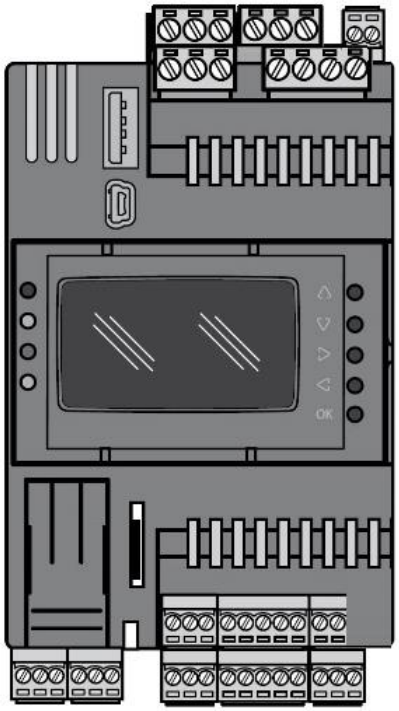
AVD User Manual

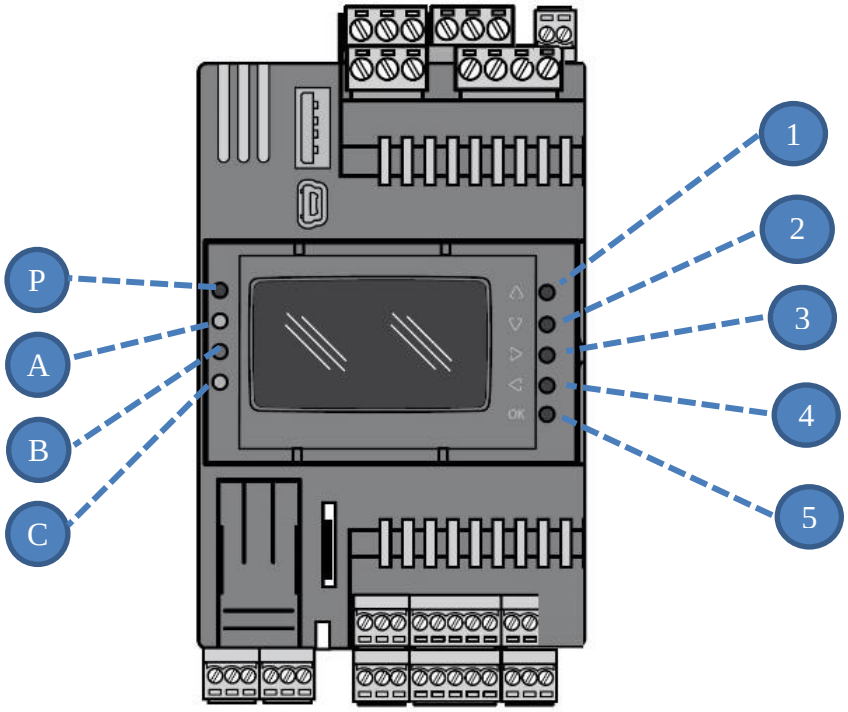
Operating Instructions

HMI



Index

1. Keys and LEDs

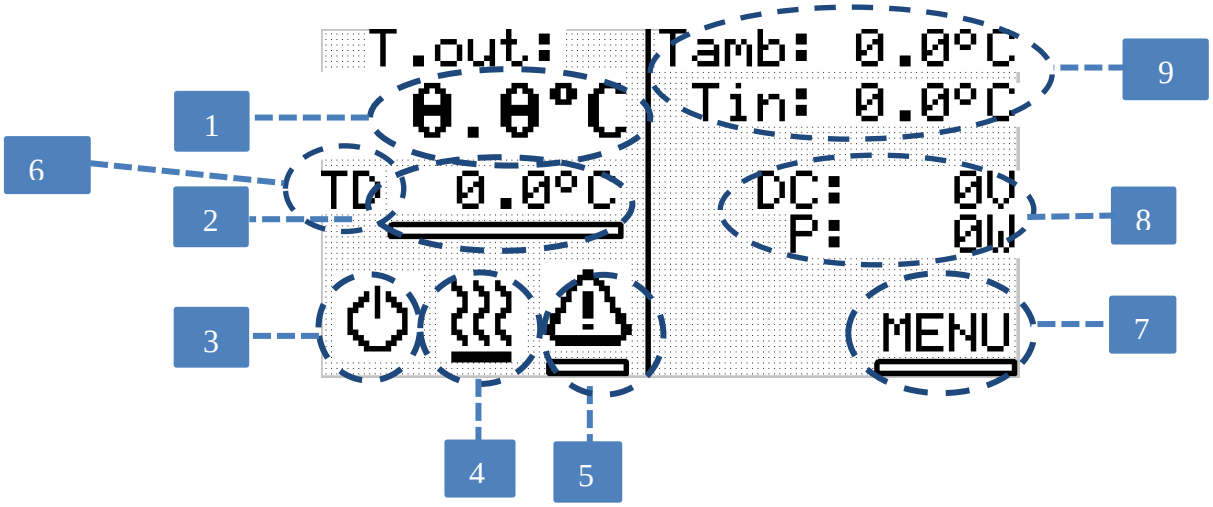


# LED	Led color	Description
P	Green LED	System working
A	Red LED	Communication error / alarm present
B	Yellow LED	warning present
C	Green LED	/

# key	Key	Description press and release	Description press and hold
D	UP △	Scroll up. Increase/modify a value. Go to next label.	/
E	DOWN ▽	Scroll down. Decrease/modify a value.	/
F	RIGHT ▷	Move cursor to right in Edit Mode.	/
G	LEFT or Exit ◁	Go to previous label. Exit menu page / go back to previous menu. (press and hold) Exit Edit Mode without saving	Exit menu.
H	OK	Scroll down. Go to next menu/ Enter/exit edit mode. Confirm operation.	/

2. Main view

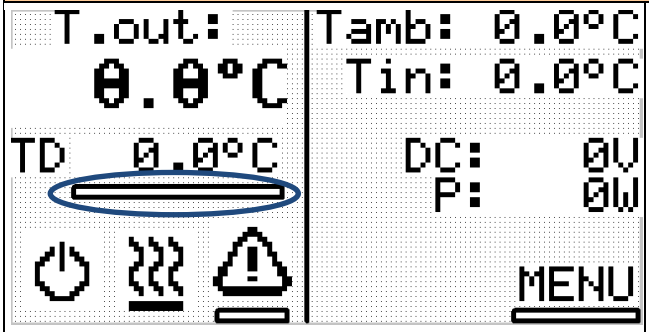
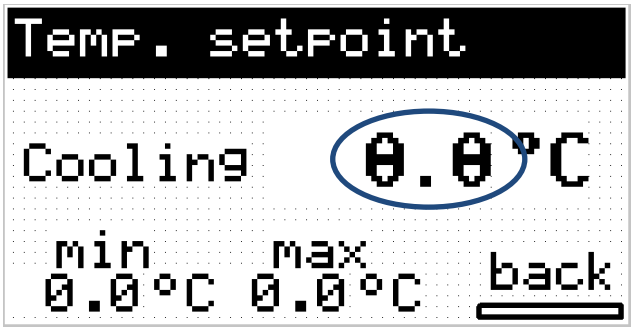
All information is shown in very immediate graphics on the main screen to quickly convey system status.



Following table explains the meaning associated to no.

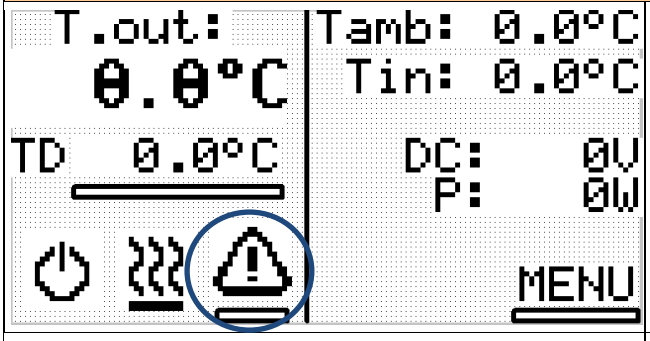
No.	Name
1	actual temperature
2	SetPoint of circuit 1
3	Standby mode active (chiller is OFF if icon is present)
4	Refrigeration of circuit is active Heating of circuit is active
5	At least one alarm is present on circuit
6	TD option enabled
7	Menu
8	DC BUS actual voltage
9	Tamb.: ambient temperature Ti: in temperature

3. Changing of Setpoint

Setpoint menu	
	
In main view, press RIGHT or LEFT buttons to select desired circuit's (circuit 1 or circuit 2) setpoint , press OK button to enter	Setpoint value (of circuit 1 or circuit 2) will be selected, to change it press OK button and change it by using directional buttons (◁ LEFT and ▷RIGHT to select the digit and △ UP and ▽ DOWN to change the value of digit) to confirm the setpoint press OK button. Note: the value of setpoint will be between min and max value showed on display

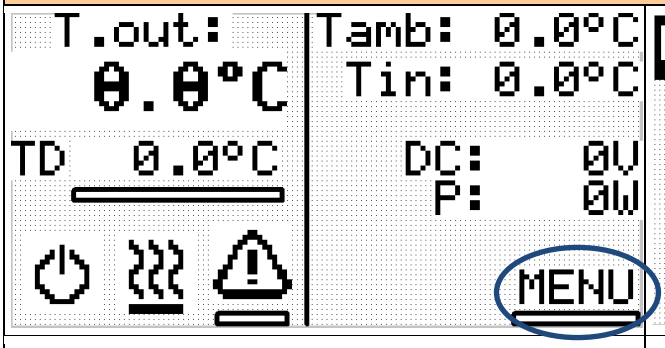
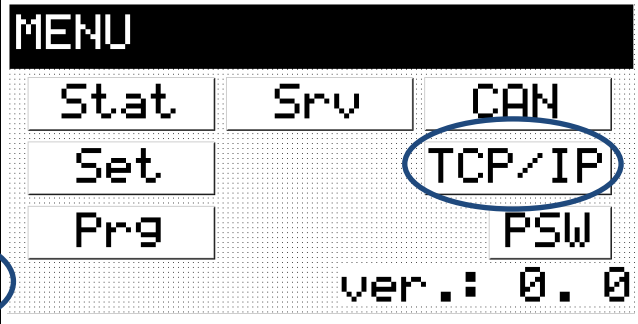
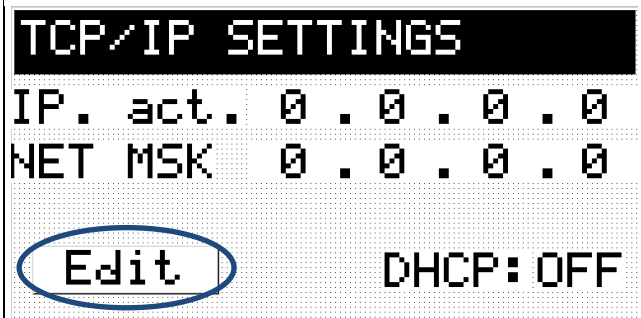
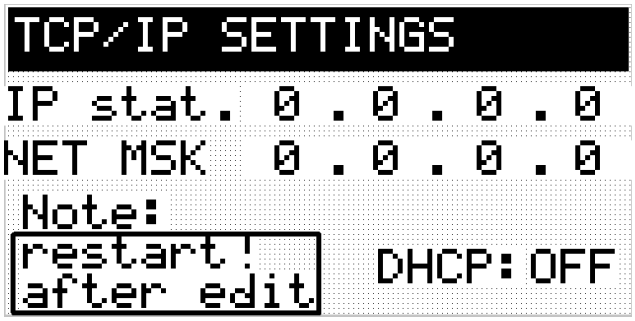
4. Showing of active alarms

When some alarms or errors occurs the icon will appears.

Setpoint menu	
	
To show the list of all active alarms, select the alarm icon (related to circuit 1 or circuit 2)	Click “OK” button to show a list of all active errors related to a selected circuit. An error / alarm will be visualized with error code and a short description. Please refer to a chapter 4 (error table) to have a complete description of error.
	
If more than 3 alarms are present, the nr of pages will be increased. By using “▷ RIGHT” and/or “◁ LEFT” buttons is possible to navigate through pages.	

5. IP address settings

Following instruction on how to change TCP/IP settings

<table>
<tr><th colspan="2">Setpoint menu</th></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>enter to menu by selecting menu icon</td><td>Select and enter to “TCP/IP” menu.</td></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>To modify settings push Edit button</td><td>Modify IP address, Net mask and disable DHCP to use static IP function. After editing restart controller.</td></tr>
</table>

6. Errors table

Error Messages table

Label	Description	Reset	Common alarm	Stops				Type of Error
				Comp.	Fan	Pump	Heater	
Er02	Refrigerant High pressure alarm	MANUAL (High Pressure Switch)	Open	OFF	OFF	-	-	Alarm
Er04	Compressor fault	AUTOMATIC (Inverter)	Open	OFF	OFF	-	-	Alarm
Er06	Pump fault	AUTOMATIC (Inverter)	Open	OFF	OFF	OFF	OFF	Alarm
Er07	Water temperature probe fault ST1 or ST3	AUTO (after replacing/repairing of the probe)	Open	OFF	OFF	-	OFF	Alarm
Er08	External temperature probe fault	AUTO (after replacing/repairing of the probe)	Open	OFF	OFF	-	-	Alarm
Er09	Antifreeze alarm	AUTO (after increase of the temperature t>antifreeze set)	Open	OFF	OFF	-	-	Alarm
Er10	Antifreeze probe fault ST2	AUTO (after replacing/repairing of the probe)	Open	OFF	OFF	-	-	Alarm
Er11	Fluid min Temperature alarm	AUTO (after increase of the temperature t>8°C)	Open	-	-	-	-	Warning
Er12	Fluid max Temperature alarm	AUTO (after temperature drops: t<45°C)	Open	-	-	-	-	Warning
Er13	Tank Min level alarm	AUTO (after refill of the tank)	Open	OFF	OFF	-	OFF	Alarm
Er19	Refrigerant Pressure Sensor Fault	Automatic (after replacing / repairing of the sensor)	Open	OFF	OFF	-	-	Alarm

7. Cooling

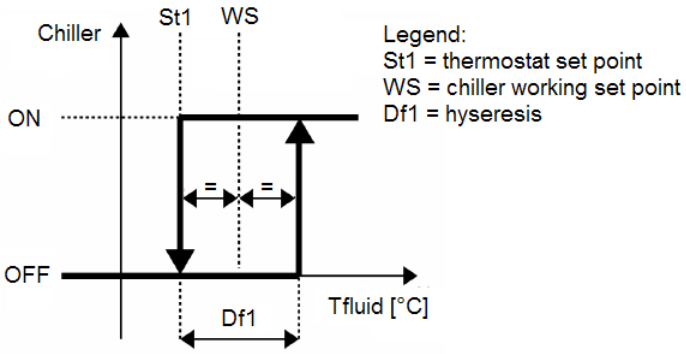
7.1. Compressor regulation with Fixed Setpoint

The regulator gets the temperature measure from the thermoregulation probe; the setpoint is 37°C.

Control action is proportional to the error and it reaches saturation (100%) when the temperature is greater than the setpoint plus the "Hysteresis"

The compressor will run if requested from regulator of Circuit 1 or / and Circuit 2.

Fixed Setpoint Settings		
Parameter	**Factory Setting**	**Range of Setting**
	[°C]	**[°C]**
St1 (Set point)	37	13 - 40
Df1	3	-



8. Heating

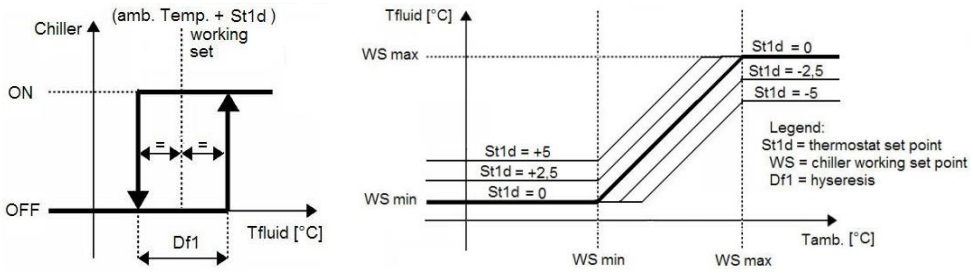
8.1. Heater regulating with Fixed Setpoint

The regulator gets the temperature measure from the thermoregulation probe; the offset from setpoint is -5°C (32°C) dith hysteresis of +/- 1,5K.

8.2. regulating with a TD option enabled (Ambient tracking)

The regulator gets the temperature measure from the thermoregulation probe; the setpoint is Ambient Temperature ± 1,5K.

If the ambient temperature is out of working setpoint range the working setpoint will assume the maximum value (if the ambient temperature is greater) or the minimum value (if the ambient temperature is less).



9. Fan regulation

The regulator gets the pressure measure from the pressure sensor; the setpoint is

- VLV4: Fans: 11.5Bar ± 1Bar
- VLV12: Fans: 12Bar ± 1Bar

Control action is PID regulated to eliminate error between setpoint and temperature probe value

Note: Fans will regulate only when compressor is ON

DOCUMENT REVISION HISTORY			
Date	**N°**	**Description**	**Name**
26/10/2020	01-_	First Issue	KP
04/11/2020	01-A	Added TCP/IP setting instruction	KP