

User manual for ENERGY FLEX



SKP 20

LCD TERMINALS

ENGLISH

INDEX

USER INTERFACE

1.1	Keys	4
1.1.1	Description of keys	4
1.1.2	Description led utilities	4
1.1.3	ICONS: States and Operating Modes	5
1.1.4	Icons and Double Display	5
1.1.5	Double Display	5
1.2	Hot keys	5
1.2.1	Local On/Off	5
1.2.2	Controler "On" → "OFF"	5
1.2.3	Controler "OFF" → "On"	5
1.2.4	Manual alarm acknowledgment and reset	6
1.3	First power on	6
1.3.1	Access to folders - menu structure	6
1.3.2	Main display Menu	6
1.3.3	"Operating Mode" Menu	7
1.3.4	Setting the clock (CL)	7
1.3.5	Alarm Display (AL)	8
1.3.6	Example of how to set the setpoint (SP)	8
1.3.7	Reset compressor/pump time	9
1.3.8	Parameters (folder PAr)	9
1.3.9	Setting a password (Par/PASS folder)	10
1.3.10	Alarm events (Par/EU folder)	10

DIAGNOSTICS

2.1	Alarms	12
2.1.1	Automatic reset	12
2.1.2	Manual reset	12
2.1.3	Alarm mute	12
2.2	Digital alarms	12
2.3	Analogue alarms	13
2.4	Alarms table	13
2.4.1	Alarm table key	13
2.4.2	Alarms table	14

1. User interface

- 1.1 Keys
- 1.2 Functions description

⚠ Preliminary precautions

- The control panel allows you to make all the necessary adjustments to the chiller operation and to view the values of the main parameters and alarms. The control panel is located on the front panel of the electrical board.

The interface, comprising the front cover of the controller, allows you to perform all operations needed to use the device.

1.1 Keys

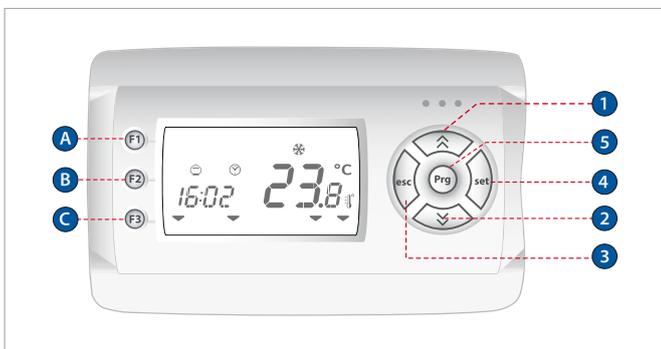
The terminals are the same and are interchangeable – see table.

- SKW22(L) There are 4 keys on the front cover of the controller.
- SKWP22(L) There are 5+3 keys on the front cover of the controller.

Each key has (see the two tables below)

- A direct action (shown on the key itself).
- An “associated” function (for SKW22(L): marked with an icon on the front panel of the terminal beside the key). In the manual, this is shown in square brackets (e.g. [UP])
- A combined action using 2 keys. In the manual, this is shown in square brackets (e.g. [UP+DOWN])

1.1.1 Description of keys

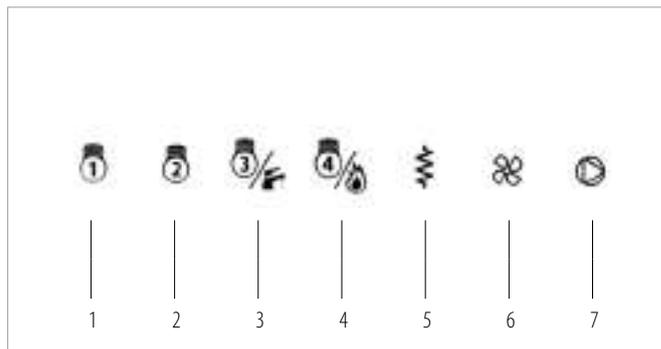


Key	Press once (press and release)	Long press (press and hold for about 3 seconds)
1	Increase a value. Go to next label.	See also F1 [Activate manual defrost] See the Functions menu (folder FnC).
2	Decrease a value. Go to previous label.	See also F3 [Machine active → OFF] [OFF → machine active] See Local On/OFF section. See also Functions menu. (FnC folder)
3	Confirm value / exit and save new settings. Move to next level (open folder, subfolder, parameter, value). Open State Menu. Open Edit Mode	(Main display) See Main Display section.
4	Exit menu page / go back to previous menu. Move cursor to left in Edit Mode. (press and hold) Exit Edit Mode without saving.	See also F2 (Mode Change) See section on Changing operating mode.
5	Open Programming menu	/

Tasto	Pressione singola (premi e rilascia)	Pressione prolungata [premi per 3 secondi circa]	Note
[F1+F3]	/	[Riarmo manuale degli allarmi]	
F1	/	[Attiva sbrinamento manuale]	Vedi Tasto UP pressione prolungata
F2	/	[Cambio modo]	Vedi Tasto esc pressione prolungata
F3	/	[Macchina attiva → OFF] [OFF → macchina attiva]	Vedi Tasto DOWN pressione prolungata

1.1.2 Description led utilities

Icons associated with utilities are all configurable. From the factory device is set to the table:



1	Compressor 1
2	Compressor 2
3	Sanitary water
4	Boiler
5	Exchanger electric heater
6	Fan-coil
7	Water pump

1.1.3 ICONS: States and Operating Modes

ICONS States and operating modes	Icons	Description	Permanently on	Flashing
		Alarm	Active alarm	Alarm acknowledged
		Economy	Configurable Ui /dS folder Parameters UI07 /dS00	Configurable Ui /dS folder Parameters UI07 /dS00
Display B shows the value/resource set for the "main display". If there is an alarm: Display A shows the alarm code Exx. (when more than one alarm occurs at the same time, the one with the lowest number will be shown first). Display B shows "--" if the alarm is a probe alarm referring to the value set for the main display.		Not used		
		Clock (RTC)	Shows current time (24hr format).	Set time
		Stand by	Local standby mode (from keyboard)	Remote standby
		Heating	Heating mode	Antifreeze with heat pump active Remote heating mode
		Cooling	Cooling mode	Remote cooling mode
		Not used	/	/
	AUTO	Not used	/	/

Icons are associated with menu navigation and manual defrost.
The factory settings of the controller are listed in the table:

ICONS States and operating modes	ICON symbols on display	ICONS	Default	Default icon on front panel
		ICON 1 (first from top on the left)	Menu navigation (ABC)	
		ICON 2	Manual defrost	

1.1.4 Icons and Double Display

he 13 icons on the front panel indicate associated/combined functions (6 icons) + default utilities (7 icons).

1.1.5 Double LCD

Which we will refer to as follows:

Display	Display A	Display B
	4-figure read-out	Read-out with 2 and a half digits and +/- sign

The double display has 26 icons:

- States and operating modes - 9 icons
 - o Browse menu / manual defrost - 2 icons
 - Values and units of measure - 4 icons
 - Utilities - 7 icons
 - Fans - 4 icons
- Read-outs can have up to
- Display A: 4 digits or
 - Display B: 2 and a half digits and +/- sign

Note:

- Icons are all grey in colour.
- Some icons are NOT used – are shown on a grey background.

1.2 Hot keys

1.2.1 Local On/OFF

1.2.2 Controller "On" → "OFF"

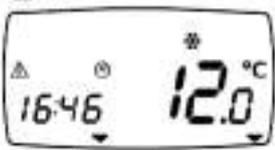
	Press the [DOWN] key for about 3 seconds from the main display.
	The word OFF will appear on the display. All other icons will remain off.

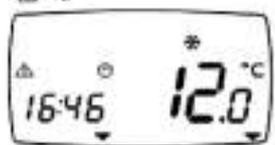
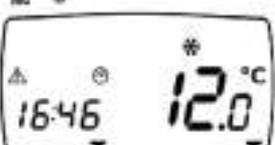
1.2.3 Controller "OFF" → "On"

	The word OFF appears on the display. Press and hold the [DOWN] key for about 3 seconds.
	Energy Flex will return to the normal display.

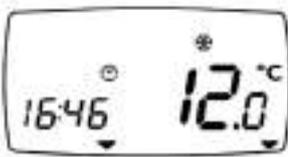
1.2.4 Manual alarm acknowledgment and reset

Alarm signals are displayed as flashing. Below is an explanation of how to acknowledge an alarm. The various error messages will be shown in folder AL (see States Menu).

1		<p>An error message will be shown, alternating with the error alert (2) and the main display (1). The ALARM icon will be permanently on.</p>
2		

ALARM/ERROR ACKNOWLEDGMENT	
	<p>An error can be acknowledged by pressing any key once. After pressing any key, the alarm icon will start to blink.</p>
MANUAL RESET	
	<p>To manually reset an alarm, press the “up” and “down” keys together [UP+DOWN] ----- N.B.: resetting an active alarm will save the alarm in the alarm log.</p>
	<p>The device will return to the main display.</p>

1.3 First power on

	<p>When Energy SKW22(L) is powered on for the first time, a lamp test is carried out to check its state and operation. ----- The Lamp Test lasts for just a few seconds. During this short time, all icons and digits flash at the same time.</p>
	<p>After the lamp test, the following are displayed (depending on the default settings): Display A • The time (always**) Display B • Real setpoint • Parameter setpoint • The value of the analogue input selected (AIL1...AIL5, Air1, Air2). ----- In the example, the main display is: Display A: current time (RTC**) Display B: parameter setpoint (+12°C)</p>

	<p>In the example, the current time is the main display (RTC). Note that in this case Display is off (display A shows the time). ** N.B. The time will be shown on models /C, i.e. those with the Real Time Clock (RTC) installed.</p>
--	--

1.3.1 Access to folders - menu structure

Folders are organized into menus.

Access to said folders is defined by the keys on the front cover (see relative paragraphs).

In the paragraphs that follow (or chapters indicated), we will explain how to enter each individual menu. There are 4 menus:

- Main Display Menu → see the “Main Display Menu” chapter.
- Operating Mode Menu → see the “Operating Mode Menu” chapter.
- States Menu → see the “States Menu” chapter.
- Programming Menu → see the “Programming Menu” chapter.

There are 4 folders / sub-menus in the Programming Menu:

- Parameters Menu (folder Par) → see Energy FLEX manual Parameters Chapter.
- Functions Menu (folder Fnc) → see Functions chapter.
- Password PASS
- EU alarm codes

All menus and labels are listed in the table below:

MENU								
Main Display (Display B)	Ai	AIL1	AIL1	AIL1	AIL1	AIL1	Air1	Air2
	di	dIL1	dIL2	dIL3	dIL4	dIL5	dIL6	
	...							
	Sr							
	Hr							
Operating mode	HEAt							
	COOL							
	StdBY							
States	Ai							
	di							
	...							
	CL	HOU	dAt	YEA				
	...Hr	CP01	CP02	CP03	CP04	PU01	PU02	PU03

PROGRAMMING MENU	label				
Parameters	PAr	CL		CL00...	
		CF		CF01...	
		
Functions	FnC	AL		AL00...	
		dEF			
		tA			
		St	OFF/ON		
Password	PASS	CC	UL	dL	Fr
		EUr			
		EU	EU		

1.3.2 Main display Menu

“Main Display” means what the controller on the default display screen, i.e. when no keys have been pressed.

Modifying the main display

In Energy FLEX, the main display can be customized to suit personal requirements. The various contents can be selected from the “disp” menu which is opened by pressing and holding the [set] key for more than 3 seconds. The main display can be selected from:

- Analogue inputs AiL1, AiL2, AiL3, AiL4, AiL5, (when configured as digital inputs, the display will be defined on the basis of the state and logical parameter - digital input associations).
- Set-point
 - o SP= set from parameter.
 - o Sr= real with any decalibration.

A step by step account of how to proceed is provided below.

	To open the [disp] menu to modify the main display setup, press and hold the set key for at least 3 seconds. [set]
	Opens the blinking menu for the previous display (SEtP, i.e. SetPoint from parameter, in this case).
	To modify the display, use the "up" and "down" keys to browse the menu.
	On selection of your preferred display (AiL1 in this case), press the set key to confirm. You will be automatically returned to the preconfigured main display.
	In this case AiL1, with a value of 7.5°C

1.3.3 "Operating Mode" Menu

Changing the operating mode

There are three different operating modes:

- Stand-by (StbY) mode
- HEAT mode
- Cooling only mode (COOL)

	For example, let's say you want to change from StbY to COOL mode. To change operating mode, press and hold the [esc] key for at least 2 seconds.
	A blinking menu will open containing the values StbY (standby), HEAT (heat) and COOL (cool) that you can scroll using the DOWN key.
	Select your required operating mode (COOL in this case) and press the set key.

	You will be automatically returned to the main display and you will see that the Stby icon that was previously on has gone off and the COOL icon has come on.

1.3.4 Setting the clock (CL)

Energy FLEX has a clock (RTC) to run the alarm log, just like a programmable timer thermostat.

We will now show you how to set the time:

you will also use the same procedure to set the date and year.

	To change the time on your machine, starting from the main display, press the set key.
	Press the key once to view the various folders. Use the "UP" and "DOWN" keys to find the CL folder.
	Press the set key to open the CL menu.
1	
	Once you are in this menu, you will see the HOuR label on Display B.
2	
	Use the "UP" and "DOWN" keys (1-2-3) to select the ---
Entra in menu modifica	
	Press the [set] key ** to open the menu you want to modify. The HOuR label will reappear on Display B.
	Display A will blink. Press and hold for

Change time/date/day menu	
	<p>Note: Display A blinks. Use the "UP" and "DOWN" keys to select the time, date or year. Once you have decided what you want to set (for example the time), press the set key again to open the modification menu for the variable selected.</p> <p>---</p>
Change time	
	<p>To set the time (the same procedure applies to the date and year), use the "UP" and "DOWN" keys to enter the required value and press the</p> <p>---</p> <p>To exit the set time menu, press the esc key until you are returned to the main display.</p>

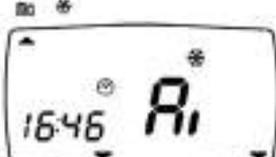
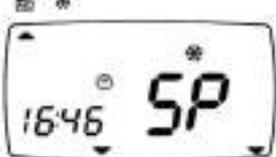
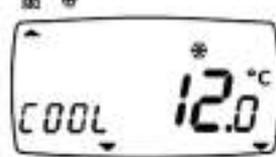
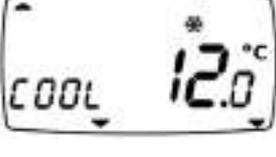
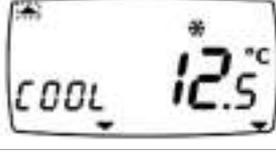
1.3.5 Alarm Display (AL)

	Press the set key from the main display.
	Label Ai appears on the display. Use the UP and DOWN keys to browse the other labels until you find the AL label.
	Press the set key to view the label of the first active alarm (if it exists).
	In this case, the first alarm is Er01. Scroll using the "up" and "down" keys to find other active alarms.
	<p>N.B.: the menu is not cyclical. For example, if the active alarms are ER01, Er02 and Er03, the display will show: Er01 ->Er02->Er03 <-Er02<-Er01 NOTE: -> UP, <-DOWN Press the esc key to go back to the main display.</p>

1.3.6 Example of how to set the setpoint (SP)

For example, we will modify the setpoint in COOL mode from 12.0 degrees centigrade to 12.5 degrees centigrade.

	To change the setpoint on your machine, starting from the main display, press the set key.
---	--

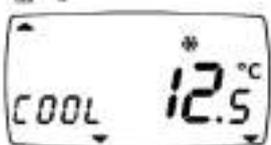
	Label Ai appears on the display. Use the UP and DOWN keys to scroll the other labels until you find the SP label
	Press the set key to open the SP menu.
	The first display will be COOL mode, and then scrolling with the UP and DOWN keys, the HEAT mode (the various displays are shown at the side).
	
	Let's say we want to change the COOL mode setpoint. Press the set key beside the COOL label.
	The device will show the current setpoint of the machine, which is 12.0 degrees centigrade in this case). --- To increase or decrease this, press the "up" and "down" keys. For example, if you want to change the setpoint to 12.5 degrees, press the "up arrow" key until you reach the required value. ---
	

Setpoint edit function enable from main screen

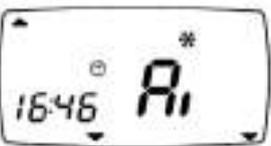
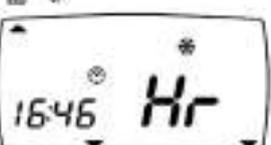
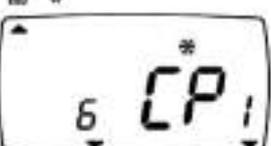
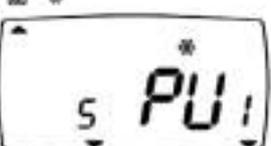
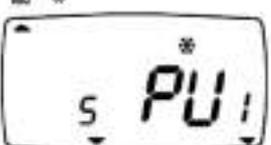
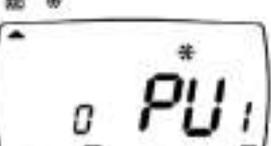
Parameter Ui25 allows you to enable Set Point modification on the main display with the UP and DOWN keys. For example, we will modify the setpoint in COOL mode from 12.0 degrees centigrade to 12.5 degrees centigrade.

Parameter Ui25=1 (folder Par/Ui/Ui25) must be set.
See Parameters section (folder PAR)

	<p>Let's say we want to change the COOL mode setpoint. The device must be in COOL mode (or in StdBy mode from COOL). To change the set point of the HEAT mode, proceed in the same way by first changing the device's mode from COOL to HEAT See Operating Mode Menu chapter. To change the setpoint on your machine, press the UP or DOWN key in the main display</p>
--	--

	The device will show the current setpoint of the machine, which is 12.0 degrees centigrade in this case).
	To increase or decrease this, press the "up" and "down" keys again. For example, if you want to change the setpoint to 12.5 degrees, press the "up arrow" key until you reach the required value.
	On reaching the required value, press the set key. The device will save the value 12.5.

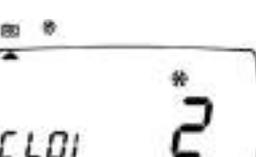
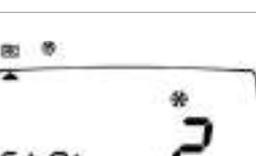
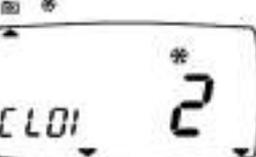
1.3.7 Reset compressor/pump time

	Example display and reset hours for Pump 1. Press the set key from the main display.
	Label A1 appears on the display. Use the UP and DOWN keys to scroll the other labels until you find the Hr label.
	Press the set key to view the first label - which in this case is the running time for compressor 1 (CP1)
	Scroll with the UP and DOWN keys to view (if the relative resources are present) the running time for compressor 1 (CP1) the the pump running time (PU1)
	
	The running time is 5 hours. To clear pump PU1 running time, press and hold the [set] key.
	Press the esc key to go back to the main display.

1.3.8 Parameters (folder PAr)

Modifying a parameter

Instructions are provided below on how to change a machine parameter. By way of example, let's look at the CF configuration parameters folder, parameter CF00 (folder PAr/CF/CF00).

	Press the esc and set keys together to open the parameters menu. This will open the PAr menu.
	The PAr parameters menu contains all controller parameters. Press the set key to view folders.
	The first folder the controller shows is the CF configuration folder.
	Simply press the set key again to modify individual CF parameters.
	The controller will show parameter CL00 (factory default settings). Press the "up" key to scroll through the various parameters or move to the next parameter (CL01 in this case) or the "down" key to go back to the previous parameter (CL97 in this case) CL00->CL01->CL02->...->CL97->CL00 CL97<-CL00<-CL01->...<-CL96<-CL97 NOTE: -> UP, <-DOWN
	Press the set key to change the value of the parameter (CL01 in this case).
	Press the "up" and "down" keys to change the value of the parameter (CL01 in this case).
	On selecting a value, press the set key. ** To exit this display and return to the previous level, press the esc key. **N.B. pressing the set key confirms the modified value; pressing the esc key returns you to the previous level without saving the new value entered.

1.3.9 Setting a password (Par/PASS folder)

To view parameters visible for the given password, open folder PASS (press esc and set together [esc+set] from the main display and search the folder using the up/down keys) and set the PASS value.

	To view folder PAS in the main display, press the Esc and Set keys at the same time. [esc+set]
	Pressing the two keys will open the menu containing the list of folders. Use the "up" and "down" keys to scroll the list until you find the PAS folder.
	Press the set key to open the PAS folder.
	Enter the password (installer or manufacturer), (password=1 in the example) from here, press the set key and exit. Now open and view parameters to change a value (see parameters section in the Energy FLEX manual)

1.3.10 Alarm events (Par/EU folder)

	To view the PASS folder in the main display, press the Esc and Set keys at the same time. [esc+set]
	Pressing the two keys will open the menu containing the list of folders. Use the "up" and "down" keys to find the EU folder.
	Press the set key to open the PAS folder.
	Press the set key again to view details of the selected event (EU00 in this specific case).

	Alarm code Er The first label will be shown (alarm code, in this case Er01) Use the UP and DOWN keys to scroll:
	Alarm start time Hi (20:08 in this example)
	Alarm start date (20 May in this example)
	Alarm stop time H0 (alarm still active in this case)
	Alarm stop date d0 (alarm still active in this case)
	Type of alarm tY (automatic AUtO) or alternatively (manual ManU)

2. Diagnostics

- 2.1 Alarms
- 2.2 Digital alarm
- 2.3 Analog alarms
- 2.4 Alarm table



Preliminary precautions

- The control panel allows you to make all the necessary adjustments to the chiller operation and to view the values of the main parameters and alarms. The control panel is located on the front panel of the electrical board.

2.1 Alarms

The “Energy SBA600” performs full installation diagnostics and reports a variety of alarms. Parameters for alarm activation and resetting can be viewed and configured in folder AL (parameters AL00...AL82) (see User Interface and Parameters section).

2.1.1 Automatic reset

For automatic reset alarms, normal operation is restored as soon as the cause of the alarm has been removed.

2.1.2 Manual reset

Alarms can be manually reset by pressing and releasing the [UP + DOWN] keys. Normal operation can only be reset

- by pressing a key on the instrument keyboard and
- only if the cause of the alarm has been removed.

2.1.3 Alarm mute

Alarms can be acknowledged by pressing any key.



acknowledging an alarm has no effect on the alarm generated other than on the alarm LED, which goes from fixed to flashing.

An alarm has two effects:

- It blocks the services concerned
 - Message on the keyboard display alternates with a message on the main display.
- The next two sections summarize alarms grouped by type (digital or analogue).

Alarm code and alarm parameters are in bold (folder PAr/AL)

2.2 Digital alarms

Alarm code	Name of alarm	Bypass activation event	Bypass time	Automatic alarm activation time	Manual alarm activation time	Exit alarm deactivation time	Number of interventions per sample time
E001	Circuit 1 high pressure alarm	None	Not present	Not present	Not present	Not present	AL10
E002	Circuit 2 high pressure alarm	None	Not present	Not present	Not present	Not present	AL10
E005 (NOTA 4)	Circuit 1 low pressure alarm	Circuit compressor activated or reversal of 4-way valve (NOTE 1) (NOTE 4)	AL11 (NOTA 4)	Not present	Not present	Not present	AL12

Alarm code	Name of alarm	Bypass activation event	Bypass time	Automatic alarm activation time	Manual alarm activation time	Exit alarm deactivation time	Number of interventions per sample time
E006 (NOTA 4)	Circuit 2 low pressure alarm	Circuit compressor activated or reversal of 4-way valve (NOTE 1) (NOTE 4)	AL11 (NOTA 4)	Not present	Not present	Not present	AL12
E020 (NOTA 2)	Primary circuit flow switch alarm	Internal circuit pump activation (One of the two pumps)	AL14	AL15	AL16	AL15	Not present
E025 (NOTA 3)	Primary circuit pump thermal switch alarm	External circuit pump activation	AL17	AL18	AL19	AL18	Not present
E010	Compressor 1 thermal switch	Compressor 1 switched on	AL20	Not present	Not present	Not present	AL21
E011	Compressor 2 thermal switch	Compressor 2 switched on	AL20	Not present	Not present	Not present	AL21
E012	Compressor 3 thermal switch	Compressor 3 switched on	AL20	Not present	Not present	Not present	AL21
E013	Compressor 4 thermal switch	Compressor 4 switched on	AL20	Not present	Not present	Not present	AL21
E015 (NOTE 2)	Compressor 1 oil pressure switch	Compressor 1 switched on	AL22	Not present	Not present	Not present	AL23
E016 (NOTE 2)	Compressor 2 oil pressure switch	Compressor 2 switched on	AL22	Not present	Not present	Not present	AL23
E017 (NOTE 2)	Compressor 3 oil pressure switch	Compressor 3 switched on	AL22	Not present	Not present	Not present	AL23
E018 (NOTE 2)	Compressor 4 oil pressure switch	Compressor 4 switched on	AL22	Not present	Not present	Not present	AL23
Er40	Primary exchanger fan thermal switch	None	Not present	Not present	Not present	Not present	AL24
Er41	External exchanger fan thermal switch Circuit 1	None	Not present	Not present	Not present	Not present	AL25
Er42	External exchanger fan thermal switch Circuit 2	None	Not present	Not present	Not present	Not present	AL25
E021	Primary circuit pump 1 thermal switch	None	Not present	Not present	Not present	Not present	AL26

Alarm code	Name of alarm	Bypass activation event	Bypass time	Automatic alarm activation time	Manual alarm activation time	Exit alarm deactivation time	Number of interventions per sample time
E022	Primary circuit pump 2 thermal switch	None	Not present	Not present	Not present	Not present	AL26
E026	Disposable circuit pump thermal switch	None	Not present	Not present	Not present	Not present	AL27
E050	Primary exchanger electric heater 1 thermal switch	None	Not present	Not present	Not present	Not present	Not present
E051	Primary exchanger electric heater 2	None	Not present	Not present	Not present	Not present	Not present
E056	Auxiliary output alarm	None	Not present	Not present	Not present	Not present	Not present

(NOTE 1) The bypass is activated by the reversal of the 4-way valve only if at least one compressor is on

(NOTE 2) The alarm is enabled only if the associated resource (e.g. a given compressor or pump) is active

(NOTE 3) The alarm is enabled only if the associated resource (e.g. specific compressor or specific pump) is active only in heating mode.

(NOTE 4) The alarm is enabled only if the associated resource (e.g. specific compressor or specific pump) is active only in heating mode. Low pressure digital alarm related to dedicated circuit is not active if Pump-down valve of the relevant circuit is active (valve closed, Pump-down ongoing, and after CP33 time after deactivation)

2.3 Analogue alarms

(NOTE 1) If No. trips = 1, the alarm is always manual reset type.

(NOTE 2) Alarm bypass is active in heating mode only.

(NOTE 3) An offset of 6°C (value cannot be changed) is added to the activation setpoint AL51 during the defrost stage.

Alarm code	Name of alarm	Bypass activation event	Bypass time	SET activation	Hysteresis	Automatic alarm time (NOTE 1)	No. of trips	Control Probe
E003	Circuit 1 analogue high pressure alarm	None	None	AL40	AL41	Not present	AL42	Circuit 1 high pressure probe
E004	Circuit 1 analogue high pressure alarm	None	None	AL40	AL41	Not present	AL42	Circuit 1 high pressure probe
E007	Circuit 1 analogue low pressure alarm	A circuit 1 compressor is switched on or reversal of the 4-way valve	AL43	AL44	AL45	Not present	A46	Circuit 1 low pressure probe
E008	Circuit 2 analogue low pressure alarm	A circuit 2 compressor is switched on or reversal of the 4-way valve	AL43	AL44	AL45	Not present	A46	Circuit 2 low pressure probe
E030	Primary circuit antifreeze	On/Off (local or remote), input in heat mode (NOTE 2)	AL50	AL51 (NOTA 3)	AL52	Not present	A53	Internal exchanger water/air outlet temperature
E031	External circuit antifreeze	On/Off (local or remote), input in heat mode (NOTE 2)	AL54	AL55	AL56	Not present	A57	External exchanger outlet water temperature
E032	"Vacuum" circuit 1	None	None	AL59	AL60	AL58	manual reset	Low pressure input circuit 1

Alarm code	Name of alarm	Bypass activation event	Bypass time	SET activation	Hysteresis	Automatic alarm time (NOTE 1)	No. of trips	Control Probe
E033	"Vacuum" circuit 2	None	None	AL59	AL60	AL58	manual reset	Low pressure input circuit 2
E035	High temperature	None	None	AL47	AL48	AL49	Automatic reset	Internal exchanger water/air outlet temperature

2.4 Alarms Table

- The alarm signal consists of a code, the format being "E0nn" (nn is a 2-figure number identifying the type of alarm, e.g. E000, E025, E039...).
- In the case of multiple simultaneous alarms only the one with the lowest code will be displayed (e.g. simultaneous alarms E000 and E001). The display will show only E000 alternated with the main display page
- If the measurement on the main display is incorrect, in the event of an alarm, the alternate alarm code will alternate with "----".

All possible alarms are listed in the table below with their respective codes and the relative utilities blocked:

2.4.1 Alarms table key

column	
Alarm code	NOTA: the codes are shown in ascending order (E000, E001) but there may be some gaps (there is no E006)
Name of alarm	
Notes	CMP 1/2 Compressor 1/power step 2
	PUMP 1/2 Pump1/2
Alarm	D Digital
	A Input
Reset	AUTO Automatic
UTILITY	OFF COMP1 OFF compressor 1
	OFF COMP2 OFF compressor 2
	OFF COMP3 OFF compressor 3
	OFF COMP4 OFF compressor 4
	OFF (1) When used for temperature control
	OFF (2) When used for temperature control and/or antifreeze
	OFF RES1 OFF heater 1
OFF RES2 OFF heater 2	

2.4.2 Alarms table

Alarm Code	Name of Alarm	Notes	Digital/Analogue	Alarm type	Sanitary water valve	Sanitary water heater	Compressors	External exchanger fan	Recirculation fan	Internal circuit pump	External circuit pump	Internal exchanger heaters	External exchanger heaters	Output Auxiliary	Boiler
E000	General alarm		D	AUTO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
E001	Circuit 1 digital high pressure		D	Events			OFF (1)								
E002	Circuit 2 digital high pressure		D	Events			OFF (1)								
E003	Circuit 1 analogue high pressure		A	Events			OFF (1)								
E004	Circuit 2 analogue high pressure		A	Events			OFF (1)								
E005	Circuit 1 digital low pressure		D	Events			OFF (1)	OFF (2)	OFF						
E007	Circuit 1 analogue low pressure		A	Events			OFF (1)	OFF (2)	OFF						
E008	Circuit 2 analogue low pressure		A	Events			OFF (1)	OFF (2)	OFF						
E009	Machine low charge		A	Events			OFF	OFF (2)	OFF						
E010	Compressor 1 thermal switch	CMP 1	D	Events			OFF COMP1								
E011	Compressor 2 thermal switch	CMP 2	D	Events			OFF COMP2								
E012	Compressor 3 thermal switch	CMP 3	D	Events			OFF COMP3								
E013	Compressor 4 thermal switch	CMP 4	D	Events			OFF COMP4								
E015	Compressor 1 oil pressure switch	CMP 1	D	Events			OFF COMP1								
E016	Compressor 2 oil pressure switch	CMP 2	D	Events			OFF COMP2								
E017	Compressor 3 oil pressure switch	CMP 3	D	Events			OFF COMP3								
E018	Compressor 4 oil pressure switch	CMP 4	D	Events			OFF COMP4								
E020	Primary circuit flow switch		D	Time	OFF for manual reset alarm		OFF	OFF		OFF for manual reset alarm		OFF			OFF
E021	Primary circuit pump 1 thermal switch		D	Events			OFF (3)	OFF (3)		OFF Pump 1		OFF (3)			OFF (3)
E022	Primary circuit pump 2 thermal switch		D	Events			OFF (3)	OFF (3)		OFF Pump 2		OFF (3)			OFF (3)
E025	External circuit flow switch		D	Time			OFF	OFF if alarm with manual reset			OFF for manual reset alarm		OFF		
E026	Disposable circuit pump thermal switch		D	Events			OFF				OFF		OFF		
E030	Primary circuit antifreeze		A	AUTO			OFF	OFF							
E031	External circuit antifreeze		A	AUTO			OFF	OFF							
E032	Vacuum circuit 1		A	Manual			OFF (1)	OFF (2)	OFF						
E033	Vacuum circuit 2		A	Manual			OFF (1)	OFF (2)	OFF						
E035	High temperature		A	AUTO			OFF								
E040	Primary exchanger fan thermal switch		D	Events			OFF		OFF			OFF			
E041	Circuit 1 external heat exchanger fan thermal switch		D	Events			OFF (2)	OFF (1)					OFF (2)		
E042	Circuit 2 external heat exchanger fan thermal switch		D	Events			OFF (2)	OFF (1)					OFF (2)		
E045	Faulty clock			AUTO											
E046	Time lost			AUTO											

Alarm Code	Name of Alarm	Notes	Digital/Analogue	Alarm type	Sanitary water valve	Sanitary water heater	Compressors	External exchanger fan	Recirculation fan	Internal circuit pump	External circuit pump	Internal exchanger heaters	External exchanger heaters	Output Auxiliary	Boiler
E047	LAN communication absent			AUTO											
E048	Anti-legionnaires alarm			AUTO											
E050	Primary exchanger electric heater 1 thermal switch		D	AUTO								OFF RES.1			
E051	Primary exchanger electric heater 2 thermal switch		D	AUTO								OFF RES.2			
E056	Auxiliary output thermal switch		D	AUTO										OFF	
E060	Primary exchanger water or air input temperature probe faulty			AUTO	See Probe Errors Table										
E061	Primary exchanger water or air output temperature probe faulty, and/or Circuit 1 primary exchanger water outlet temperature probe faulty, and/or Circuit 2 primary exchanger water outlet temperature probe faulty			AUTO	See Probe Errors Table										
E062	Circuit 1 external exchanger temperature probe faulty, and/or Circuit 2 external exchanger temperature probe faulty			AUTO	See Probe Errors Table										
E063	Faulty disposable exchanger water or air input temperature probe			AUTO	See Probe Errors Table										
E064	Faulty disposable exchanger water or air output temperature probe			AUTO	See Probe Errors Table										
E065	Faulty ambient temperature probe			AUTO	See Probe Errors Table										
E066	Sanitary water temperature probe faulty			AUTO	See Probe Errors Table										
E067	Faulty display probe (temperature / pressure)			AUTO	See Probe Errors Table										
E068	Faulty external temperature probe			AUTO											
E069	Faulty circuit 1 high pressure transducer or Faulty circuit 2 high pressure transducer			AUTO	See Probe Errors Table										
E070	Faulty circuit 1 low pressure transducer Faulty circuit 2 low pressure transducer			AUTO											
E071	Faulty compressor 1 discharge temperature probe			AUTO											
E073	Faulty dynamic setpoint input			AUTO											
E074	Faulty primary heat exchanger transducer circuit 1, and/or faulty primary heat exchanger transducer circuit 2			AUTO	See Probe Errors Table										
E075	Faulty disposable exchanger transducer circuit 1, and/or faulty disposable exchanger transducer circuit 2			AUTO	See Probe Errors Table										
E080	Configuration error			AUTO	OFF	OFF									
E081	Compressor operating hours exceeded (*)	CMP		Manual											
E085	Primary circuit pump operating hours exceeded (*)	PUMP		Manual											
E086	External circuit pump operating hours exceeded (*)	PUMP		Manual											
E090	Alarm log full warning			Manual											

Serie	
SKP 20	
Issue	Supersedese
02.15	---
Catalogue	
M 204b	

The data indicated in this manual is purely indicative.
The manufacturer reserves the right to modify the data whenever it is considered necessary.