



Iricomfort user manual

Reference: MH-087



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RE	Restricted	
CO	Confidential	

Revision control

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V0	12-01-2016	Hispacold	New document
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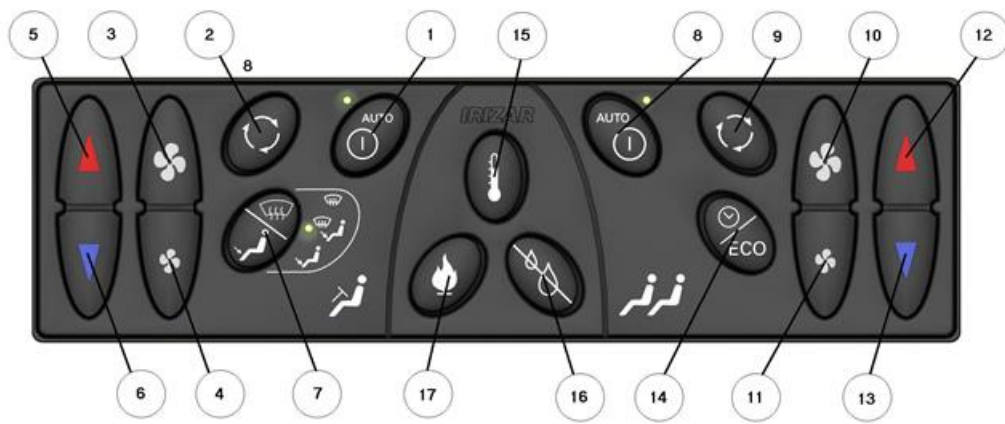
Contents index

Contents index	3
1. Functional description	4
1.1. Keyboard	4
1.2. Temperature sensors.....	8
1.3. Programming Day and Time	9
1.4. Programming and activation of the pre-heater.....	9
2. Activation: Auto-Checking.....	11

1. Functional description

1.1. Keyboard

KEYPAD (DRIVER NODE): This is mounted on the dashboard and gives the driver complete control of the climate control functions in all areas of the bus, allowing a choice between completely automatic or manual adjustment. All the sensors which control the climate and the status of the components in the driver's area are connected to this node.



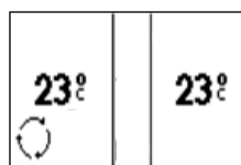
The following describes the functions of each key:

- **N°1:** This key activates the Driver Climate Control System which will reach and maintain the chosen settings shown on the Display. It also permits a return to automatic functioning of driver climate control where the speed of the motors or the position of the flaps have been modified manually. When in automatic mode – that is, the led is lit - driver climate control is de-activated by holding this key down.



Driver Climate Control Off

- **N°2:** Activating the anti-misting in the driver area. By pressing once the flaps are put in recirculation position and the corresponding symbol appears on the screen. Pressing a second time changes the state.



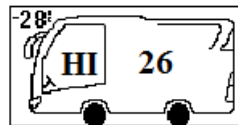
Driver Flaps in Recirculation.

- **N°3:** Regulates the speed of the driver area anti-misting blower by increasing it.



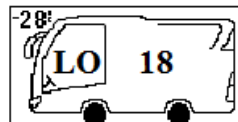
Speed Selection of the Driver Climate Control Unit.

- **N°4:** Regulates the speed of the driver area anti-misting blower by decreasing it.
- **N°5:** Increases the temperature selection for the Driver Set. The temperature range is from 17 to 27 °C. Once the maximum temperature level has been selected, pressing the key once more will select a “HI” setting, which means maximum heating.



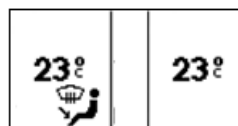
Boosted Heating in the Driver Area

- **N°6:** Reduces the temperature selection for the Driver Set. The temperature range is from 17 to 27 °C. Once the minimum temperature level has been selected, pressing the key once more will select a “LO” setting, which means maximum air-conditioning.



Boosted Air-conditioning in the Driver Area

- **N°7:** This function activates the driver’s feet or windscreen flaps, the desired position is selected by pressing this key.



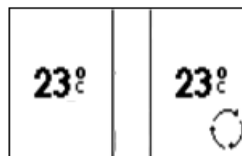
Driver flaps in feet-windscreen position.

- N°8: This key activates the passenger climate control system, which will reach and maintain the chosen settings shown on the Display. It also permits a return to automatic functioning of passenger climate control where the speed of the motors or the position of the flaps have been modified manually. When in automatic mode – that is, the led is lit - passenger climate control is deactivated by holding this key down.



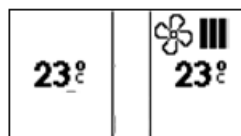
Passenger Climate Control Unit Off.

- N°9: Adjustment of the roof flaps. By pressing once the flaps are put in recirculation position and the corresponding symbol appears on the screen. Pressing a second time changes the state.



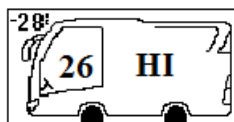
Passenger flaps in recirculation

- N°10: Regulates the speed of the roof unit fans by increasing it.



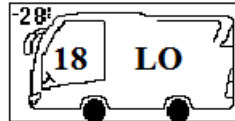
Speed Selection of the Passenger Climate Control Unit

- N°11: Regulates the speed of the roof unit fans by decreasing it.
- N°12: Increases the temperature selected for the Passenger Set. The temperature range is from 17 to 27 °C. Once the maximum temperature level has been selected, pressing the key once more will select a “HI” setting, which means maximum heating.



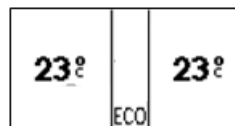
Boosted Heating in the Passenger Area

- **N°13:** Reduces the temperature selected for the Passenger Set. The temperature range is from 17 to 27 °C. Once the minimum temperature level has been selected, pressing the key once more will select a “LO” setting, which means maximum air-conditioning.

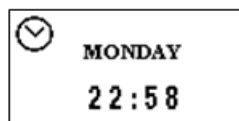


Boosted Air-conditioning
in the Passenger Area

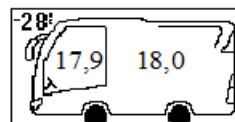
- **N°14:** Pressing once activates the ECO function. Holding the key down activates the TIME function.
 - **ECO:** Disables the compressor.



- **TIME:** Allows the clock to be programmed

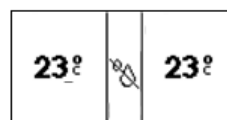


- **N°15:** Temperatures. Press once to display the temperatures in the driver area, the passenger area and the exterior.



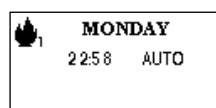
Real Temperatures in the
Driver and Passenger Areas

- **N°16:** De-humidifying (REHEAT). This key activates the de-misting function of the interiors of the windows for the space of 15 minutes.

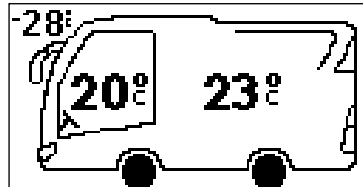


De-humidifying Mode

- **N°17:** Pre-heater. Pressing once allows manual activation and de-activation of the pre-heater. Holding the key down gives access to the pre-heater programming menu.



DISPLAY: The display shows all the parameters of the system by means of simple and direct screens, in accordance with the needs of the user.



PASSENGER NODE: Positioned in the roof unit, this is where the sensors which control the climate and the status of the components of the passenger area are located. It has direct communication with the driver node.

1.2. Temperature sensors

TEMPERATURE SENSORS: The Iricomfort has various sensors for the control of interior comfort.

All the temperature sensors are of the PTC1000 type and their resistance-temperature equivalence is shown in a later table.

These sensors are located in the following points:

Driver interior temperature sensor: Located in the interior air extractor of the Driver Climate Control Unit (DCCU). Accessible from the dashboard central control console.

Driver channel temperature sensor: Located inside the DCCU behind the fans which drive the air through the channel. For servicing it can be reached through the frontal access of the bus.

Driver de-icing temperature sensor: Located inside the DCCU between the batteries and the fans. Access is possible from the left-hand side (right-hand side in Anglo-Saxon countries) of the DCCU.

Exterior temperature sensor: Located on the exterior of the vehicle behind the front bumper.

Passenger interior temperature sensor: Located in the air extractor of the roof climate control unit. Accessible from the left hand extraction grill.

Passenger channels temperature sensor: Located in the left hand channel at a distance of 1 to 1.5 metres towards the rear of the bus measured from the rear extreme of the evaporator.

Passenger anti-icing temperature sensor: Located between the batteries and the fans of the roof unit. For servicing it can be reached from the exterior of the unit by means of the covers of the left-hand evaporator.

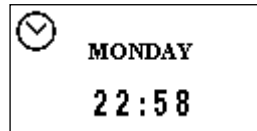
Water temperature sensor: Located inside the central heating unit in the motor compartment.

OTHER SENSORS.

- **Relative Humidity Sensor:** Located in the extractor of the roof climate control unit. Accessible from the left hand extractor grill.
- **Passenger compartment dirty filter sensor:** Located in the extractor of the roof climate control unit. Accessible from the left hand extractor grill.
- **Driver compartment dirty filter sensor:** Located in the extractor of the Driver Climate Control Unit (DCCU). Accessible from the interior of the vehicle through the dashboard central console.
- **Sun radiation sensor:** Located on the dashboard.

1.3. Programming Day and Time

In any function mode, pressing key n° 14 for two seconds accesses the day and time programming screen.



Selection of day, hour and minutes is by keys n°5 and 6. The selected field appears in negative (white letters on a black background).

Once the field to be changed has been selected, modification is through keys n° 12 and 13.

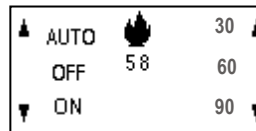
In order to save the new programme press key n° 14 or wait a few seconds and the change is saved automatically.

1.4. Programming and activation of the pre-heater

The pre-heater has two function modes: Normal Mode and Programmed Mode.

Normal Mode of pre-heater activation: In this Mode the pre-heater can function automatically as required by the temperature of the motor or manually for a fixed time period determined by the user.

To enter Normal Mode of activation of the pre-heater it is sufficient to briefly press key n° 17. On doing so the Iricomfort will show the following screen:



There are three options selected by keys 5 y 6. The selected option will appear in negative.

AUTO: In this case the pre-heater will activate if the temperature of the water in the motor is lower than 55 °C and it will de-activate when it goes over 75°C. This option only functions in CLIMATE CONTROL state and the action is HEAT.

OFF: This option disconnects Normal Mode, halting the functioning of the pre-heater whether it was in AUTO mode or ON mode.

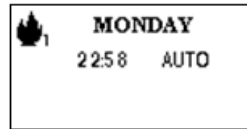
ON: In this mode the pre-heater will be activated for the length of time selected from the right hand column using keys 12 y 13. It functions in any mode (Sleepy, Wakeup, Active) and in the states of OFF and Climate control. After the functioning period is over the AUTO option is automatically selected.

The MAX option activates the pre-heater continuously and it stays functioning until two hours after switching off the +30 (stop the vehicle engine), or until the option is manually deactivated.

On the pre-heater activation Normal Mode screen the flame symbol – if solid – indicates that the pre-heater is functioning. When it is functioning in Normal Mode with a time selected by the user, a display will show functioning time remaining.

Programmed Mode of activating the pre-heater: In this mode it is possible to programme the pre-heater so that at a given time both the engine of the bus and the interior are at an adequate temperature.

In order to enter pre-heater activation Programmed Mode press key n°17 for 5 seconds. The following screen will appear:



It is possible to have two different programmes which are distinguished from each other by the number next to the pre-heater symbol on the screen. Once the first programme is complete the second can be accessed by pressing key n°17 for 5 seconds.

For each programme it is necessary to introduce a day and a time which correspond to the time when the desired heat level in the interior of the bus should be achieved. That is, in order to find the vehicle warm at 8 a.m. this is the time that should be programmed. An internal algorithm is responsible for calculating when the pre-heater should be activated.

Select the fields DAY, HOUR, MINUTE and ACTIVATE using keys n° 5 and 6 and change their values using keys n° 12 and 13. On selecting a field it is shown in negative and in the case of DAY the selected option flashes.

Once DAY, HOUR and MINUTE have been selected the activate field must be put on AUTO. In order to deactivate select OFF.

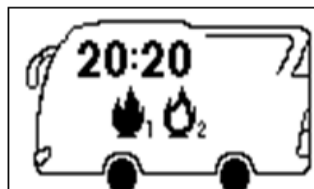
DAYS can be from MONDAY to SUNDAY and it is also possible to select 7 DAYS, that is every day of the week.

Programmes for just one day are cancelled once they have been executed and are automatically put in OFF status. The 7 DAYS programme remains active for the following day.

The pre-heater can be programmed whilst in any mode (Sleepy, Wakeup, Active) and also when in OFF status and Climate control status.

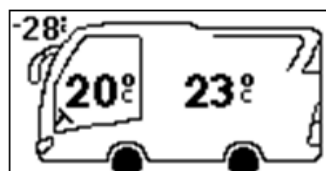
It can be seen whether the pre-heater has been programmed from the Sleepy screen. If it has been programmed the empty flame icon will be shown with a number 1 where programme 1 has been programmed or a number 2 for programme 2.

If besides being programmed it is active the flame will be filled.



Possible Road Ice indicator: ❄️

If the outside temperature falls below 3° C the "Possible Road Ice" indicator will be shown on the screen.



2. Activation: Auto-Checking

As soon as the Iricomfort connector is connected for the first time or after connecting the battery (that is, it receives a voltage through the +MCS inlet), the screen displays the message **DOWNLOAD**. This message stays on the screen for about 30 seconds after which it will be replaced by a screen showing a bus with the time at 00:00.



Subsequently, when the battery disconnecter is activated (inlet +30), a check is made of all inlets and outlets in order to detect possible short circuits and to adjust the position of the foot-windscreen flaps of the Driver Climate Control Unit.

During the check the screen shows the message **IRICONFORT CHECKING**. In the event that the air filters of the passenger and driver climate control units are saturated the corresponding error message will appear. If there are no problems with the filters the progress of the check will be indicated by dots on the screen.



Checking Screen.

Once the check is complete, a screen with information on detected errors will be shown, if there are no errors there will be no message.



There are two types of error message. On the one hand there are those that are shown on the screen indefinitely until they are corrected due to the fact that they impede the functioning of Iricomfort, and on the other hand those errors – though they should be corrected as speedily as possible – which do not impede the functioning of the unit, as it is programmed to function in certain emergency modes.

Permanent errors are shown on the screen inside the bus outline as follows:



The text which appears on the screen corresponds to the error detected:

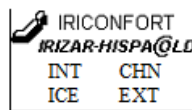
- **COM ERRR**: If it is an error of communication between the nodes.
- **LP**: If the low pressure presostat of the compressor has detected a continuous low pressure problem.

The errors which still allow Iricomfort to function, though in emergency mode and with certain performance limitations, are shown each time the battery disconnecter is activated.



Checking Screen

Once the check is complete a screen with information on detected errors is shown.



Screen Showing Errors.

A maximum of 4 error codes are shown simultaneously. If there are more than four errors they are shown as the initial ones are resolved.

Possible error codes are:

Nº	MESSAGE	ERROR
1	RAD	Short or Open Circuit Driver Radiation Sensor.
2	DINT	Short or Open Circuit Driver Interior Sensor
3	DICE	Short or Open Circuit Driver Ice Sensor
4	DCHN	Short or Open Circuit Driver Channelling Sensor
5	EXT	Short or Open Circuit Driver Exterior Sensor
6	DHB	Short Circuit Driver Additional Heater Outlet
7	PMP	Short Circuit Driver Pump Outlet (Principal)
8	PRE	Short Circuit Driver Pre-heater Outlet
9	D+30	Fault +30 Driver
10	P+30	Fault +30 passengers
11	DFV	Short Circuit Driver anti-misting Valve Outlet
12	DHV	Short Circuit Driver Heater Valve Outlet
13	FWF	Short Circuit Driver Feet/Screen flap Outlet
14	DRF	Short Circuit Driver Recirculation Flaps Outlet
15	DFB	Short Circuit Driver Evaporator Fans Outlet
16	DFBN	No Fans Driver Evaporator
17	RH	Short or Open Circuit Passenger Humidity Sensor
18	PINT	Short or Open Circuit Passenger Interior Sensor
19	PCHN	Short or Open Circuit Passenger Channelling Sensor
20	PICE	Short or Open Circuit Passenger Ice Sensor
21	WTR	Short or Open Circuit Passenger Motor Water Sensor
22	CMP	Short Circuit Passenger Compressor Outlet
23	PRV	Short Circuit Passenger Roof Valve Outlet
24	PFV	Short Circuit Passenger Floor Valve Outlet
25	PSB1	Short Circuit Passenger Heater Outlet Speed 1
26	PSB2	Short Circuit Passenger Heater Outlet Speed 2
27	PRF	Short Circuit Passenger Recirculation Flaps
28	PRB	Short Circuit Passenger Right-Hand Evaporator Fans
29	PLB	Short Circuit Passenger Left-Hand Evaporator Fans

