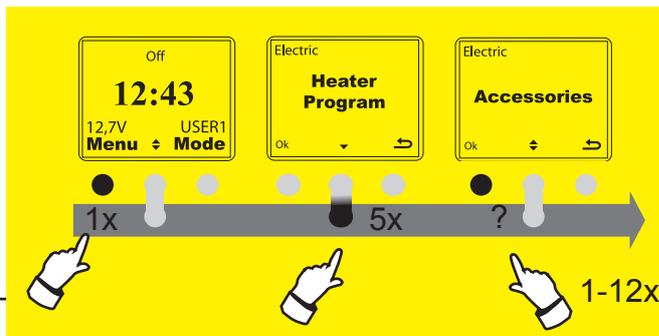
- 4 - Press 1x **Ok**
- 5 - Press 11x **Arrow down** to get to **Serial Number** and **Ok**
- 6 - Select the first figure in the serial number with **arrow up** or **down** and confirm **Ok** to go to next figure. Repeat this with the rest of the serial number and store the result with **Ok**. On the last figure the selection and the unit tries to communicate with the vehicle. If contact is established between the units, the number is stored. If contact is not established, check that the correct number has been entered.

If you press the right key according to point 4, the setting process is interrupted.



!
The **Serial Number** is 8 figures long (1XXXXXXX), it is shown on the VU fitted in the vehicle.

ACCESSORIES



CALENDAR

Located under the **Menu/Accessories** you find the **Calendar** option. Two options are located under **Calendar – View** and **Next Pickup**. **View** is showing today's date and you can view dates ahead or future by using the Arrow up/down. **Next Pickup** - You can set the future pickup date with this option fx when your on a vacation or a business trip abroad and you are parking your vehicle at the airport. If you activate/set a Next Pickup date, will the pickup times in between be deactivate. After the future date SmartStart™ will use the normal heating program again.

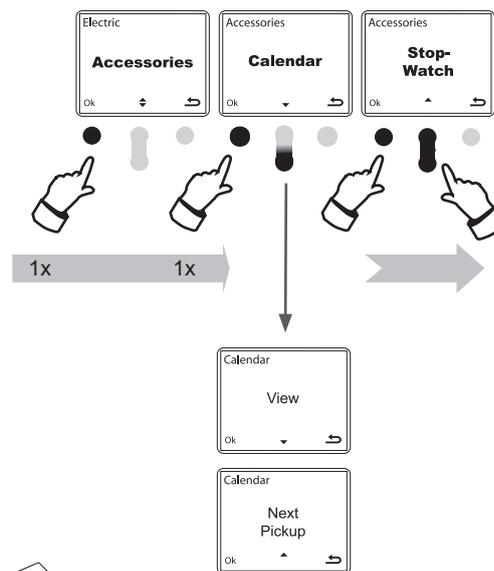
Calendar is located at **Accessories**

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**.
- 3 - Press 5x **Arrow down** to get to **Accessories**.

- 4 - Press 2x **Ok** to get to **Calendar**.
 - 5 - **Arrow down /up** to get to **View** or **Next Pickup** date.
- If you push 1x at the right button after point 4, the setting will be aborted.

Press 1x **Ok** in the **View** display to view today's date.
 Press 1x **Arrow down** when the display shows the **View** option to get to the **Next Pickup** date.
 The **Next Pickup** option makes it possible to set a future pickup date. A good example is when you are on a vacation and you are parking on an airfield.
 Note! Ensure to have fully charged battery if you are using a fuel based heating system.

To set **Next Pickup**
 See **Date controled connection times** at page 17



When you have set a future pickup time, this setting will appear in the main display.

STOP WATCH

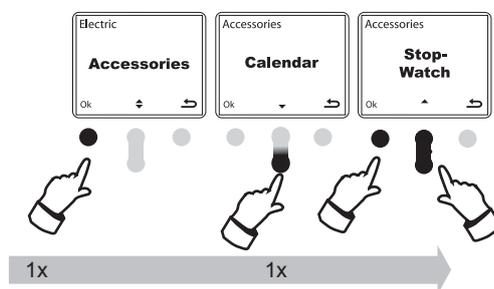
Under the menu **Accessories** there is a **Stop Watch** function including intervals.

Stop Watch is located under **Accessories**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**.
- 3 - Press 5x **Arrow down** to get to **Accessories**.

- 4 - Press 1x **Ok** to get to **Calendar**.
- 5 - Use **Arrow down** to get to **Stop Watch**.
- 6 - Push 1x **Ok**.
- 7 - You are now ready to use the **Stop Watch**.

Start the **Stop Watch** by pushing 1x at left button.
 Press 1x at **II (Arrow up)** to get an interval. The icon **II** starts to blink.
 Press at **II** once again to continue timing.
 Press **□ (Left button)** to stop. Push left button once again to continue timing or **C (Arrow up)** to zero positioning the watch.



If you press 1x at the right button after point 4, the setting will be aborted.

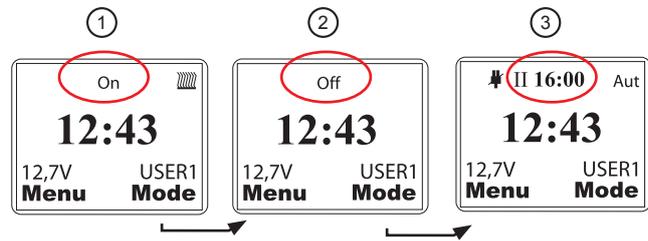
HEATING PROGRAM

HEATING PROGRAM

In the heating program SmartStart™ can be in three different modes. The illustrations in the right shows these modes.

You can switch between the different modes using the right button **Mode**

- ① **On**
Choosing **On** the heating of the engine and the coupé will start immediately. Heating symbol will appear at the right side in the top of the display. If 230V is not connected, this function will not be available. This function will be active until you start the car. Then SmartStart™ will return to program mode and follow the programmed pickup times I and II
- ② **Off**
Choosing **Off** the heating system will not start and will immediately end the heating of engine and coupé. SmartStart™ will be **Off** until you choose another mode.
- ③ **Program**
Choosing program mode, the next actual pickup time I **08:00** or II **16:00** shows in the display. In this mode SmartStart™ will use the settings under heating program and repeat this weekly. To set weekly program, see page 8.



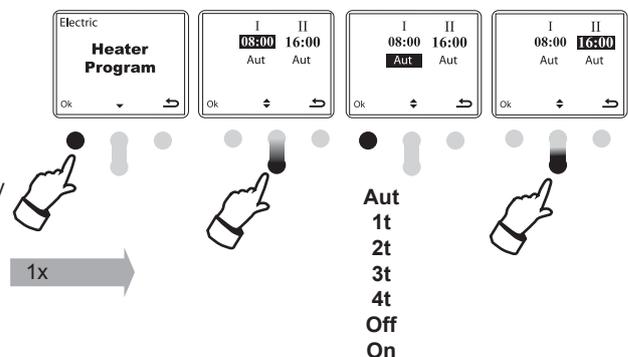
Display above is showing the three different available modes.

On and Off modes overrule your standard programmed settings.

Oversleep - (Available when using electric heating) If you do not pick up the vehicle at chosen pick up time the system will still heat up to two hours more. Ignition signal will interrupt the heating.

PROGRAMMING

Factory setting is
 Pickup time I*: 08:00
 Pickup time II: 16:00
 Engine- Interior heater: **Aut** (Automatic connecting time according to outdoor temperatur. See diagram **Connecting time for Engine /Cabin** below).
 5-days Week: Pickup time is inactive in the weekends. Saturday and Sunday. To change this look at page 8.

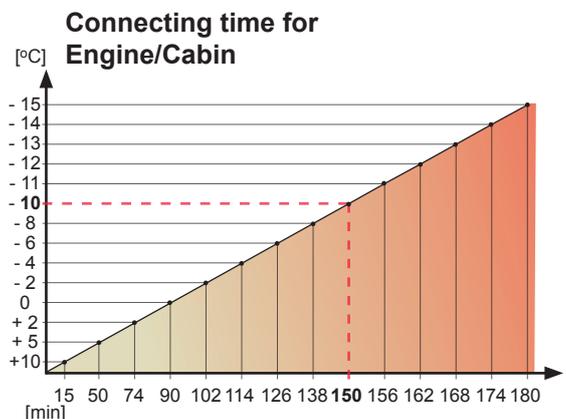


To get to the Heater Program

1. Activate display.
2. Press 1x **Menu** and 1x **Ok**.
3. **Arrow up/down** to change pickup time I and/or push 1x **Ok**** to continue.
4. **Arrow up/down** to select one of the following heating programs

Aut: Connecting at pickup time I or II
1h: 1 hour heating before pickup time
2h: 2 hour heating before pickup time
3h: 3 hour heating before pickup time
4h: 4 hour heating before pickup time
Off: Continue Off. Does NOT connect at any of the pickup times I or II
On: Starts the system at the programmed Pickup time I or II and stays **On** until the next Pickup time even if you in the meantime are using the vehicle.

5. Continue forward the same way to change pickup time II and to choose/set the heating program you like for pickup time II.

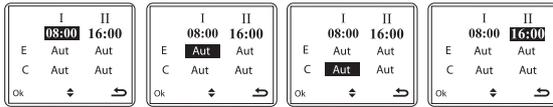


Example: The system will be turned on 150 minutes before pickup time at -10°C (180 minuts at -15°C).

HEATING PROGRAM

SEPARATE CONNECTION TIMES (Page 9 – System control)

Set **Separate** connecting times at **Settings /System control** (Page 9)
 To access this function you need to install an extra relay and some cables
 (Connecting diagram at page 22).
 This function make it possible to set different connecting times for the
Engine- and **Cabin** heater. At **Heater Program** you will find the following
 menu



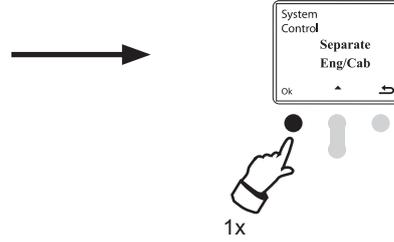
E = Engine
 C = Cabin

Aut

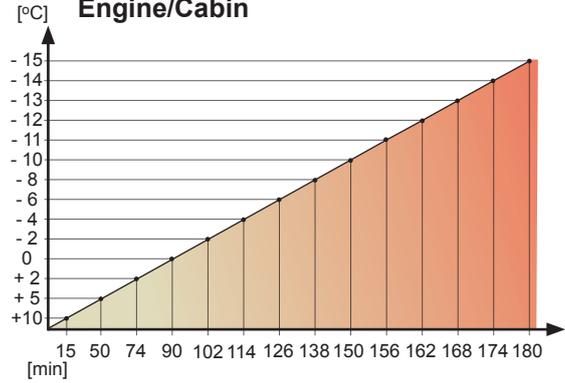


* Pickup time = The time you like your vehicle to be preheated
 and ready for use.

** The remote control need contact with the vehicle to save
 new settings.



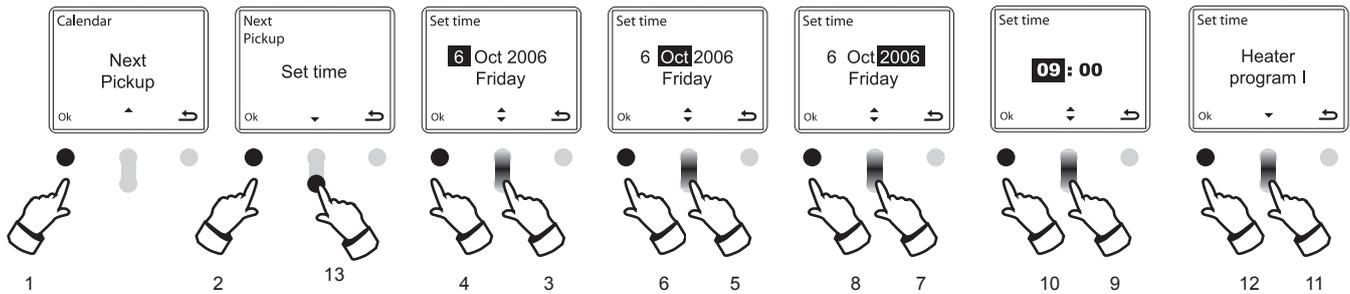
Connecting time for
 Engine/Cabin



HEATING PROGRAM

DATE CONTROLLED CONNECTION TIMES

This function is available at **Accessories/Calendar**. (Page 14) and is called **Next Pickup** time. With this function you can set a future pickup time minimum one day ahead. If you do so DEFA WarmUp will NOT start before this pickup time. After this pickup time SmartStart™ will return to and follow your original heating programs.



Setting a future heating date

Execute the sequences as described at page 14 **Calendar** and:

- ① Press 1x **Ok** when display is showing **Next Pickup** date.
- ② Press 1x **Ok** when display shows **Set time**.
- ③ Choose the pickup date by using the **arrow down/up**.
- ④ Confirm the date using **Ok** and at the same time get to set month.
- ⑤ Choose month by using **arrow up/down**.
- ⑥ Confirm the month using **Ok** and at the same time get to set year.
- ⑦ Choose year by using **arrow up/down**.
- ⑧ Confirm the year by using **Ok** and at the same time get to set clock. When you press **Ok**, SmartStart™ remote control will communicate with the VU
- ⑨ Set time using **arrow up/down**.
- ⑩ To get to set minute, press **Ok** and repeat pt 9.
- ⑪ Now the display shows Heater program I. If you want to save this setting to heater program I, you can go on to pt 12. If you want to save this setting to Heater program II, choose **Arrow Down** to get to Heater program II and confirm using **Ok**.
- ⑫ Confirm setting using **Ok**.
- ⑬ If you choose **Arrow Down** when the display shows Set time, the option **Erase time** will appear. Press **Ok** in this display to delete past setting.

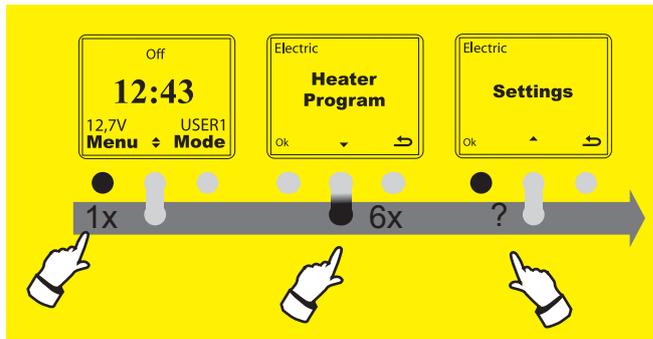


*If you choose Heater program I SmartStart™ will get the information from your ordinary settings (Sample showing Aut). If you choose Heater program II SmartStart™ will get the information from your ordinary setting (Sample showing 1t (1h))



When you have set a future Pickup time the setting will appear in the main display.

SPECIAL SETTINGS



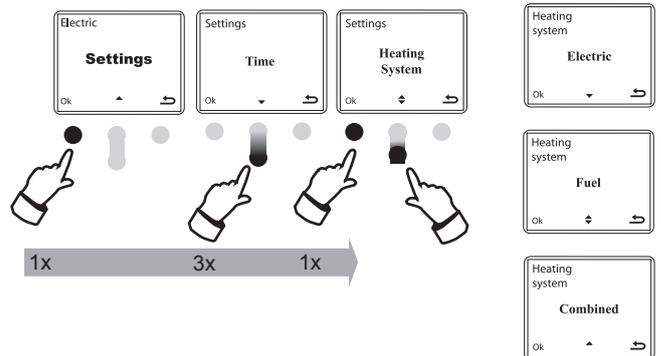
CONTROLLING FUEL SYSTEMS

In addition to controlling DEFA WarmUp, SmartStart™ can also be set to control fuel-based car heating systems. Either with DEFA WarmUp (Combined) or separately. SmartStart™ can only start on system at a time, electric or fuel.

The **Heating System** setting can be found under **Settings**.

- 1 - Activate SmartStart™
- 2 - Press 1x **Menu**
- 3 - Press 6x **Arrow down** to go to **Settings**.

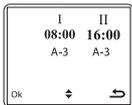
- 4 - Press 1x **Ok**
- 5 - Press 3x **Arrow down** to get to **Heating System** and select **Ok**
- 6 - Press **Arrow down** to get to **Fuel** and once more for **Combined**.



Select **Ok** when the display shows **Fuel** or **Combined** and return twice using .



The Arrows will be visible in the display if selecting **Combined**. **Arrow up/down** to select to show in the display either the **Fuel** based heating system or DEFA WarmUp (**Electric**).



Setting Pickup time for **Fuel** system. Press left button 2x when the display show the Fuel heating symbol to set the Pickup time **I** and **II**. The default Fuel Pickup time is **A-3** (See page 16).



See: Connection diagram on page 21
Pickup times in Fuel mode. See **Fuel Auto** on page 19

TECHNICAL INFORMATION

SPECIFICATIONS

Product name: SmartStart™ Article number: 440020

	Remote control (RC)	Vehicle unit (VU)
Operating temp*	-10°C < T < 60°C	-30°C < T < 80°C
Battery type	6V Lithium. 2CR-1/3N (DEFA no #418103)	
Range**	up to 1,2 Km	
Frequency	868,370 MHz	

Tests and approvals
 EMC complies with EN 301 489-1:2005-04 and EN 301489-3:2002.08.
 Radio test complies with ETSI EN 300 220-1:2000-09
 Emissions test performed in accordance with EN 301489-1 specifications in order to meet requirement in accordance with 2004/104/EC.



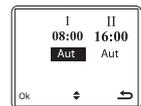
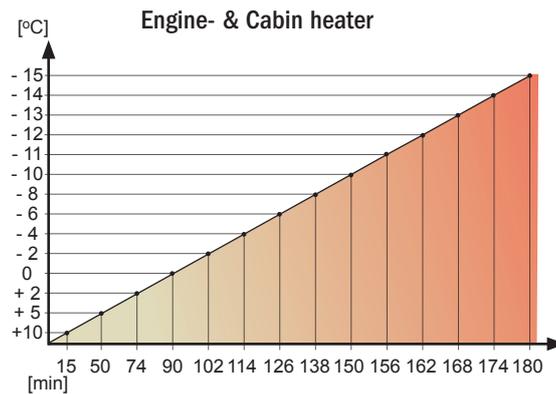
* Under very cold conditions the display may show "Replace battery" without it being necessary. If "Replace battery" is shown at room temperature - Replace the battery. USE ONLY LITHIUM BATTERIES (Sparepart no #418103)

** The range is affected / reduced considerably by such obstacles as walls, other vehicles, etc. Only moving to one side, or holding SmartStart™ straight up and down towards the vehicle may enable contact to be established.

HEATING PROGRAM AUTO

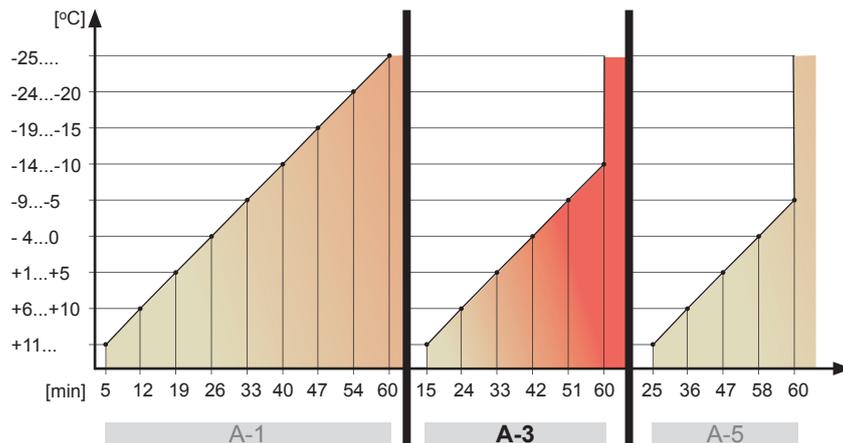
Common settings

The table shows a system where the temperature sensor is fitted in the engine compartment. The auto function then controls both the compartment and engine heater according to the same temperature sensor.



HEATING PROGRAM - FUEL AUTO (See also page 18)

If you are controlling an external fuel-based car heating system, StartSmart™ shows the **A-3** as default. A-1 to A-5 is a grading of the vehicle size, in which A-1 is a small car, A-3 is a medium-sized car and A-5 is a large car/bus.



- A-5
- A-4
- A-3
- A-2
- A-1
- 60'
- 55'
- 50'
- 45'
- 40'
- 35'
- 30'
- 25'
- 20'
- 15'
- 10'
- 5'

TECHNICAL INFORMATION

PARTS

Art.no.	Part name
#418100	SmartStart™ hand-held unit. (Spare part no: #418100)
#418103	Lithium 6V (Spare part no: #418103)
#418101	Unit fitted in vehicle. (Spare part no: #418101)
#418072	Wiring loom connected between C (VU) and DEFA battery charger and/or relay for controlling fuel-based heating systems. Temperatursensor (Spare part no: #418071)

#418100



#418103

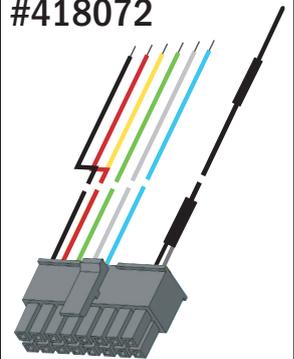


Lithium
2CR-1/3N

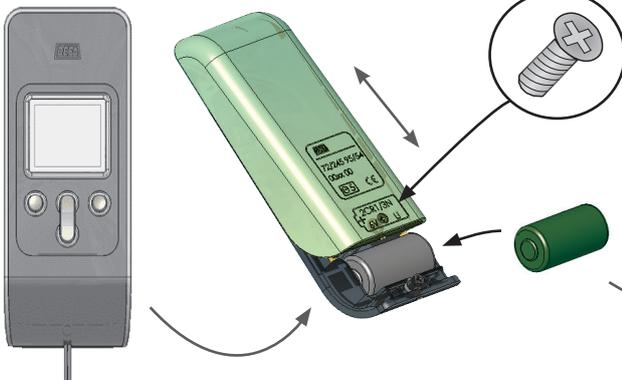
#418101



#418072



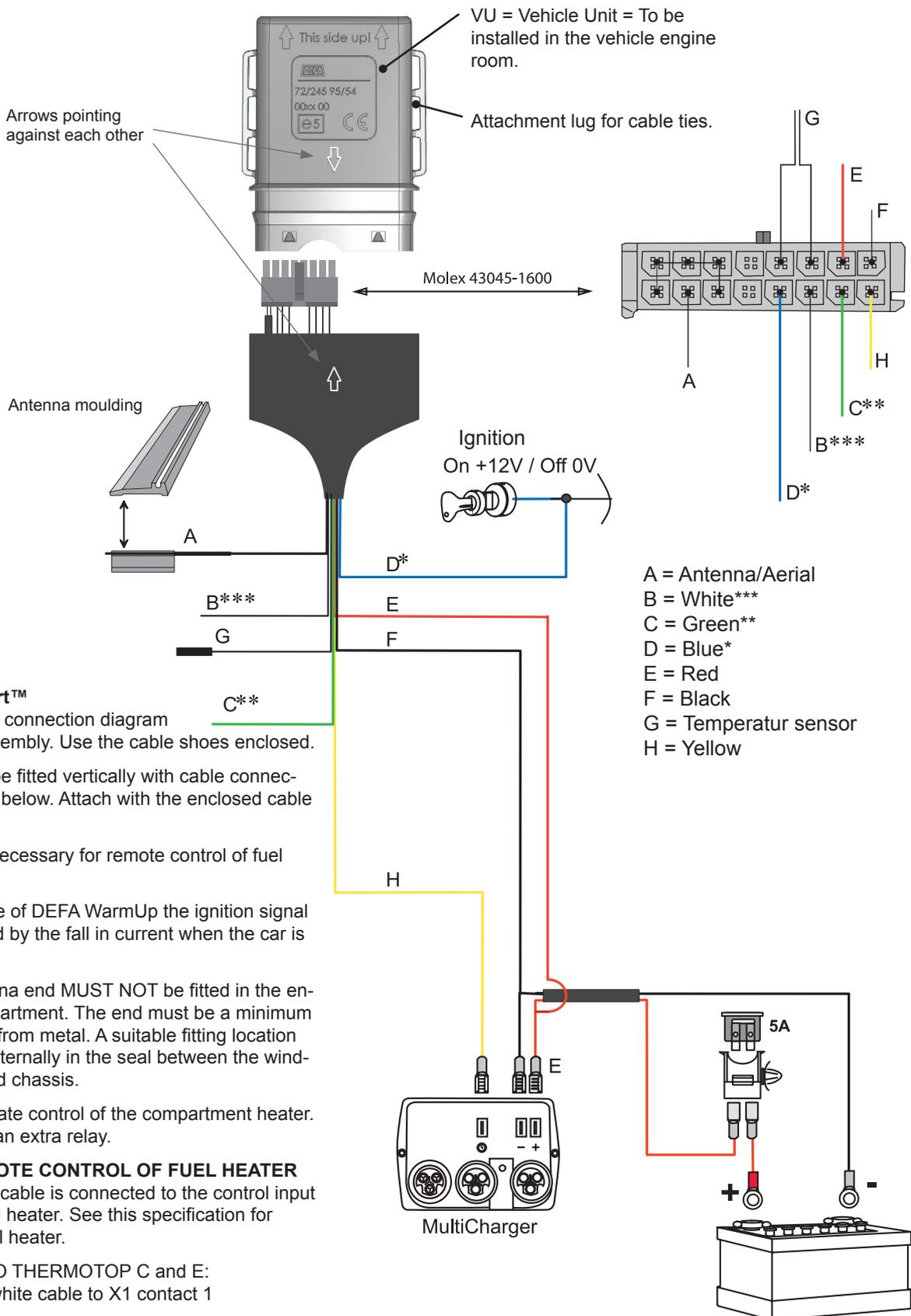
REPLACING BATTERY



LITHIUM BATTERIES MUST BE USED
DURACELL 28L OR SANYO 2CR- 1/3N
(Spare part no: #418103)

MOUNTING

CONNECTION DIAGRAM



SmartStart™

Follow the connection diagram during assembly. Use the cable shoes enclosed.

VU must be fitted vertically with cable connections from below. Attach with the enclosed cable ties.

D* Only necessary for remote control of fuel heating.

In the case of DEFA WarmUp the ignition signal is detected by the fall in current when the car is started.

The antenna end MUST NOT be fitted in the engine compartment. The end must be a minimum of 10 mm from metal. A suitable fitting location may be externally in the seal between the windscreen and chassis.

C** Separate control of the compartment heater. Requires an extra relay.

B*** REMOTE CONTROL OF FUEL HEATER

The white cable is connected to the control input on the fuel heater. See this specification for YOUR fuel heater.

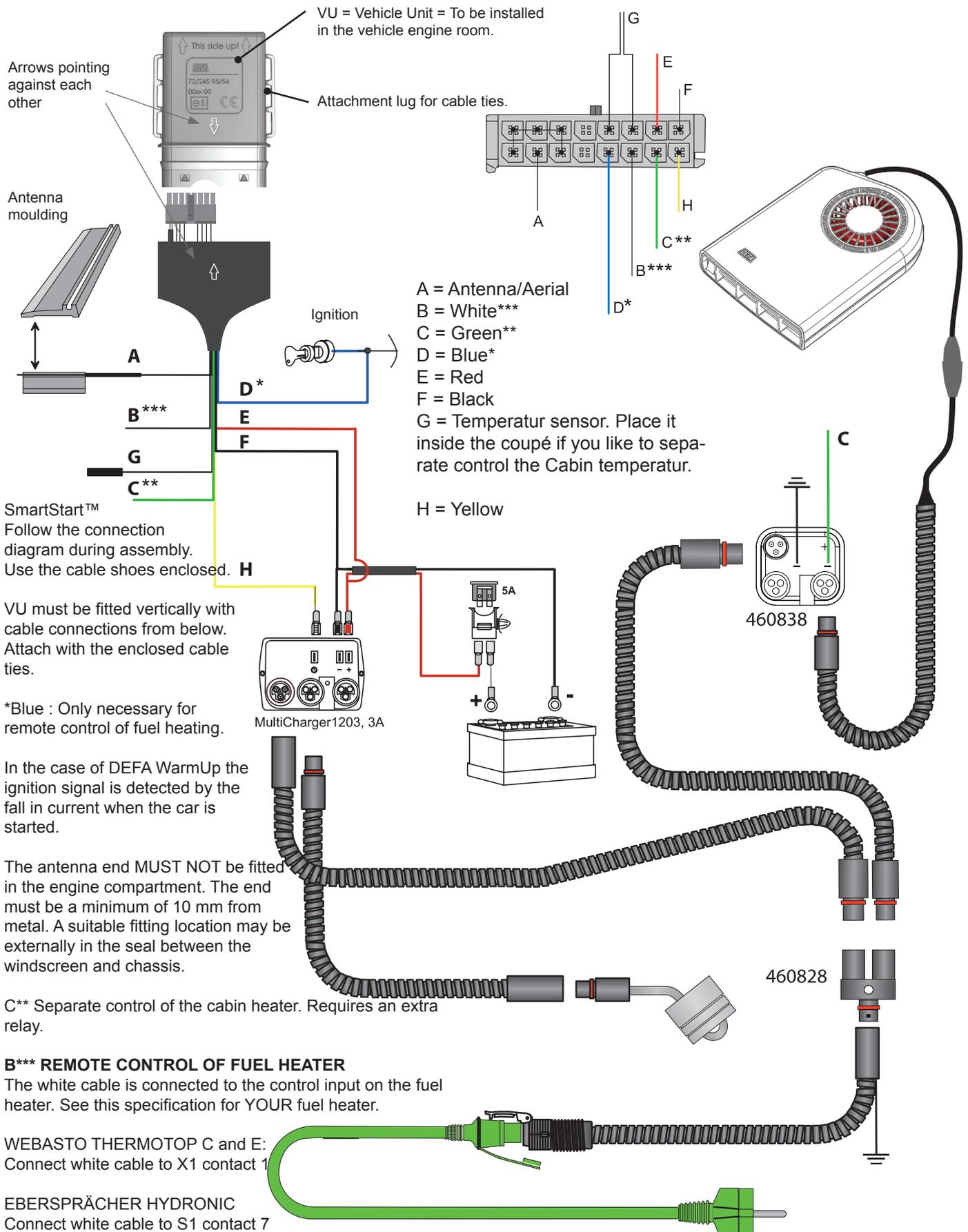
WEBASTO THERMOTOP C and E:
Connect white cable to X1 contact 1

EBERSPRÄCHER HYDRONIC
Connect white cable to S1 contact 7

See your fuel heaters connecting diagram.

MOUNTING

CONNECTING DIAGRAM incl./Relay - Separate Engine & Cabin heating



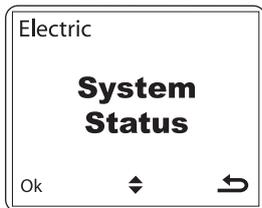
See your fuel heaters connecting diagram.

See page 16 SEPARAT CONNECTING TIMES

SUPPORT

TROUBLESHOOT		
FAULT TYPE	CAUSE	CORRECTION
The display shows that I must replace the battery, but I have just replaced it	If SmartStart™ is used in cold conditions, the replace battery message may be shown even if the battery has just been replaced	Warm SmartStart™ to room temperature
	Ensure that you are using Lithium battery	Change to on of this two Lithium batteries. DURACELL 28L or SANYO 2CR- 1/3N
The remote control can not connect to the vehicle	The antenna may be incorrectly fitted	Ensure that the antenna is mounted correctly (See page 18)
SmartStart™ does not start the system as expected	Date and time is wrong	Page 7 for this setting
	Wrong week program. 5 or 7 days week	Page 8 for this setting
	Date controled connecting time is activated	Page 17 for deleting a date controled connecting time
We bought one more remote control (RC) unit because we are two users of the car. The car is not preheated when I pickup the car in the morning	The other RC unit has been in contact with the vehicle in the meantime and changed the profile or program.	All system information is stored in the vehicle unit. The RC unit downloads the data everytime it's activated and gets in contact with the vehicle unit. If one of the RCs is in contact with the vehicle unit and changes USER or USER data, it will be changed in the vehicle unit.
	Your two RCs have not the same profiles	The profile USER1 and USER2 has to be equal. If USER1 is named "John" it has to be named "John" on both RCs. If USER 2 is named "Mary" it has to be named "Mary" on both RCs.

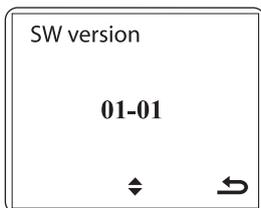
CONTACT



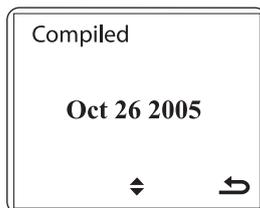
(1 - 3)

If you have to contact technical support it is an advantage if SmartStart™ works, so that you can find the **Unit number** and **HW-SW version** number in advance. You will find this in the menu **System Status**

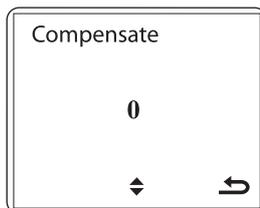
- (1). Press the left button under the work **Menu**
- (2). Select Arrow button down 4x to get to **System status**
- (3). Press **Ok** 1x.
- (4). Press 5x on Arrow button down to get to **Unit numbers**
- (5). Press 1x on Arrow button down to get to **HW-SW version**
- (6). Press 1x on Arrow button down to get to **Compensate**
- (7). Press 1x on Arrow button down to get to **2005 © DEFA**



(4)



(5)



(6)



(7)



Our website contains updated information about SmartStart™. www.defa.com

If SmartStart™ does not work after using the fault finding above, return your SmartStart™ to the retailer where you bought it for warranty processing.

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