

General

The purpose of the auxiliary heater

The auxiliary heater in the bus is of the type diesel burner and can be used to support the heating system at low temperatures, and also to alone warm up the bus for instance before the first bus duty. With Viper 2000 it is possible to activate/deactivate, as well as programming of the auxiliary heater.

Possibilities with the Viper 2000

Control of the auxiliary heater is only a part of all the functions of the Viper 2000, for other functions than the auxiliary heater, please see the user instructions. We will here describe the most common functions, namely:

- automatic start of the auxiliary heater during bus-ride to support the heating system
- direct activating / shut off of auxiliary heater during break and ride
- programming of week program
- temporary change of week program



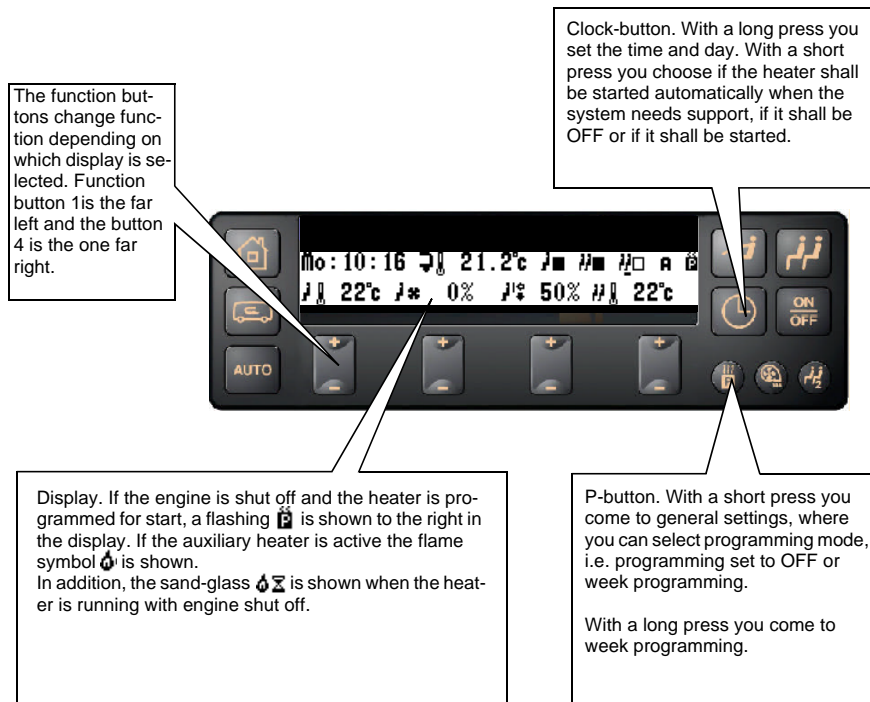
What do you want to do?

In the matrix below we have listed all possible cases with page references:

Do you want to:	Page
- set the time?	3
- start the auxiliary heater with engine shut off?	3
- make sure that the heater will start when support of heating system is needed?	4
- shut off/prevent start of the heater when engine is running?	5
- shut off/prevent start of the heater according to week program?	5
- programming of week program?	6
- select type of week program?	7
- program other time than week program for heating next day?	8

Basic information for setting of auxiliary heater


This overview gives brief information regarding the buttons used for setting of the auxiliary heater.

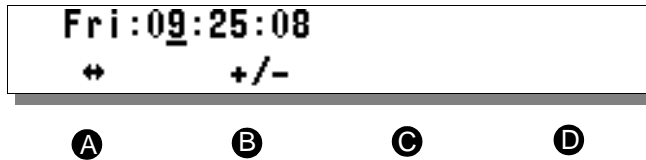



Basic functions

Setting of time and day

If time and day is incorrect, set according to the following:


1. To set day and time press  for 5 seconds and the following display is shown:



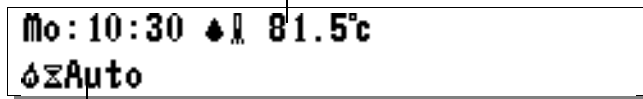
2. Set according to the following:
A. Used to “toggle” between day and time setting
B. Used to change time (24 hrs.) and day
C/D. Not used
3. Press  to return to home page.

Start of auxiliary heater with engine shut off

It is possible to start the auxiliary heater at any time, independent of if the engine is running or shut off. If the engine is shut off, do as follows:

1. Press the clock button  (short press) and the following display is shown:

showing water temperature (if sensor installed)

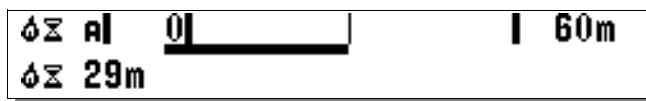



showing mode:

- AUTO means that heater starts when support of the heat system is needed
- OFF means that the heater is start blocked when engine shut off
- 1-60 concerns started heater with XX minutes remaining time

2. Press + on function button 1  to set the burning time:

a) The auxiliary heater can be activated 30 or 60 minutes:

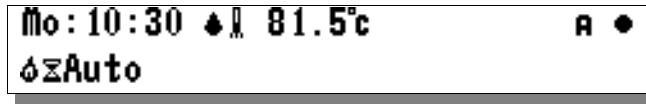



3. Press  to return to the home page. The heater is now burning until the engine is started or the time has expired.

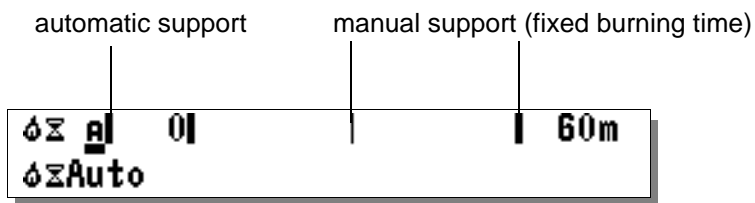
Setting the auxiliary heater for automatic or manual support of the heating system


To support the heating system (for instance at extreme cold weather), do as follows:

1. Press the clock button  and the following display is shown:



2. Press the function button 1  until the marker is at the "A" for automatic support, or 30/60 for manual support according to the following display:

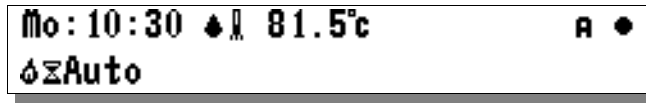



3. Press  to return to home page. Heater is automatically stopped when the bus engine is stopped.

Settings to stop or prevent start of the heater


To prevent the auxiliary heater from starting when engine running, do as follows:

1. Press the clock button  and the following display is shown:




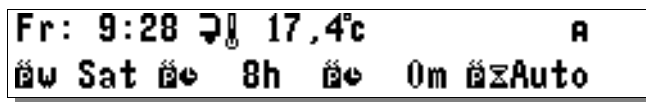
2. Press the function button 1  until the marker is at 0 according to the following display:




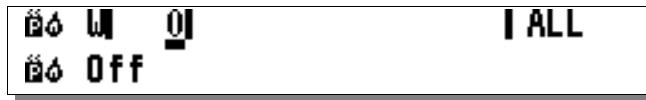
3. Press  to return to home page.


To prevent the auxiliary heater from starting according to the week program, do as follows:

1. Press the P button  and the following display is shown:



2. Press function button 1  until the marker is at 0 according to the following display:



3. Press  to return to home page.

Programming of auxiliary heater


General

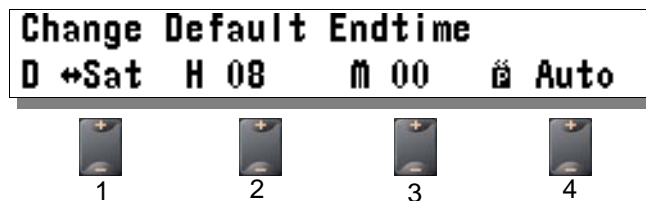
It is possible to program Viper 2000 to start auxiliary heater to achieve a warm bus at a certain time. At automatic warm-up, the Viper 2000 starts warming up in a time before departure time, depending on the present outside temperature. You can program departure times for the whole week, or just for the day after.

IMPORTANT! All times mentioned in this chapter are departure times, i.e. the time when the bus shall be warm and ready for departure.

Setting the week program

It is possible to set a departure time valid for all days "ALL" - or different departure times for every single day of the week. You just select the days you wish warming-up. Set the week program according to the following:


1. Press the P-button  for 5 sec and the following display is shown:



2. With function button 1 you select day for programming*, then you choose departure time with button 2 and 3. With button 4 you choose:

- A) AUTO = the heater starts in time depending on outside temp (if $T < 15^{\circ}\text{C}$)
- B) 00 = No warming up programmed
- C) 30-120 = Warming up time prior departure, manually selected time


NOTE! To make the week program active, you have to choose week mode in general settings of auxiliary heater (see next page).

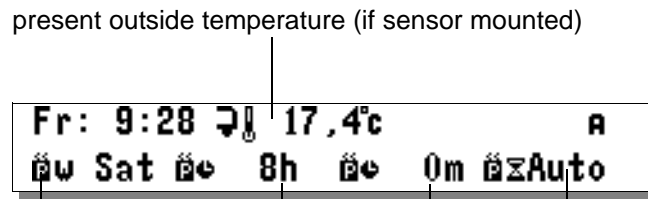
3. Press  to return to home page.

* here you can select different departure times for the days Sunday to Saturday (SUN, MON, TUE, WED, THU, FRI, SAT), this is called week program *individual* days. It is also possible to set on departure time for all days (ALL), this is called week program *all days*.

If the week program shall be programmed for the individual days (SUN, MON etc....) or according to all days (ALL) is selected according to the instructions on next page.

General settings for programming of auxiliary heater

1. Press the P-button  and the following display is shown:

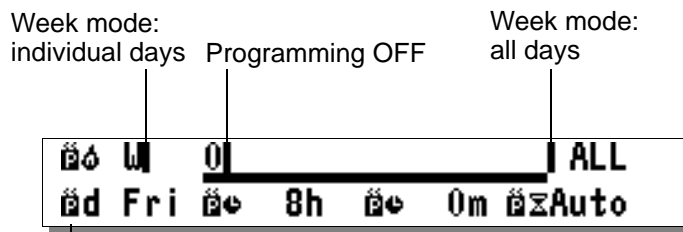


next programmed departure time


next warming up Auto/time/off

showing present mode:
 Week program individual days active (**w**)
 No programming (**Off**)
 Week program "ALL", i.e. all days active (**d**)

2. Press function button 1  - the following display is shown:

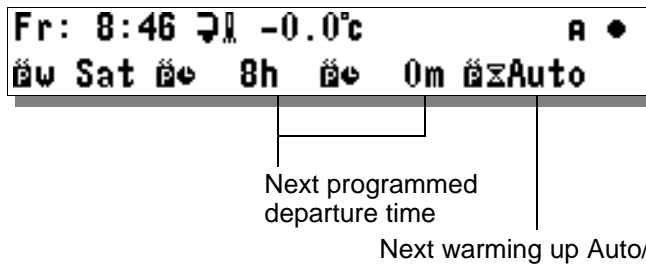


showing present mode:
 Week program individual days active (**w**)
 No programming (**Off**)
 Week program "ALL", i.e. all days active (**d**)

3. Now choose with function button 1  if you like to program according to:
 - week program, Sunday-Saturday, individual days (A)
 - week program, all days "ALL" (1)
 - no programming (0)

If you have selected week program “individual days” you can anyhow change the departure time for the next day:

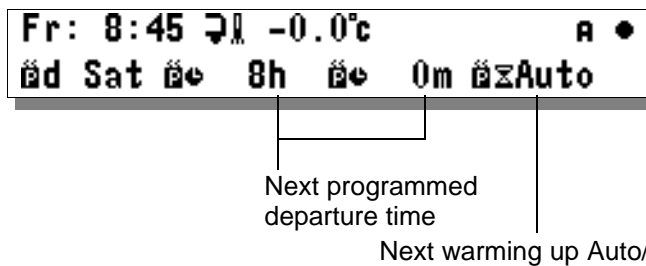
WEEK PROGRAM, INDIVIDUAL DAYS “SUN”-“SAT” SELECTED



After next warming up the programming reverts to the regular week program, i.e. “individual days SUN-SAT”

If you have selected week program “all days” you can choose the time for next day:

WEEK PROGRAM, ALL DAYS “ALL” SELECTED



After next warming up the programming reverts to the selected week program, i.e. “all days - ALL”