

BUS BODY ELECTRONICS

SC600 MARCOPOLO

Operating instructions
- Busdriver

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1 Introduction

1.1 Intended purpose

The SC600 is a system intended to control the HVAC components (heating, ventilation, air-conditioning) in buses, for example roof-top air-condition systems, heating devices, etc. It consists of a control panel (control device as an interface between human and machine) that is integrated into the dashboard.

This control panel allows the driver to control the roof-top air-conditioning system that has ventilation, cooling and heating functions for the roof. Additionally, this control panel can also be used to control the heating system on the floor.

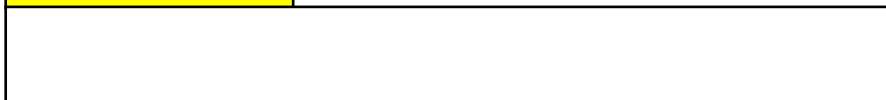
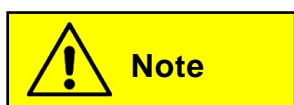
The controller for the air-conditioning systems components can operate automatically. To do so, the bus driver simply has to set the desired temperature.

These operating instructions apply to the following air conditioning system variants:

- Air-conditioning system (AC)
- Air-conditioning system with convector (AC & convector)
- Air-conditioning system with roof heating (AC & roof heating).

The availability of individual functions (e.g. reheating) depends on the respective model - if a function can only be used with a certain model, this will be specially indicated.

1.2 Symbols used



1.3 Description of the control panel

The control panel components are depicted and described in the following image.

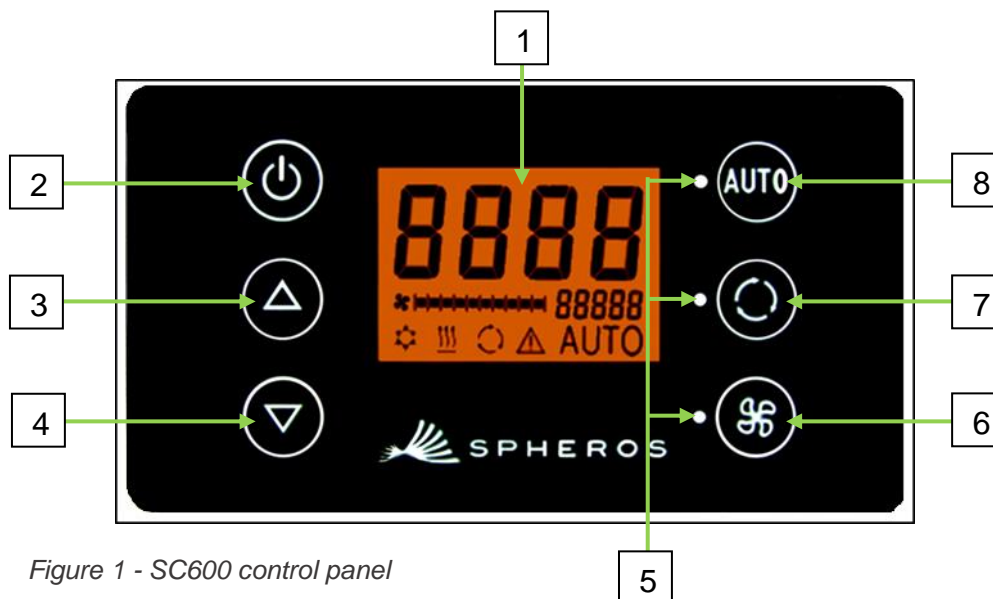


Figure 1 - SC600 control panel

- | | |
|------------------|---------------------------------------|
| 1. Display | 5. Function status light |
| 2. On/off button | 6. Blower button |
| 3. UP | 7. Fresh air/recirculating air button |
| 4. DOWN | 8. Auto button |

1.4 Description of the display

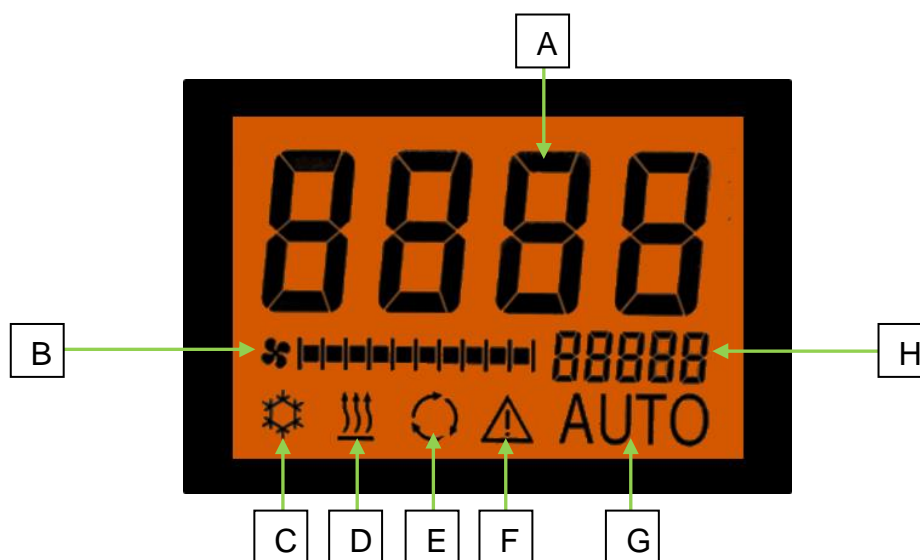


Figure 2 - SC600 display

- | | |
|--|---------------------------|
| A. Desired value display, room temperature | E. Recirculating air on |
| B. Blower level manual | F. Error display |
| C. Cooling mode | G. Auto mode active |
| D. Heating mode | H. External temp. display |

1.5 Mode overview

The SC600 system includes 2 different modes – Operating mode and Error mode.

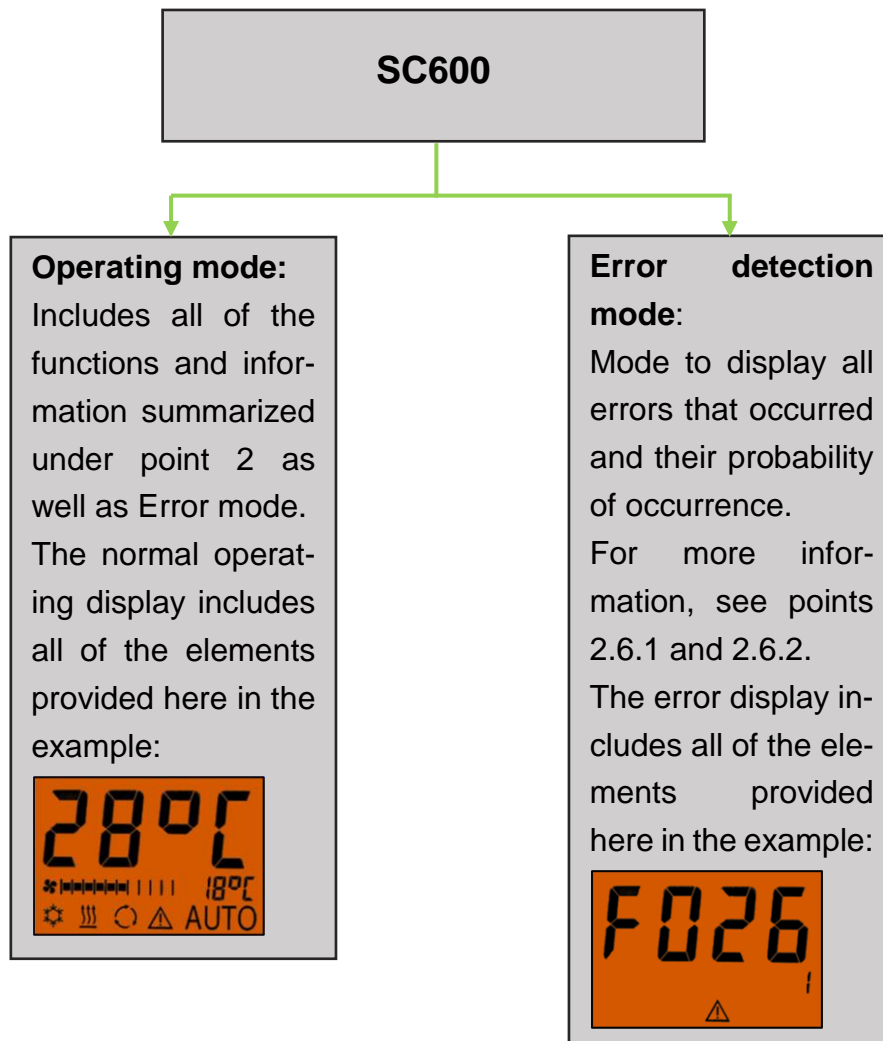


Figure 3 - SC600 mode overview

2 Use

2.1 Activation/deactivation

2.1.1 Activation

Press  button

- Sets the last configured temperature; Auto mode off (Figure 4).

2.1.2 Deactivation

Press  button

- Display deactivated.

Press  button for 2 seconds until OFF appears

- System deactivated.


2.2 Auto mode



Note

Auto mode can be turned on only if the motor has been started.



2.2.1 Activation

Press  button if Auto mode is off


- Mode is on - corresponding status light and function symbol light up on the display (Figure 6).



Note

If Auto mode is on, the system automatically turns on Cooling Mode  and Heating mode  (if available) as needed (Figures 7 and 8).

2.2.2 Deactivation

Press  button if Auto mode is on

- Mode is off - corresponding status light and function symbol are off (Figure 8).



Figure 4 - SC600 start display



Figure 5 - SC600 deactivation



Figure 6 - SC600 Auto mode activated



Figure 7 - SC600 Auto mode activated, Cooling mode



Figure 8 - SC600 Auto mode activated, Heating mode



Note

When Auto mode is deactivated, the air conditioning compressor (after a run time of 90 seconds max.) and the heater are turned off.

The blowers will continue to be controlled automatically if the blower level was not manually configured.



Figure 9 - SC600 Auto mode deactivated

2.3 Configuring the blowers manually

2.3.1 Activating the controller manually

Press  button

- Manual operation of the blower is activated - the blower will continue running at the current speed.
- The blower level can be manually set 3 seconds after pressing the blower level button (the corresponding status light **blinks** during this time).



Figure 10 - SC600 setting the blower level manually

2.3.2 Setting blower level

The blower can be set in level increments of 0 (blower speed = 0%) to 10 (blower speed = 100%).

Press  button

- Blower level +1 ( → ).

Press  button

- Blower level -1 ( → ).



Note

Configurations can only be applied within the permitted limits (e.g. vehicle motor off → blow speed max. 25%).

If the blower is set below 20%, the cooling and heating functions are deactivated.

2.3.3 Deactivating the controller manually

Press  button for 3 seconds


→ Manual controller deactivated.

Or:

Press  button

→ Manual controller deactivated.

2.4 Fresh air/recirculating air function

Press  button when fresh air valves are open

→ System activates recirculating air function for 10 minutes (corresponding function status light and display symbol light up).

→ After running for 10 minutes, the system turns off the recirculating air function.

→ Pressing the button again within 10 minutes will deactivate the recirculating air function and open the fresh air valves (corresponding status light and display symbol are off).



Figure 11 - SC600 recirculating air function activated



Note

If the fresh air valves are closed, the corresponding status light and the display symbol will light up (Figure 11).

2.5 Setting the temperature

Press  button

→ Desired temperature +1 °C.

Press  button

→ Desired temperature -1 °C.



Note

Temperature can be configured for 1°C intervals between 15 °C and 28 °C.



Figure 12 - SC600 setting the temperature

2.6 Dehumidify (optional)



Note

Additional mode that is only available for installed roof heating (AC & roof heating). If the function is not available, nA will appear on the display.

Press  button for 2 seconds

→ Dehumidify air function is on (Figure 13).



Figure 13 - SC600 dehumidify activated

2.7 Errors



Note



If a system error occurs, the error symbol will appear on the display (Figure 14).



Figure 14 - SC600 errors

2.7.1 Error detection mode

2.7.1.1 Activation

Press  and  buttons at the same time for 2 seconds

→ Mode is on.


→ Error code (F001) and occurrence count (1 here) will be displayed (Figure 15).



Figure 15 - SC600 Error detection mode

2.7.1.2 Error detection

→ Scroll through the error codes with  or .

→ Reset the counter with  (after resetting, the counter shows the value 1 if the error persists).

2.7.1.3 Ending

Press  and  buttons for 2 seconds

→ Normal operating display appears (Figure 16).



Figure 16 - SC600 normal operating display

2.7.2 Error overview

Error code	Component	Cause	Remedy
F001-016	Not used		
F017	Pressure sensor	<ul style="list-style-type: none"> ➤ Defective sensor ➤ Wiring harness defective 	<ul style="list-style-type: none"> ➤ Inspect wiring harness ➤ Replace sensor
F018	Duct/convector temperature sensor	<ul style="list-style-type: none"> ➤ Defective sensor ➤ Wiring harness defective 	
F019	Ice sensor	<ul style="list-style-type: none"> ➤ Defective sensor ➤ Wiring harness defective 	
F020	Room temperature sensor	<ul style="list-style-type: none"> ➤ Defective sensor ➤ Wiring harness defective 	
F021	Environmental temperature sensor	<ul style="list-style-type: none"> ➤ Defective sensor ➤ Wiring harness defective 	
F022	Ice sensor	<ul style="list-style-type: none"> ➤ Icing ➤ Temperature too low 	Wait until sensor has defrosted
F023 F024	High pressure Low pressure	Brief system overload because of high motor speed at high environmental temperature	The system turns off for 5 minutes and tries to restart. If the error code persists, consult our service center
F025-32	Not used		

Table 1 - Error code overview



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