FAULT CODES

CHILLED WATER TEMPERATURE, OUT OF RANGE

Fault Code: **012, 013, 022, 023**

Description

Water Inlet or Outlet Temperature measured by the temperature sensor is outside the authorised range, this range can vary depending on the presence or not of glycol with the chilled water (factory setting)

TE < set point 3341 (chilled water min set point) or TE > set point 3342 (Hot water max set point)
TS < set point 3341 (chilled water min set point) or TS > set point 3342 (Hot water max set point)

Where:

TE	⇔	Water inlet Temperature (°C)
TS	⇔	Water outlet Temperature (°C)
Cons 3341	⇔	Minimum chilled water Temperature at evaporator (°C)
Cons 3342	⇔	Maximum chilled water Temperature at evaporator (°C)

Action

☞ Compressor immediate shutdown.

☞ A fault signal is shown on the display.

- 012, TS too high
- 013, TE too low
- 022, TS too low
- 023, TE too high

☞ The remote fault signal is delayed by 6 minutes

Reset

Automatic reset of the fault signal as soon as the chilled water temperatures comes back in the authorized operating range with a safety offset of 2°C on the chilled water and 5°C on the hot water.

Water
Set point 3341+2°C < TE < set point 3342 -5°C
Set point 3341+2°C < TS < set point 3342 -5°C

Possible causes	Solving the problem
Faulty Chilled water inlet or outlet temperature probes	Replace the probe.
Wiring problem with the probes, disconnect the sensor.	Check the probe connections.

INSUFFICIENT WATER FLOW RATE

Fault Code: **001**

Description

The flow switch FSE is detecting a low water flow rate in the evaporator heat exchanger for more than 3 seconds

Action

- ☞ Immediate shutdown of the whole unit.
- ☞ A fault signal is shown on the display.
- ☞ The remote fault signal is delayed by 6 minutes

Reset

The unit restarts **automatically, 20 seconds** after the flow switch detects a flow rate.

Possible causes	Solving the problem
Problem with the pump control wiring.	Check the pump connections
Problem with the flow switch wiring	Check the flow switch connections
Dirty or clogged water filter.	Clean the water filter.
Wrong setting of the flow switch.	Check the flow switch settings.

COMMUNICATION WITH THE EXTENSION BOARD

Fault Code: **071**

Description

The communication between the BM50 and the BE50 is down.

Action

Alarm signal is ON
The unit carries on running

Reset

The fault signal disappears **automatically as soon as the communication is back on line**.

Possible causes	Solving the problem
Damaged BM50 or BE50	Replace the defective component
Wrong wiring or loose connection between BM50 and BE50	Check connections and wiring.

LOW PRESSURE CUT OUT

Fault Code: **1n7**

Description

The low pressure cut out limit depends on the type of refrigerant which is inside the circuit and is defined as following:

R407C ⇨ 1,5 bars abs. (Or –28°C Vapour Saturated Temperature).

One compressor on circuit n does not work for 2 minutes and in the case of a unit with low ambient kit and Thermostatic Expansion Valve, the TXV bypass valve has been closed for 1 minute, but the low pressure is too low.

NOTE: Only units with thermostatic expansion valves and Low ambient kit options are fitted with TXV bypass.

Action

- ☞ If the Low Pressure of a circuit is below the safety limit for more than an hour, then the considered circuit is not allowed to start again.
- ☞ This circuit is shut down immediately.
- ☞ A fault signal is shown on the display.
- ☞ The remote fault signal is delayed by 6 minutes.

Reset

Automatic reset of the fault signal as soon as the low pressure moves above the “CUT IN” limit

If the low pressure fault is activated more than three times during the same day, the fault signal is locked out and must be reset manually.

The auto reset limits are detailed below

R407C ⇨ 2.5 bars abs. (or –16°C saturated vapour temperature).

Note: Fault counter is cleared and reset every day at 10 am, as long as the maximum number of faults has not been reached.

Possible causes	Solving the problem
Not enough refrigerant in the circuit.	Adjust the refrigerant charge
Faulty expansion valve.	Check the good working of the expansion valve.
Dirty filter drier.	Change the filter drier
Faulty low pressure sensor.	Replace the low pressure sensor.

EVAPORATOR FREEZING PROTECTION

Fault Code: **1n8**

Description

This fault signal is activated on units chilling water without frost protection additives (Water without Glycol or Brine)

In the case of *a Plate heat exchanger.*
One compressor from the considered circuit n has been running for at least 2 minutes and : the saturated temperature TBPn < set point 3420 for more than 5 seconds (for units filled with R407c)
This safety feature is disabled for 2 minutes after start-up or shut down of a compressor and for 30 seconds after the start up or the shut down of a fan on the considered circuit.
Where:

TBPn	⇔	Evaporating Temperature of circuit n - dew point (°C)
Cons 3420	⇔	Minimum Evaporating Temperature (°C)
		The minimum value (default value) of set point 3420 is defined as follow:

Action

- ☞ Immediate shutdown of circuit n.
- ☞ Fault signal sent to the control display.
- ☞ The remote fault signal is delayed by 6 minutes

Reset :

In Case of: After the first fault signal the reset is automatically activated after 30 minutes if the evaporating temperature has moved back above the set point 3420 + 3°C
After 30 minutes the circuit n can only be started after **manual reset**

Note:

Fault counter is cleared and **reset every day at 10 am**, as long as the maximum number of faults has not been reached.

Possible causes	Solving the problem
Faulty LP pressure sensor	Replace the pressure sensor.
Faulty wiring or loose sensor connection.	Check pressure sensor connections and wiring.
Insufficient water flow rate in the evaporator.	Check flow rate and adjust flow switch if necessary.
Clogged evaporator	Clean evaporator.
Check set points	Replace pressure sensor.

FAULTY PROBES AND SENSORS

Fault Code: **081, 083, 086, 087, 089, 1n1, 1n2, 2n6**

Description

One or more temperature probes or pressure sensors located on circuit n or elsewhere are short circuited, cut or disconnected.

Probe or sensor affected by the problem
Water inlet temperature probe → code 081
Water outlet temperature probe → code 085
Air temperature probe → 083
Heat recovery exchanger inlet temperature probe → code 086
Heat recovery exchanger outlet temperature probe → code 087
High Pressure Sensor → Code 1n1

Unit without EEV
Low Pressure Sensor → Code 1n2

Unit with EEV
Low Pressure Sensor or suction probe → Code 2n6

Action

- *Immediate shut down of circuit n for faulty sensors.*
- *Immediate shut down of ALL circuits for faulty water outlet temperature and air temperature probes.*
- *No shut down for the other faults.*
- *Fault signal shown on the display.*
- *The remote fault signal is delayed by 6 minutes.*

Reset

The unit returns to normal operation after the signal from the faulty probes or sensors is re-established.

Possible causes	Solving the problem
Damaged probes or sensors	Remplace probe or sensor
Wrong wiring or loose connection on a probe or sensor	Check probes and sensors connections and wiring.

COMPRESSOR ELECTRICAL PROTECTION

Fault Code: **1n4**

Description

During start up or operation of a compressor m:

- The thermal magnetic trip breaker or the compressor internal protection from circuit n is tripped
- The phase rotation protection has detected an incorrect connection (standard on screw compressor and available as a special request on other units)
- The discharge line thermostat is tripped out (screw compressors only)

Action

☞ Immediate shut down of compressors m from circuit n.
☞ Fault signal shown on the display.
☞ The remote fault signal is delayed by 6 minutes.

Reset

If the fault signal comes from the internal compressor protection, it can be automatically reset. In this case, Climatic 50 will restart the concerned circuits 30 minutes after shutdown.
After three **automatic** reset of the compressor fault signal, the circuit n can only be restarted by a **manual reset** of the fault signal.

Important: For manual reset of ZR 380 internal protection cut off; if the problem comes from a high discharge temperature, wait for 30 mn prior to any manual reset to allow the scroll temperature to decrease sufficiently. If the temperature is still too high, the compressor will trip again just after starting.

Notes:

Fault counter is cleared and **reset every day at 10 am**, as long as the maximum number of faults has not been reached.

The fault signal is reset automatically with each powering of the unit

Possible causes	Solving the problem
Wrong wiring or tightening of the connections.	Control all connections
Wrong setting on the circuit breaker	Set circuit breaker according with compressor normal running current

HIGH PRESSURE TOO HIGH

Fault Code: **1n5**

Description

High pressure switch from circuit n has tripped.

Action

- ☞ Immediate shut down of circuit n.
- ☞ Fault signal shown on the display.
- ☞ The remote fault signal is delayed by 6 minutes

Reset

The first 3 faults are **automatically** reset
After three faults the circuit n can only be restarted by a **manual reset**

Notes:

Fault counter is cleared and **reset every day at 10 am**, as long as the maximum number of faults has not been reached.

Possible causes	Solving the problem
Dirty condenser.	Clean the condenser.
Wrong setting on the condenser control.	Check the settings of the controller.
Wrong operation of the liquid line solenoid valve	Check the operation of the solenoid valve.
Fan out of order	Change the fan
Wrong wiring or wrong setting of the high pressure, pressure switch.	Check the wiring and the setting of the HP switch.
Dirty Filter Drier	Change the filter drier.

INSUFFICIENT FLOW RATE PROVIDED BY THE PUMP

Fault Code: **001 040**

Description

Pump k supplying flow rate to the evaporator has been ordered to start for **20 seconds.**
The flow switch FSE is detecting insufficient flow rate in the heat exchanger for more than **25 seconds**.

Action

Case 1 :
The unit only handles **ONE pump**

- ☞ Immediate shut down of compressors and pump k.
- ☞ Fault signal 001 is shown on the display.
- ☞ The remote fault signal is delayed by 6 minutes

Case 2 :
The unit handles **TWO pumps** and the "Normal/ Safety" mode or "Clock" has been activated.

- ☞ Immediate shut down of pump k.
- ☞ Start up of the 2nd pump (refer to "EVAPORATOR PUMP(S) CONTROL" section for more details)
- ☞ If the FSE is detecting a flow rate, then the fault 040 is shown on the display, the unit is then running normally
- ☞ If the FSE does not detect any flow rate the fault 040 is shown on the display, the unit is then shut down
- ☞ The remote fault signal is delayed by 6 minutes

Reset

In all cases implying a shut down of the unit, 3 start up attempts are made then after these three faults per day the unit can only be restarted by a manual reset

Notes:

Fault counter is cleared and **reset every day at 10 am**, as long as the maximum number of faults has not been reached.

Possible causes	Solving the problem
Problem in the pump control wiring.	Check the pump connections
Problem with flow switch wiring.	Check the flow switch connection
Dirty water filter	Clean the water filter
Wrong setting of the flow switch	Adjust the setting of the flow switch

FAN(S) CIRCUIT BREAKER(S) OPEN

Fault Code: **90, 92, 93, 94, 95**

Description

One or more thermal magnetic trip circuit breaker protecting the condenser fans are tripped

Ecologic unit → Fault code 90
Ecomax unit circuit 1 → code 92
Ecomax unit circuit 2 → code 93
Ecomax unit circuit 3 → code 94
Ecomax unit circuit 4 → code 95

Reset

The fault is cleared automatically as soon as the fans circuit breakers are closed

Possible causes	Solving the problem
Wrong wiring or tightening of the connections.	Control all connections
Wrong setting on the circuit breaker	Set circuit breaker according with compressor normal running current

PUMP(S) CIRCUIT BREAKER(S) OPEN

Fault Code: **041, 042**

Description

The thermal magnetic trip circuit breaker protecting the pump k has tripped

Action

Case 1 :
The unit only handles **ONE pump**

- ☞ Immediate shut down of pump k.
- ☞ Immediate shut down of the unit.
- ☞ Fault signal shown on the display.
- ☞ The remote fault signal is delayed by 6 minutes

Case 2 : The unit handles **TWO pumps**.

- ☞ Immediate shut down of pump k.
- ☞ Start up of the 2nd pump (refer to "EVAPORATOR PUMP(S) CONTROL" section for more details)
- ☞ Fault signal **041** is shown on the display for Pump 1 and **042** for Pump 2
- ☞ The remote fault signal is delayed by 6 minutes

Reset

The fault **is automatically** reset as soon as the pump circuit breaker is closed.
If the unit was stopped (case 1), the unit will restart automatically **20 seconds** after the fault signal has disappeared and the climatic 50 has restarted the pump.

Possible causes	Solving the problem
Wrong wiring or tightening of the connections.	Control all connections
Wrong setting on the circuit breaker	Set circuit breaker according with compressor normal running current

CLIMATIC™ 50 Mapping

BM50 – Base Board

Digital Input	Digital Output	Analogic Input	Analogic Output
-J5.ID1: C1 – Comp. –Fault	-J12.NO1: C1 – Compressor 1	-J2.B1: C1 – HP (4~20ma -1~29b)	-J4.Y1: C1 – Ventilation 2, 3, 4
-J5.ID2: C1 – HP	-J12.NO2: C1 – Compressor 2	-J2.B2: C1 – BP (4~20ma -1~6b) *	-J4.Y2: C2 – Ventilation 2, 3, 4
-J5.ID3: C1/C2 – Ventil. –Fault	-J12.NO3: C1 – Compressor 3	-J2.B3: C2 – HP (4~20ma -1~29b)	-J4.Y3: C1 – Ventilation 1 – PWM
-J5.ID4: C2 – Comp. –Fault	-J13.NO4: C2 – Compressor 1	-J2.B4: C2 – BP (4~20ma -1~6b) *	-J4.Y4: C2- Ventilation 1 – PWM
-J5.ID5: C2 – HP	-J13.NO5: C2 – Compressor 2	-J3.B5: Water – Outlet (NTC)	
-J5.ID6: Water – Flow	-J13.NO6: C2 – Compressor 3	-J3.B6: Water – Inlet (NTC)	
-J5.ID7: ON/OFF / Remote Control	-J14.NO7: Water – Pump 1	-J6.B7:	
-J5.ID8: Reset / Remote Control	-J15.NO8: C1 – Ventilation 1 – L.Speed -J15.NC8: C1 – Ventilation 1 – H.Speed	-J6.B8: Outdoor Air (NTC)	
-J7.ID9: Safety Elec Pump 1&2	-J16.NO9: C1 – Bypass Valve -J16.NO9: C1 – 4 Way Valve		
-J7.ID10: Step 1 (RA)	-J16.NO10: C2 – Bypass Valve -J16.NO10: C2 – 4 Way Valve	** If No Electronic Exp Valve*	
-J7.ID11: Step 2 (RA)	-J16.NO11: Water – Pump 2		
-J7.ID12: Step 3 (RA)	-J17.NO12: C2 – Ventilation 1–L.Speed -J17.NC12: C2 – Ventilation 1–H.Speed		
-J8.ID13: Step 4 (RA)	-J18.NO13: General Alarm		
-J8.ID14: Step 5 (RA)			

BE50 – Extension Board

-J4.ID1: Energy recovery Unit or Custom 1	-J5.NO1: Custom 1	-J9.B1: Energy recovery Inlet (NTC)or Custom 1	-J2.Y1: 3 way valve free-cooling option
-J4.ID2: Custom 2	-J6.NO2: Custom 2	-J9.B2: Energy recovery Outlet (NTC) or Custom 2	
-J4.ID3: Custom 3	-J7.NO3: Custom 3	-J10.B3: Custom 3	
-J4.ID4: Custom 4	-J8.NO4: Custom 4	-J10.B4: Custom 4	

Display Connections and Dip Switches Configuration

See page 4 : "Connection diagram : CLIMATIC™ 50 controller – option DC50 remote connection"

DC50 COMFORT DISPLAY

This is a remote controller for non-technical customer. This display gives information such as flow or pump status, set point and outside air temperature.
It can be used to set or change the scheduling of the different time zones, the temperature set point for each zone.
It also has the capacity to set a 3 hours override and to force the unoccupied mode or any of the different time zones for a period of up to 7 days. It displays the real time clock and different faults signals.

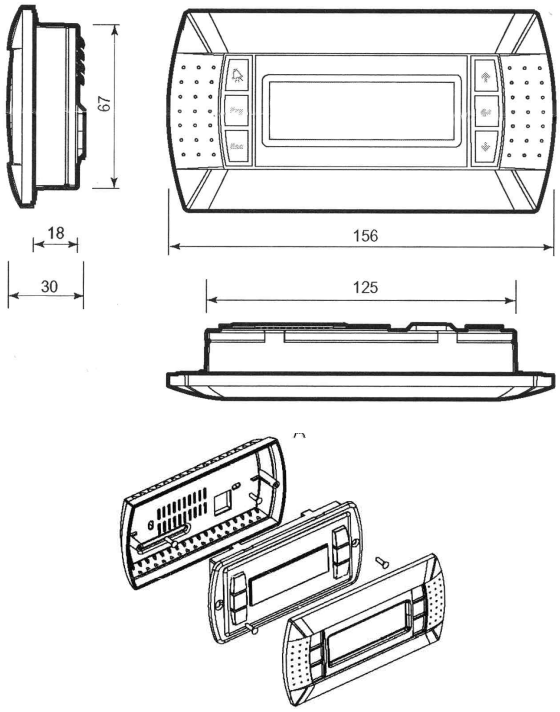
Display

Type FSTN graphic
Back light: Green LEDs
Resolution 120x32 pixels
Power Supply
Voltage from main Climatic board.
Max power: 0.8W

Installation

The DC50 is designed to be mounted on the wall.

- Fit the cable from the DT50 board through the back piece
- Fasten the back piece to the wall using the rounded head screws supplied in the packaging
- Connect the cable from the main board on the **RJ12** plug on the back of the DC50 display
- Fasten the front panel on the back piece using the flush head screws supplied
- Finally fit the click-on frame



Terminal connection board installation guide DT 50

The board is fitted with three "telephone" RJ12 plugs. Ensure the board is correctly connected.
Standard connection is:

- Climatic on connector C
- DC50 on connector A
- DS50 on connector B

Jumpers:

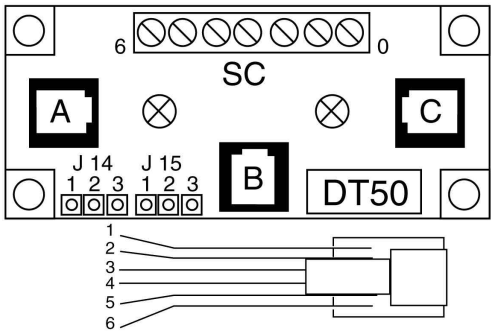
"Displays" are supplied directly by the Climatic board with 30Vdc. Take particular care at the path this 30V is taking when several boards are being used.

J14 and J15 can switch on or off the direct current from the power supply:

J14 and J15 set between1-2
Connectors A, B, C and screw connector SC are in parallel. Power supply available to all connectors.

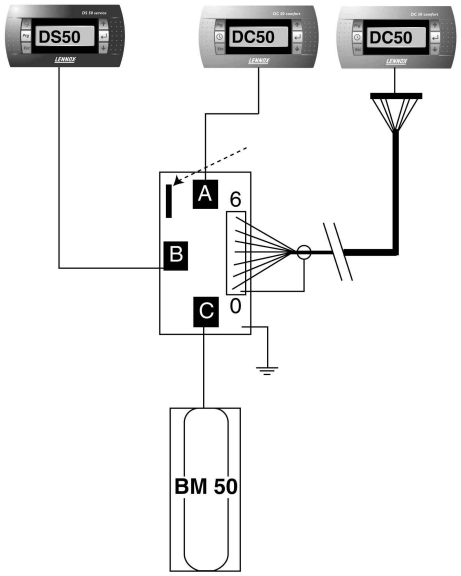
J14 and J15 set between2-3
Connectors B and C are in parallel but line 1 and 6 don't reach connector A and screw connector SC.
"Displays" connected to these ports will not be powered.
If J14 and J15 are set in different positions the "terminal connection board" DT50 DOES NOT WORK.

NOTE:
When a shielded wire is used the metallic case of the "Terminal connection box" DT50 must be earthed.



RJ12 PIN connection

SC Terminals	RJ12 Pin conn	Description
0	+	shield / earth
1	1	+VRL=30V
2	2	GND
3	3	Rx- / Tx-
4	4	Rx+ / Tx+
5	5	GND
6	6	+VRL=30V



Terminal display address configuration

The address of the terminal must be checked after having powered the board.

- To access the configuration mode, press ↑↓↵ together and hold them for at least 5 seconds.
- The screen shown below will be displayed with the cursor flashing in the top left hand corner.
- To change the address of the terminal display press the ↵ key once.
- Use the ↑↓ keys to select the desired value and confirm by pressing ↵.

- If the address was changed it will display the below screen.

!

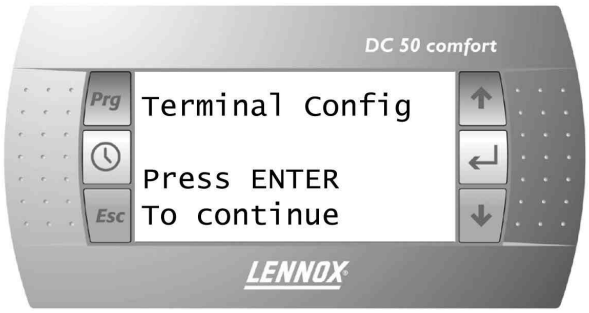
Assigning Terminal displays to control boards.

- Access the configuration mode by pressing ↑↓↵ for at least 5 seconds.

NOTE: To access the board address menu you must go directly to the bottom of the first screen (shown in below screen) without changing the terminal address as explained above.

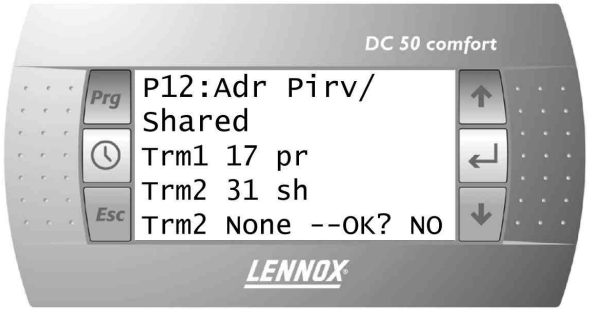
- Press the ↵ key until the cursor moves to the field "I/O Board address :XX" (below screen)
- Use the ↑↓key to select the correct Climatic board.(N° of Unit)

- Pressing ↵ again will display the screen shown below :

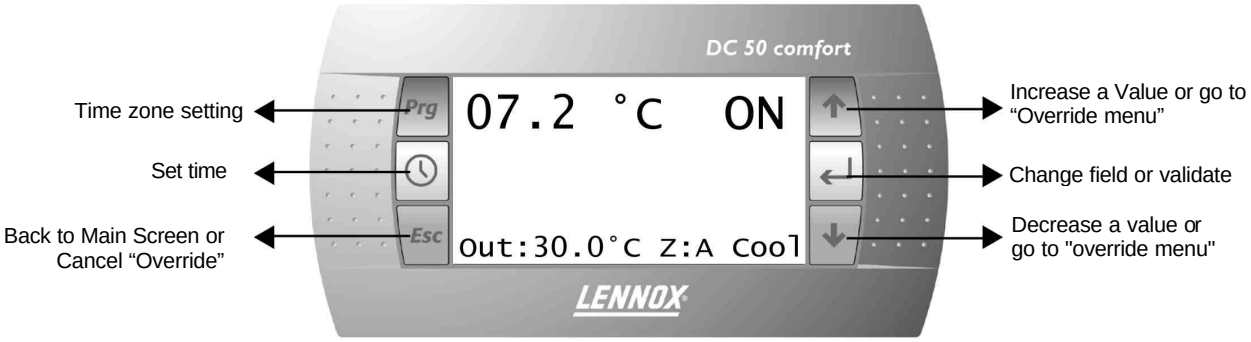


- Pressing ↵ again will display the screen shown below.
- The field "P:XX " shows the address of the selected board. In the example the value "12" has been selected.
- The filed under the "Adr" column represents the addresses of the terminal displays associated with the board that has the address "12", while the column under "Priv/Shared " indicate the type of terminal selected.
- Ph: Private
- Sh :Shared
- Sp : Shared Printer (N/A)
- To exit the configuration procedure and save the data, select the filed "OK?NO", choose "Yes" using the ↑↓ keys and confirm by pressing ↵ .

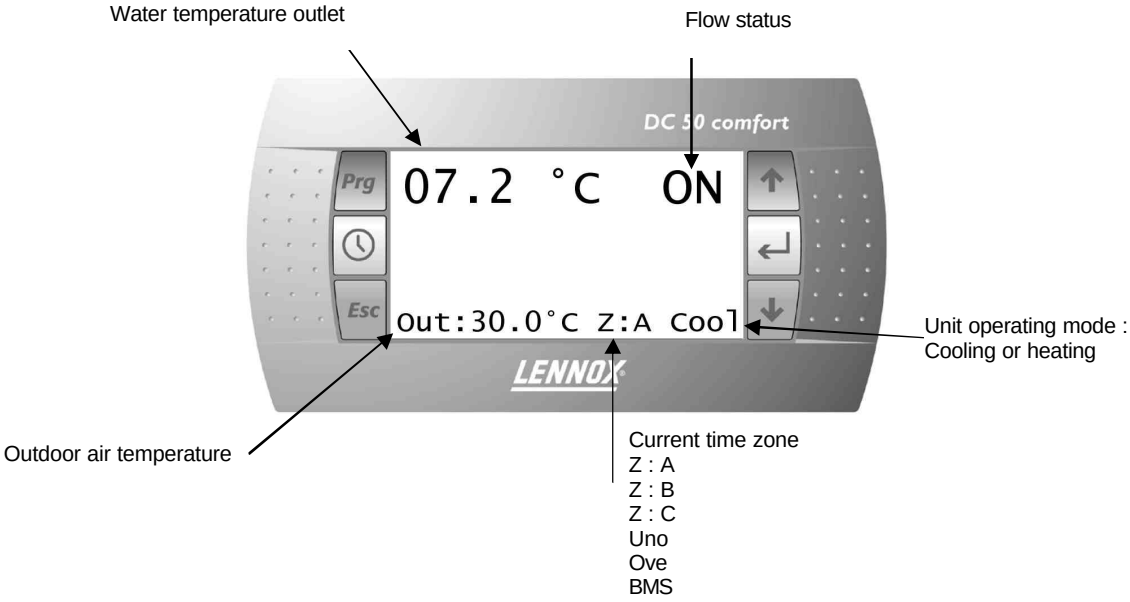
- If the terminal remains inactive (no button is pressed) for 30 seconds, the configuration procedure is aborted automatically.



Keys



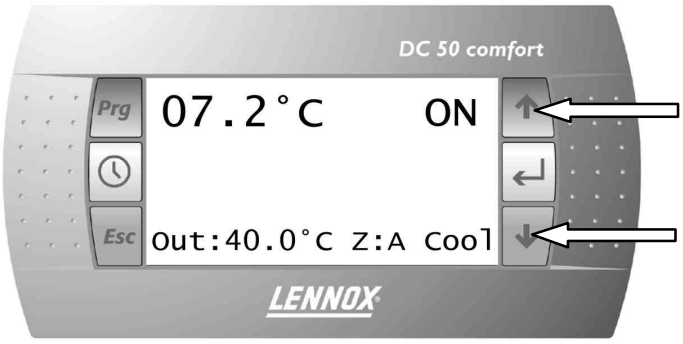
Main Screen



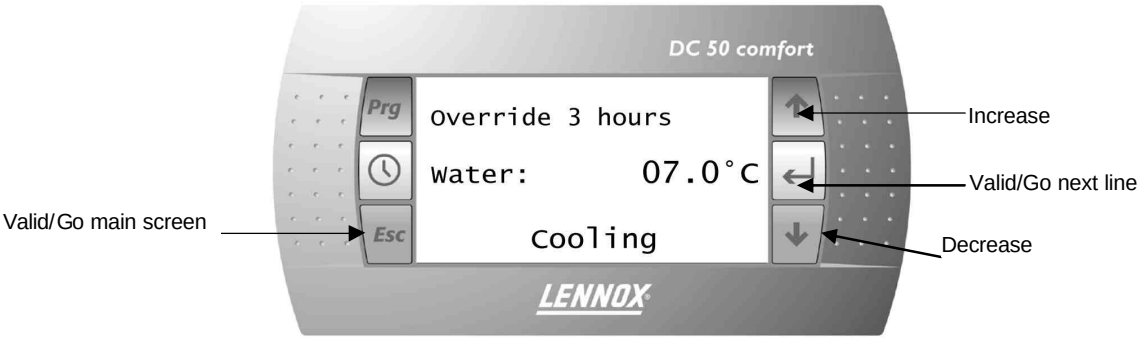
Override 3 hours

From main screen press any of the two arrow keys as shown bellow:

Main screen



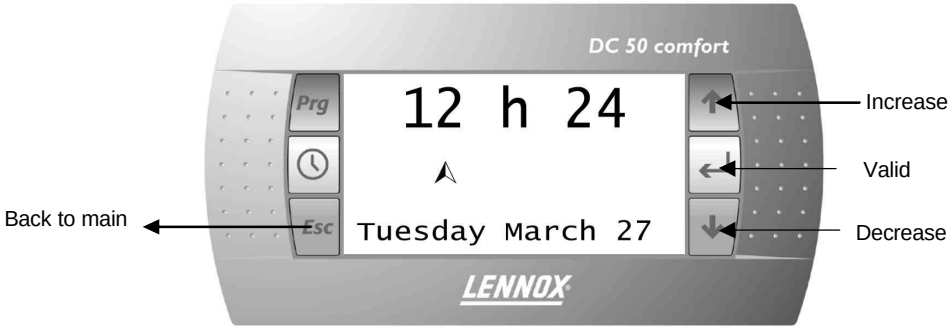
Override menu



It will revert back to main screen after 15 seconds, if no activity

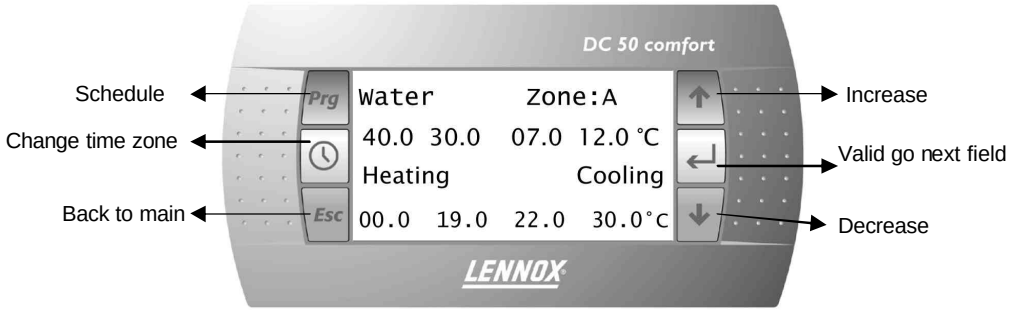
Clock Menu

From main screen press the clock key, the following menu appears:

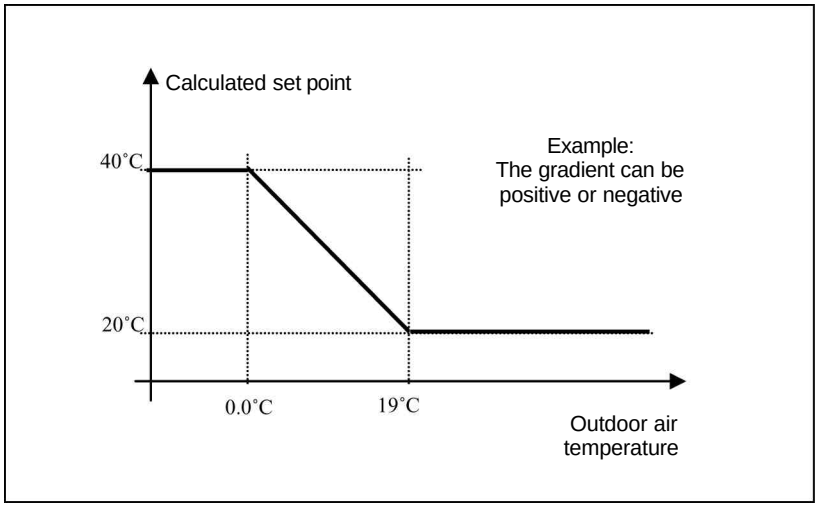


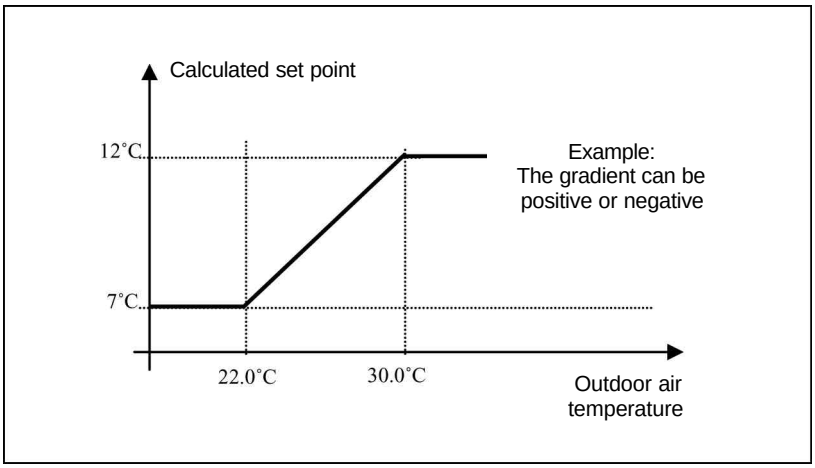
“Time Zone” Menu

From main screen press the “Prg” key, the following menu appears:



This page allows you to select the set point for cooling and heating for each time zone.

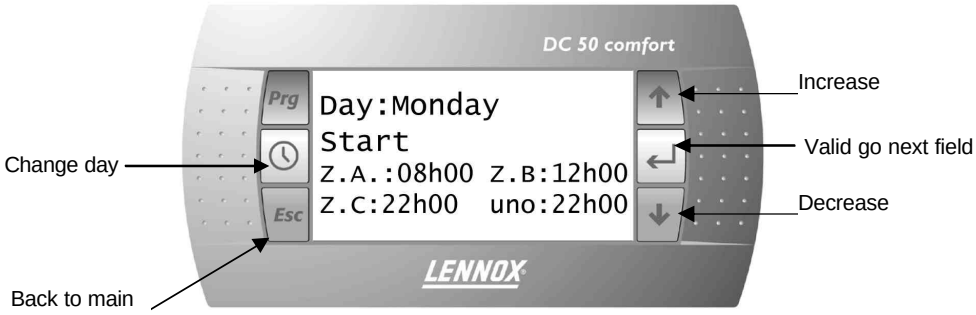




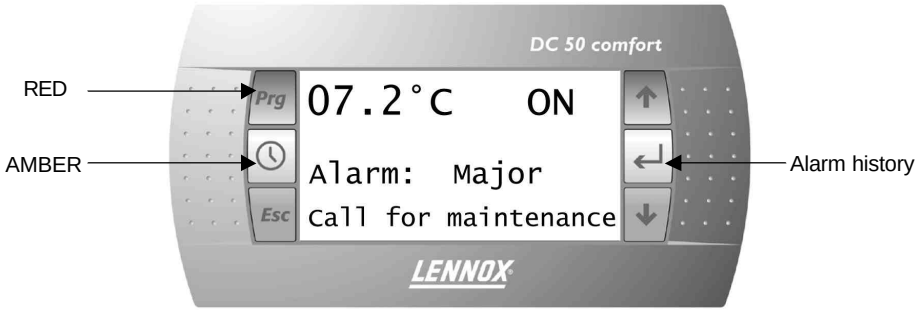
It will revert back to main screen after 15 seconds if no activity.

“Scheduling” Menu

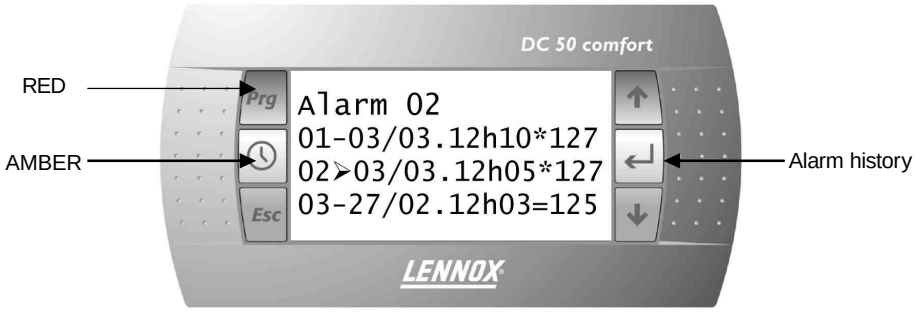
The scheduling menu can be accessed from the “time zone” menu by pressing “Prg” again



Alarm screen



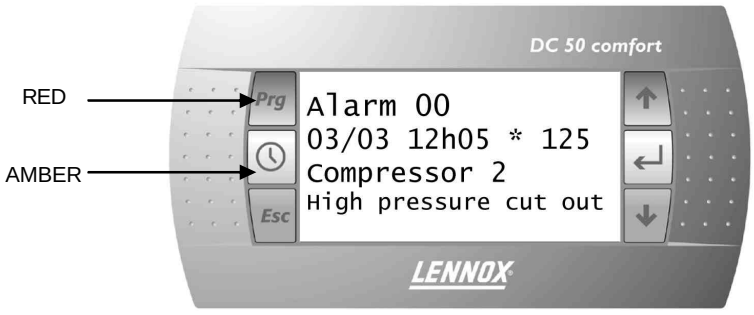
Alarm History Menu



You can scroll down this menu using the arrow keys and select one of the alarm messages by pressing the return key.

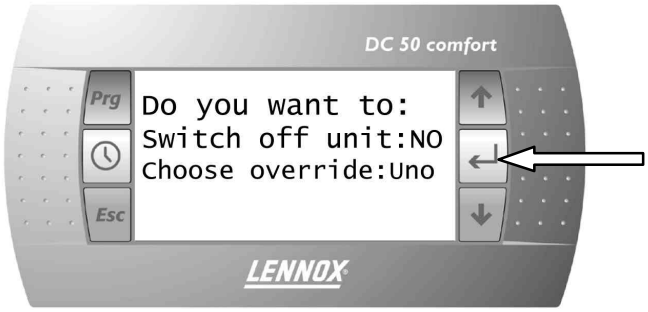
Alarm details

This menu allows you to view details on the selected fault as shown below:



Switching ON or OFF the unit or Forcing a selected time zones for a period of up to 7 days

Pressing the return key on the main screen will display the following message:



Pressing the return KEY validates the choice and move to the next field
Up and down arrows gives you the choice between different things

If you choose “YES” to the first question the unit is **SWITCHED OFF** and you can not access the override menu.

WARNING: Switching Off the unit disable all safety Protections

If you choose to stop the Unit in the previous screen the following screen will then appear**.**

The unit can then be switched back **ON** by pressing the return key once more.

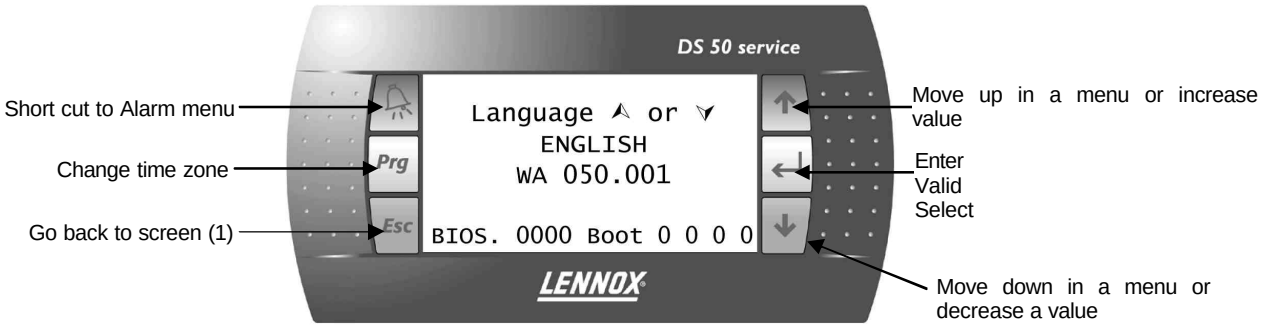
If the first choose is “NO” then the override screen can be accessed a particular time zone can be forced for up to 7 days starting from the day “TODAY”.

In this menu you can choose the number of days you want the selected time zone to override.
Increase the number of days by pressing the Up or down keys.

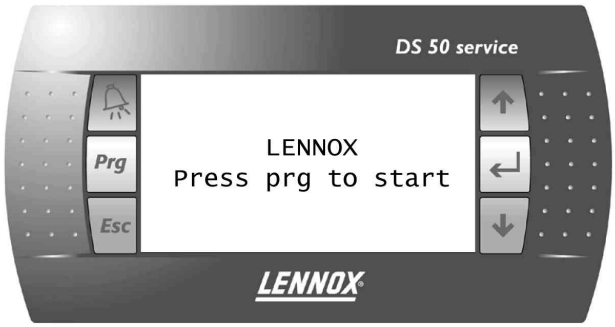
DS50 SERVICE DISPLAY

This new display controller is usually mounted on the electrical panel door and is a plug and play feature.

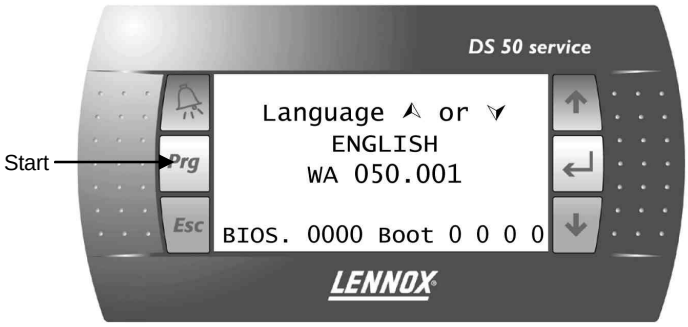
Keys



Start up screen or Screen (1)

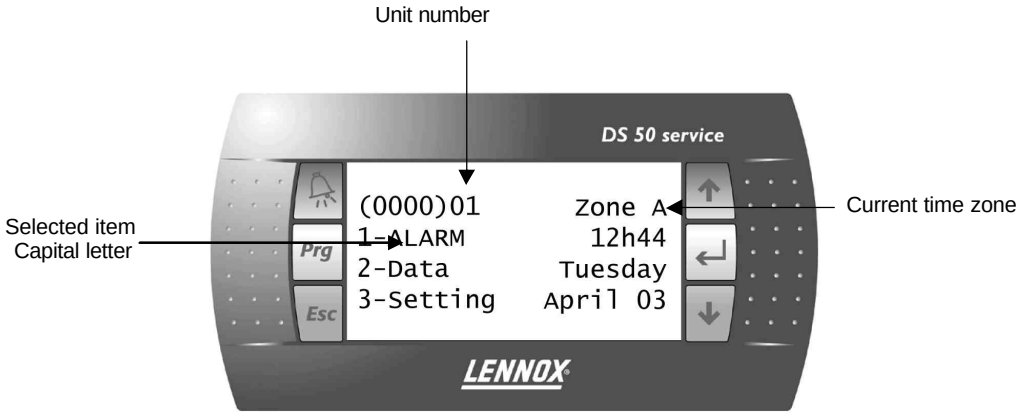


Screen (2) language selection



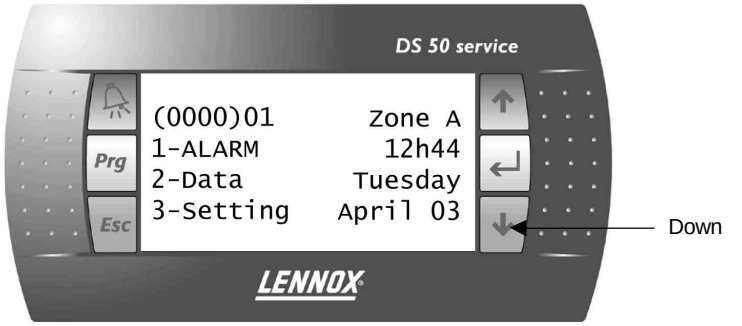
Five languages are available in addition to English. The required language must be specified at the time of order.
In this menu the specified language can be selected using the up and down keys. The “prg” key validates the choice and start the controller

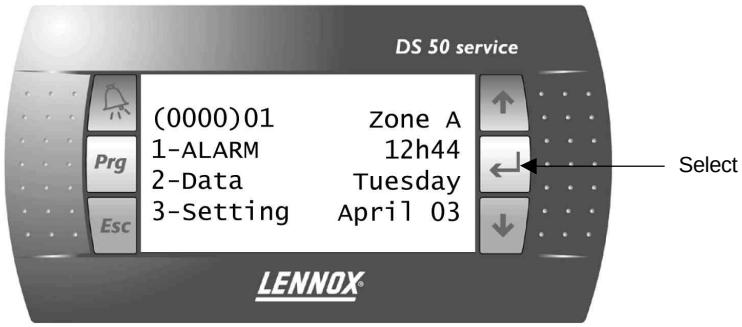
Main menu (0000)



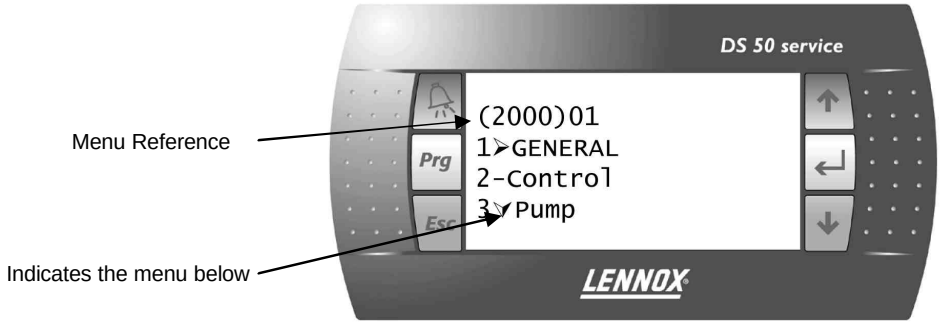
Moving down the menus

Pressing the arrow keys allows you to move up and down the menu tree. The selected item changes to CAPITAL letter. It can then be selected by pressing the “return” or “select” key

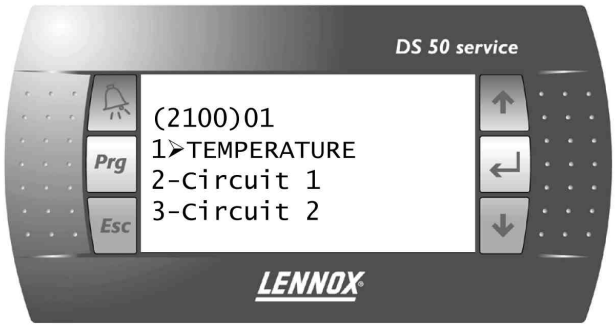




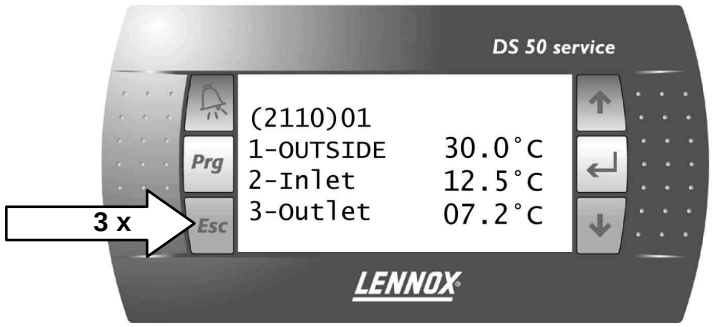
Sub-menu Data (2000)



If the menu “GENERAL” is selected, the controller then displays a second level sub-menu.

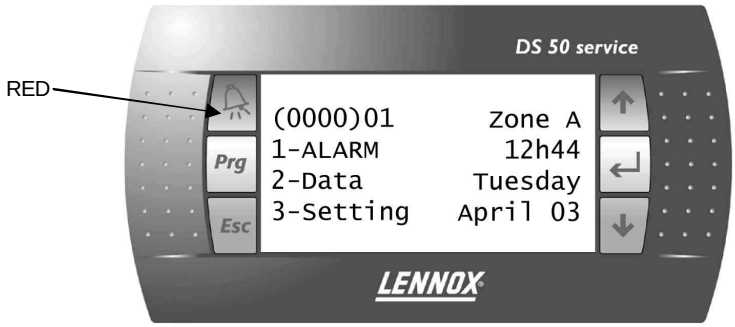


By selecting the item TEMPERATURE and pressing return, a third level page is displayed as shown bellow:

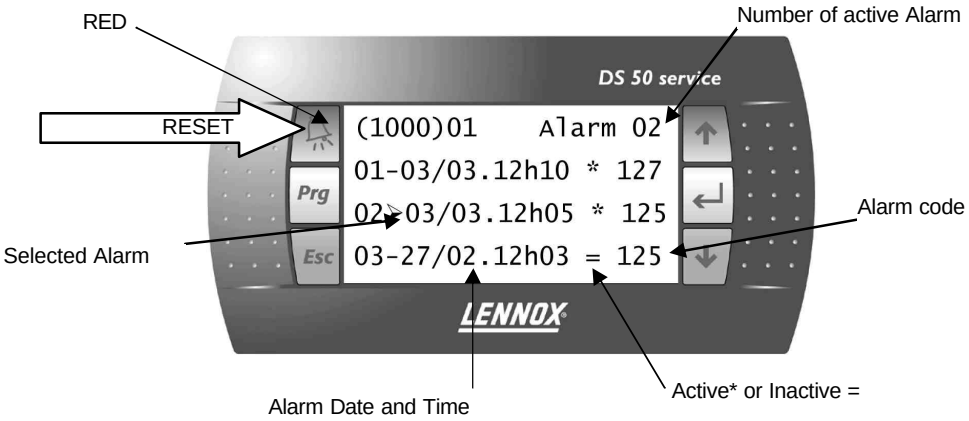


Pressing “**ESC**” at any time sends you back one level up the menu tree. In the example shown above “ESC” must be pressed 3 times to go back to the main menu (0000)
Pressing “ESC” will invalidate any changes made to a value in a setting page.

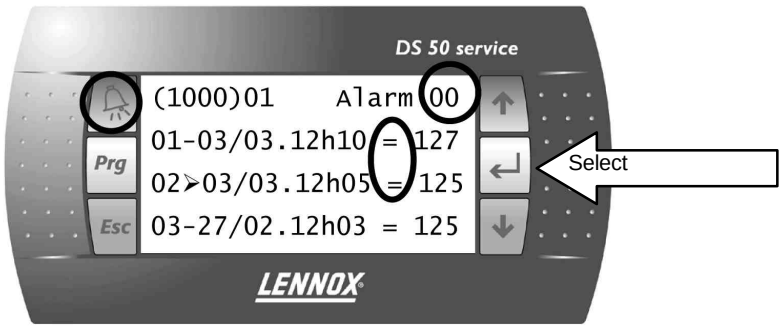
Alarms



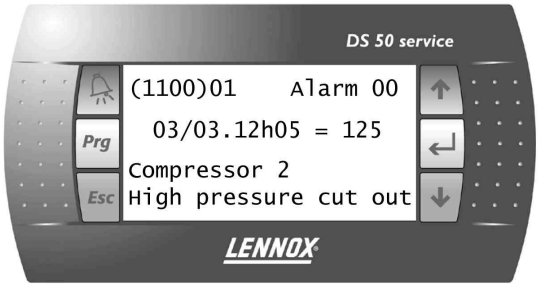
Select the alarm menu using the arrow keys and press return.
The faults history is then displayed in the page (1000):



Pressing the “ALARM” key resets all the alarms
The number of active alarms goes to 0, no active alarm shown in the menu, the “bell” key is switched off.

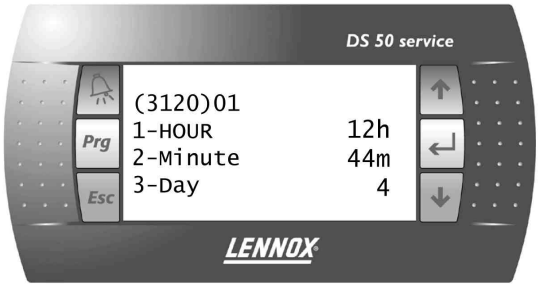


Pressing the “return” key will display details of the selected alarm

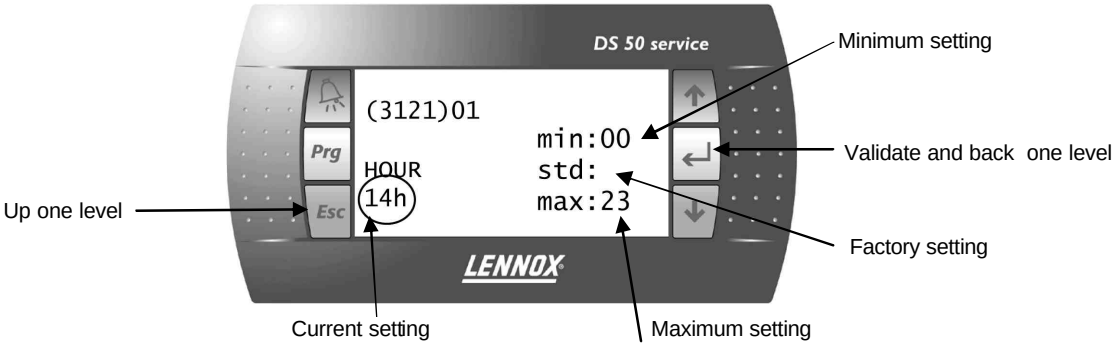


Clock settings

The clock setting menu can be accessed from the main menu by selecting the menu “SETTING” and then navigating down through the sub-menus until page (3120).

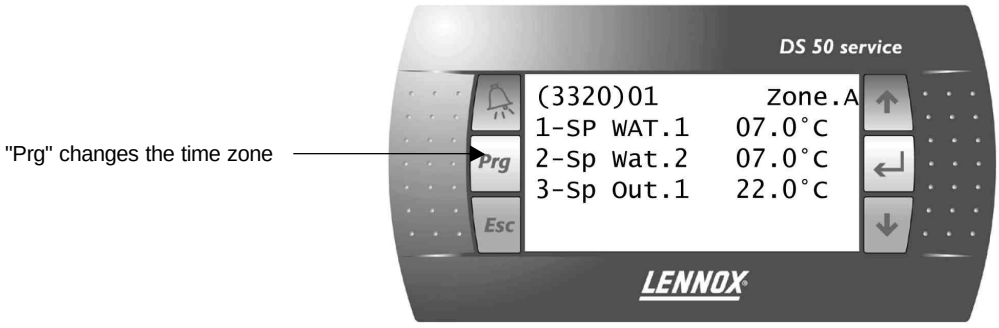


Selecting the HOUR for displays the page 3121 shown bellow:

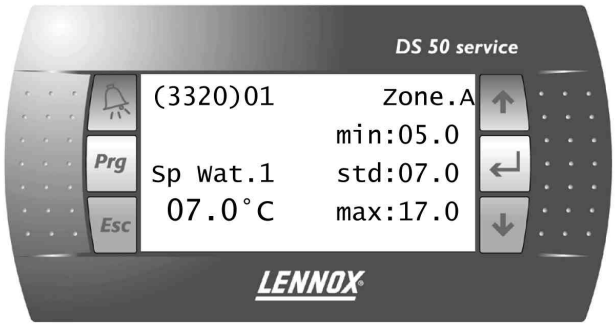


Zone Settings

From Main menu (0000) navigate down to sub-menu “SETTINGS”, zone settings (3320).



In this particular page, pressing the “prg” key, changes the time zone. If “SP WAT.1” is selected, this displays the Minimum Water Outlet Temperature Set Point for the specific time zone shown in the top corner.



Pressing the “**prg**” validates any changes made, and moves to the next time zone. “ESC” does not validate the changes and move back one step in the menu tree.

Special function

For unit operation diagnostic, it is helpful to use the special following screen:

1. Main unit operation (water temperature vs set point , compressor operation, capacity factor)
2. Fans operation (HP vs set point, fan operation, Capacity factor)
3. Circuit 1 operation (HP, LP, superheat vs set point)
4. Circuit 2 operation (HP, LP, superheat vs set point)

Those screens can be reached by pressing the Prg key while being on the screen 2400.

DS50 MENU TREE

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max
1-Alarm	1000	1-(date).(time)									
		2-(date).(time)									
		3-(date).(time)									
2-Data	2000	1-General	2100	1-Temperature	2110	1-Outside	2111	°C			
						2-Inlet	2112	°C			
						3-Outlet	2113	°C			
				2-Circuit 1	2120	1-SuperHeat	2121	°C			
						2-T. Cond.	2122	°C			
						3-T. Suct.	2123	°C			
						4-T. Satu.	2124	°C			
						5-P. Cond.	2125	b			
						6-P. Suct.	2126	b			
				3-Circuit 2	2130	1-SuperHeat	2131	°C			
						2-T. Cond.	2132	°C			
						3-T. Suct.	2133	°C			
						4-T. Satu.	2134	°C			
						5-P. Cond.	2135	b			
						6-P. Suct.	2136	b			
				4-Other	2140	1-Sw On/Off	2141	On/Off			
						2-Sw Flow	2142	On/Off			
						3-Sw Dis. C1	2143	On/Off			
						4-Sw Dis. C2	2144	On/Off			
						5-Sw Reset	2145	On/Off			
						6-Sw Unoc.	2146	On/Off			
				5-Out. Custom.	2150	1-Relay 1	2151	On/Off			
						2-Relay 2	2152	On/Off			
						3-Relay 3	2153	On/Off			
						4-Relay 4	2154	On/Off			
				6-In. Custom.	2160	1-Switch 1	2161	On/Off			
						2-Switch 2	2162	On/Off			
						3-Switch 3	2163	On/Off			
						4-Switch 4	2164	On/Off			

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max
				7-In. % Custom	2170	1-Temp. 1	2171	°C			
						2-Temp. 2	2172	°C			
						3-Temp. 3	2173	°C			
						4-Temp. 4	2174	°C			
		2-Control	2200	1-Water	2210	1-Sp Cool	2211	°C			
						2-Sp Heat	2212	°C			
						3-Cap.Cool	2213	%			
						4-Cap.Heat	2214	%			
						5-Sw 2°Sp	2215	On/Off			
						6-Offset	2216	°C			
				2-Ventilation	2220	1-SetPoint	2221	b			
						2-Capa. V1	2222	%			
						3-Capa. V2	2223	%			
		3-Pump				1-Config.	2311	Liste			
						2-State	2312	Liste			
						3-Sw Flow	2313	On/Off			
						4-Sw State	2314	On/Off			
						5-Relay 1	2315	On/Off			
						6-Run T. 1	2316	h			
						7-Relay 2	2317	On/Off			
						8-Run T. 2	2318	h			
		4-Compressor	2400	1-Comp.1 - Circ.1	2410	1-Config.	2411	Liste			
						2-State	2412	Liste			
						3-Sw State	2413	On/Off			
						4-Sw High P.	2414	On/Off			
						5-Sw Low P.	2415	On/Off			
						6-Relay	2416	On/Off			
						7-H.Pump	2417	On/Off			
						7-Bypass	2418	On/Off			
						8-Run Time	2419	h			

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max
				2-Comp.2 - Circ.1	2420	1-Config.	2421	Liste			
						2-State	2422	Liste			
						3-Sw State	2423	On/Off			
						4-Sw High P.	2424	On/Off			
						5-Sw Low P.	2425	On/Off			
						6-Relay	2426	On/Off			
						7-H.Pump	2427	On/Off			
						7-Bypass	2428	On/Off			
						8-Run Time	2429	h			
				3-Comp.3 - Circ.1	2430	1-Config.	2431	Liste			
						2-State	2432	Liste			
						3-Sw State	2433	On/Off			
						4-Sw High P.	2434	On/Off			
						5-Sw Low P.	2435	On/Off			
						6-Relay	2436	On/Off			
						7-H.Pump	2437	On/Off			
						7-Bypass	2438	On/Off			
						8-Run Time	2439	h			
				4-Comp.1 - Circ.2	2440	1-Config.	2441	Liste			
						2-State	2442	Liste			
						3-Sw State	2443	On/Off			
						4-Sw High P.	2444	On/Off			
						5-Sw Low P.	2445	On/Off			
						6-Relay	2446	On/Off			
						7-H.Pump	2447	On/Off			
						7-Bypass	2448	On/Off			
						8-Run Time	2449	h			
				5-Comp.2 - Circ.2	2450	1-Config.	2451	Liste			
						2-State	2452	Liste			
						3-Sw State	2453	On/Off			
						4-Sw High P.	2454	On/Off			
						5-Sw Low P.	2455	On/Off			
						6-Relay	2456	On/Off			
						7-H.Pump	2457	On/Off			
						7-Bypass	2458	On/Off			
						8-Run Time	2459	h			

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max
				6-Comp.3 - Circ.2	2460	1-Config.	2461	Liste			
						2-State	2462	Liste			
						3-Sw State	2463	On/Off			
						4-Sw High P.	2464	On/Off			
						5-Sw Low P.	2465	On/Off			
						6-Relay	2466	On/Off			
						7-H.Pump	2467	On/Off			
						7-Bypass	2468	On/Off			
						8-Run Time	2469	h			
		5-EEV	2500	1-Circuit 1	2510	1-Config.	2511	Liste			
						2-State	2512	Liste			
						3-Position	2513	~			
				2-Circuit 2	2520	1-Config.	2521	Liste			
						2-State	2522	Liste			
						3-Position	2523	~			
		6-Ventilation	2600	1-Fan 1 - Vein 1	2610	1-Config.	2611	Liste			
						2-State	2612	Liste			
						3-Sw State	2613	On/Off			
						4-Relay	2614	On/Off			
						5-Modulat.	2615	%			
				2-Fan 2 - Vein 1	2620	1-Config.	2621	Liste			
						2-State	2622	Liste			
						3-Sw State	2623	On/Off			
						4-Relay	2624	On/Off			
				3-Fan 3 - Vein 1	2630	1-Config.	2631	Liste			
						2-State	2632	Liste			
						3-Sw State	2633	On/Off			
						4-Relay	2634	On/Off			

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max
				4-Fan 4 - Vein 1	2640	1-Config.	2641	Liste			
						2-State	2642	Liste			
						3-Sw State	2643	On/Off			
						4-Relay	2644	On/Off			
				5-Fan 1 - Vein 2	2650	1-Config.	2651	Liste			
						2-State	2652	Liste			
						3-Sw State	2653	On/Off			
						4-Relay	2654	On/Off			
						5-Modulat.	2655	%			
				6-Fan 2 - Vein 2	2660	1-Config.	2661	Liste			
						2-State	2662	Liste			
						3-Sw State	2663	On/Off			
						4-Relay	2664	On/Off			
				7-Fan 3 - Vein 2	2670	1-Config.	2671	Liste			
						2-State	2672	Liste			
						3-Sw State	2673	On/Off			
						4-Relay	2674	On/Off			
				8-Fan 4 - Vein 2	2680	1-Config.	2681	Liste			
						2-State	2682	Liste			
						3-Sw State	2683	On/Off			
						4-Relay	2684	On/Off			
		7-Option	2700	1-Recovery	2710	1-Config.	2711	Liste			
						2-State	2712	Liste			
						3-Inlet	2713	°C			
						4-Outlet	2714	°C			
						5-Sw State	2715	On/Off			

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max	Comments
3-Setting	3000	1-General	3100	1-Order	3110	1-On/Off	3111	On/Off	~	Off	~	*[On / Off] Unit
						2-Pompe	3112	Liste	0	0	6	pump operation mode set up (see Pump operation description page 11)
						3-Reset Al.	3114	Yes/No	~	Off	~	*[Reset] Discharges the safety measures of the unit
						4-Resume	3115	Yes/No	~	Off	~	*[Override] Cancel any override action set with the DC50
						5-Test	3116	Liste	0	0	3	Lennox set point
				2-Clock	3120	1-Hour	3121	h	0	~	23	*[Clock] Clock setting "Hour"
						2-Minute	3122	m	0	~	59	*[Clock] Clock setting "minute''
						3-Day	3123	~	1	~	31	*[Clock] Clock setting "Day"
						4-Month	3124	~	1	~	12	*[Clock] Clock setting "Month"
						5-Year	3125	~	2	~	99	*[Clock] Clock setting "Year"
		2-Schedule	3200	1-Time	3210	1-Start Uno	3211	h	0	24	24	*[Zone Setting] Starting time "Hour" for "Unocupied" zone
						2-Start.Uno	3212	m	0	0	59	*[Zone Setting] Starting time "Minutes" for "Unocupied" zone
						3-Start z.A	3213	h	0	0	24	*[Zone Setting] Starting time "Hour" for "Zone A"
						4-Start.z.A	3214	m	0	0	59	*[Zone Setting] Starting time "Minutes" for "Zone A"
						5-Start z.B	3215	h	0	24	24	*[Zone Setting] Starting time "Hour" for "Zone B"
						6-Start.z.B	3216	m	0	0	59	*[Zone Setting] Starting time "Minutes" for "Zone B"
						7-Start z.C	3217	h	0	24	24	*[Zone Setting] Starting time "Hour" for "Zone C"
						8-Start.z.C	3218	m	0	0	59	*[Zone Setting] Starting time "Minutes" for "Zone C"
				2-Anticipation	3220	1-Foot	3221	°C	-10	10	20	*[Anticipation Function] Bottom of the slope in °C. Limit of activation of the function. This allows an anticipated startup in the morning depending on the outdoor temperature. Only for the "Zone-A"
						2-Gradient	3222	m/°C	0	0	100	*[Anticipation Function] Slope in "Minutes of anticipation per degrees".
		3-Control	3300	1-Change Over	3310	1-Mode	3311	Liste	0	0	4	*[Change over] Change over mode for heat pump units, 0: chiller only, 1: HP only, 2: automatic with pump, 3:automatic without pump operation.
						2-Winter	3312	°C	-10	19	50	*[Change over] Change over winter setting
						3-Summer	3313	°C	-10	22	50	*[Change over] Change over summer setting
				2-Water Cool	3320	1-Sp Wat.1	3321	°C	5	7	17	*[Water SP] Outlet chilled water temperature set point (see page 11)
						2-Sp Wat.2	3322	°C	5	7	17	*[Water SP] Outlet chilled water temperature set point (see page 11)

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max	Comments
						3-Sp Out.1	3323	°C	-10	22	50	*[Water SP] Ambiant air temperature set point (see page 13)
						4-Sp Out.2	3324	°C	-10	30	50	*[Water SP] Ambiant air temperature set point (see page 13)
						5-Reactiv.	3325	%/°C	1	5	50	*[Capacity Factor] Reactivity factor for cooling mode
				3-Water Heat	3330	1-Sp Wat.1	3331	°C	17	40	50	*[Water SP] Outlet hot water temperature set point (see page 13)
						2-Sp Wat.2	3332	°C	17	40	50	*[Water SP] Outlet hot water temperature set point (see page 13)
						3-Sp Out.1	3333	°C	-10	19	50	*[Water SP] Ambiant air temperature set point (see page 13)
						4-Sp Out.2	3334	°C	-10	0	50	*[Water SP] Ambiant air temperature set point (see page 13)
						5-Reactiv.	3335	%/°C	1	5	50	*[Capacity Factor] Reactivity factor for heating mode
				4-Safety	3340	1-Wat. Low	3341	°C	3	5	12	*[Safety limit] Chilled water outlet temperature limit
						2-Wat. High	3342	°C	22	53	53	*[Safety limit] Hot water outlet temperature limit
		4-Compressor	3400	1-Circuit	3410	1-Rotat.	3411	Liste	0	4	4	*[Comp priority] Circuit priority management
				2-Safety	3420	1-Frost	3421	°C	-1	-1	5	*[Safety limit] Freezing safety limit
				3-Defrost	3430	1-Mode	3431	Liste	0	0	1	*[Function Defrost] Choice of defrost: 1 = "cycling" or 0 ="dynamic"
						2-Outside	3432	°C	8	10	20	*[Function Defrost] Authorization of defrost - Threshold of outside temperature (in °c)
						3-Coil	3433	°C	-10	2	10	*[Function Defrost] Authorization of defrost - Threshold of coil temperature (in °c)
						4-Time Limit	3434	m	30	45	90	*[Function Defrost] Time limit for icing (in minute) -For the dynamic defrost the unit will run this minimum amount of time. If cycling defrost this is the time delay to start the defrost once the temperature conditions are met.
						5-Time Fc	3435	s	5	60	300	*[Function Defrost] Running time of fans after defrost cycle in order to dry the outside coil.
		5-EEV	3500	1-Cooling	3510	1-SuperHeat	3511	°C	2	5	15	*[EEV] Superheat set point
						2-Dead zone	3512	°C	0	0	9,9	*[EEV] Lennox set point
						3-P	3513	°C	0	3,5	99,9	*[EEV] Lennox set point – Proportional factor
						4-I	3514	s	0	30	999	*[EEV] Lennox set point – Integral factor
						5-D	3515	s	0	1	999	*[EEV] Lennox set point – Derivate factor
		6-Ventilation	3600			1-Sp Cond.	3611	b	12	17	30	*[HP SP] High pressure set point
						2-Reactiv.	3612	%/°C	1	10	50	*[HP Factor] Reactivity set point for fan operation
		7-Option	3700									

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max	Comments
		8-Config.	3800	1-Unit	3810	1-Range	3811	Liste	0	~	8	*[Configuration] Unit model
						2-Size	3812	Liste	0	~	61	*[Configuration] Type of unit
						3-Pump	3813	Liste	0	~	2	*[Configuration] Pump configuration
						4-EEV	3814	Yes/No	~	~	~	*[Configuration] Electronic expansion valve
						5-Modul. Fan	3815	Yes/No	~	~	~	*[Configuration] Fan control type
						6-LAK	3816	Yes/No	~	~	~	*[Configuration] All season control
						7-Glycol	3817	%	0	~	50	*[Configuration] Glycol persentage
						8-Recovery	3818	Yes/No	~	~	~	*[Configuration] Heat recovery option
				2-Out. Custom.	3820	1-BE50.1	3821	Liste	0	0	6	*[Configuration] Free output to be customised (First output of the extension board BE50)
						2-BE50.2	3822	Liste	0	0	6	*[Configuration] Free output to be customised (Second output of the extension board BE50)
						3-BE50.3	3823	Liste	0	0	6	*[Configuration] Free output to be customised (Third output of the extension board BE50)
						4-BE50.4	3824	Liste	0	0	6	*[Configuration] Free output to be customised (Fourth output of the extension board BE50)
				3-In. Custom.	3830	1-BE50.1	3831	Liste	0	0	5	*[Configuration] Free input to be customised (input of the extension board BE50)
						2-BE50.2	3832	Liste	0	0	5	*[Configuration] Free input to be customised (input of the extension board BE50)
						3-BE50.3	3833	Liste	0	0	5	*[Configuration] Free input to be customised (input of the extension board BE50)
						4-BE50.4	3834	Liste	0	0	5	*[Configuration] Free input to be customised (input of the extension board BE50)
				4-In.% Custom.	3840	1-BE50.1	3841	Liste	0	0	2	*[Configuration] Free input to be customised (input of the extension board BE50)
						2-BE50.2	3842	Liste	0	0	2	*[Configuration] Free input to be customised (input of the extension board BE50)
						3-BE50.3	3843	Liste	0	0	2	*[Configuration] Free input to be customised (input of the extension board BE50)
						4-BE50.4	3844	Liste	0	0	2	*[Configuration] Free input to be customised (input of the extension board BE50)

Main screen	Code	Description	Code	Description	Code	Description	Code	Unit	Min	Factory	Max	Comments
		9-Com.	3900	1-Display	3910	1-Standard Sp	3911	Yes/No	~	Off	~	*Allows a reset of ALL set point to standard factory settings (when available).No possible for configurations. and clock as there is no factory settings for these.
				2-Link	3920	1-ID	3921	~	1	~	4	*[Configuration] Identification adress for the unit from 1 to 4 for master slave operation.
						1-Number	3922	~	1	1	4	*[Configuration] Number of units on the BUS. Unit with address N°1 is always the master.
						2-Type	3923	Liste	0	0	2	*Master / Slave relationship: refer to page 7 for details
				3-BMS	3930	1-ID	3931	~	1	1	200	*[Configuration] Identification number on the 485 Bus
						2-Type	3932	Liste	0	0	2	*[Configuration] Type of BMS 0 Mode Lennox Climatic; 1 MODBUS; 2 LONWORKS
						3-Baud	3933	Liste	0	3	4	BMS communication speed between 1200BDS and 19800
						4-Watchdog	3934	~	0	0	1000	*[BMS] Activation of the control by a computer or an automat - mode BMS is activated if this value is different from zero, This value is decreased every second
						5-BMS Unoc.	3935	On/Off	~	Off	~	*[BMS] Cancel the override unnocupied mode

FAULTS CODES

1	Water Flow	Flow switch cut off	See page 28 & 35
4	Filters	Dirty	
5	Filters	Missing	
11	Electrical Heater	Faulty	
12	Outlet water T° or Supply air T°	Too high T°	See page 27
13	Intlet water T° or Room air T°	Too Low T°	See page 27
14	Gas Burner, 1	Faulty	
15	Gas Burner, 2	Faulty	
22	Outlet water T° or Supply air T°	Too Low T°	See page 27
23	Intlet water T° or Room air T°	Too high T°	See page 27
31	Humidifier	Faulty	
32	Room Humidity	Humidity Too Low	
33	Room Humidity	Humidity Too High	
40	Flow, Pump	Failure	See page 35
41	Pump, 1	Electric failure	See page 37
42	Pump, 2	Electric failure	See page 37
70	Real Time Clock	Faulty	
71	BE50, 1	Faulty communication	See page 29
72	BE50, 2	Faulty	
73	BE50, 3	Faulty	
74	BE50, 4	Faulty	
75	BE50, 5	Faulty	
80	Remote S.Point	Faulty	
81	Intlet water T° or Room air T°	Faulty Sensor	See page 32
82	Room Humidity	Faulty Sensor	
83	Outside air Temperature	Faulty Sensor	See page 32
84	Outside Humidity	Faulty Sensor	
85	Outlet or Supply T.	Faulty Sensor	
86	Inlet, Heat Recovery	Faulty Sensor	See page 32
87	Outlet, Heat Recovery	Faulty Sensor	See page 32
88	Return or Mixing T.	Faulty Sensor	
90	Air, Condenser fan	Faulty	See page 36
91	Blower, Fan	Faulty	
92	Air, Condenser fan	Faulty, System 1	See page 36
93	Air, Condenser fan	Faulty, System 2	See page 36
94	Air, Condenser fan	Faulty, System 3	See page 36
95	Air, Condenser fan	Faulty, System 4	See page 36
96	Water, Condenser	Temp. To Below	
97	Water, Condenser	Temp. Too High	
98	Water, Condenser	Faulty, Flow	
99	Fire / Smoke	Faulty	
111	High Pressure	Faulty Sensor, 1	See page 32
112	Low presure	Faulty Sensor, 1	
114	Circuit 1	Compressor elec. failure	See page 33
115	Circuit 1	High Pressure cut	See page 34
117	Circuit 1	Low Pressure cut	See page 30
118	Circuit 1	Risk of Frosting	See page 31
121	High Pressure	Faulty Sensor, 2	See page 32
122	Low presure	Faulty Sensor, 2	
124	Circuit 2	Compressor elec. failure	See page 33
125	Circuit 2	High Pressure cut	See page 34
127	Circuit 2	Low Pressure Cut	See page 30

128	Circuit 2	Risk of Frosting	See page 31
131	High Pressure	Faulty Sensor, 3	See page 32
132	Low presure	Faulty Sensor, 3	See page 32
134	Circuit 3	Compressor elec. failure	See page 33
135	Circuit 3	High Pressure cut	See page 34
137	Circuit 3	Low Pressure Cut	See page 30
138	Circuit 3	Risk of Frosting	See page 31
141	High Pressure	Faulty Sensor, 4	See page 32
142	Low presure	Faulty Sensor, 4	See page 32
144	Circuit 4	Compressor elec. failure	See page 33
145	Circuit 4	High Pressure cut	See page 34
147	Circuit 4	Low Pressure Cut	See page 30
148	Circuit 4	Risk of Frosting	See page 31
2n0	Circuit n	EEV n, Wrong addressing	See page 20
2n1	Low Superheat	EEV n, Error	
2n2	High Suction T.	EEV n, Error	
2n3	MOP	EEV n, Error	
2n4	LOP	EEV n, Error	
2n5	Valve Not Closed	EEV n, Error	
2n6	LP sensor or suction probe	EEV n, Error	See page 32
2n7	Motor	EEV n, Error	
2n8	EEPROM	EEV n, Error	
2n9	Battery	EEV n, Error	

ModBus

@ (hexa)	@ (deci)				DS50
01H	**1**	R/W	L	[On / Off] Unit	**3111**
02H	**2**	R/W	L	[Reset] Discharges the safety measures of the unit	**3113**
03H	**3**	R/W	L	*not used*	
04H	**4**	R/W	L	*not used*	
05H	**5**	R/W	L	[BMS] Activation of the Inoccupation mode [Off] occupation mode - [On] inoccupation mode	**3935**
06H	**6**	R/W	L	*not used*	
07H	**7**	R/W	L	*not used*	
08H	**8**	R/W	L	*not used*	
09H	**9**	R/W	L	*not used*	
0AH	**10**	R/W	L	*not used*	
0BH	**11**	R/W	L	*not used*	
0CH	**12**	R/W	L	*not used*	
0DH	**13**	R/W	L	*not used*	
0EH	**14**	R/W	L	*not used*	
0FH	**15**	R/W	L	*not used*	
10H	**16**	R/W	L	[Clock] [OFF] read hour & minute [ON] write hour & minute	**...**
11H	**17**	R/W	L	*not used*	
12H	**18**	R/W	L	[Dry contact] Digital Output, Free 2, BE50-J5-NO1	**2151**
13H	**19**	R/W	L	[Dry contact] Digital Output, Free 3, BE50-J6-NO2	**2152**
14H	**20**	R/W	L	[Dry contact] Digital Output, Free 4, BE50-J7-NO3	**2153**
15H	**21**	R/W	L	[Dry contact] Digital Output, Free 5, BE50-J8-NO4	**2154**
16H	**22**	R/W	L	*not used*	
17H	**23**	R/W	L	*not used*	
18H	**24**	R/W	L	*not used*	
19H	**25**	R/W	L	*not used*	
1AH	**26**	R/W	L	*not used*	
1BH	**27**	R/W	L	*not used*	
1CH	**28**	R/W	L	*not used*	
1DH	**29**	R/W	L	*not used*	
1EH	**30**	R/W	L	*not used*	
1FH	**31**	R/W	L	*not used*	
20H	**32**	R/W	L	*not used*	
21H	**33**	R	L	[Alarm] General	**1000**
22H	**34**	R	L	[On/Off] Pump, 1	**2315**
23H	**35**	R	L	[On/Off] Pump, 2	**2317**
24H	**36**	R	L	[On/Off] Compressor 1, Circuit 1	**2416**
25H	**37**	R	L	[On/Off] Compressor 2, Circuit 1	**2426**
26H	**38**	R	L	[On/Off] Compressor 3, Circuit 1	**2436**
27H	**39**	R	L	[On/Off] Compressor, Heat pump, Circuit 1	**2417**

28H	**40**	R	L	[On/Off] Compressor 1, Circuit 2	**2446**
29H	**41**	R	L	[On/Off] Compressor 2, Circuit 2	**2456**
2AH	**42**	R	L	[On/Off] Compressor 3, Circuit 2	**2466**
2BH	**43**	R	L	[On/Off] Compressor, Heat pump, Circuit 2	**2447**
2CH	**44**	R	L	*not used*	
2DH	**45**	R	L	*not used*	
2EH	**46**	R	L	*not used*	
2FH	**47**	R	L	*not used*	
30H	**48**	R	L	*not used*	
31H	**49**	R	L	*not used*	
32H	**50**	R	L	*not used*	
33H	**51**	R	L	[Dry contact] Digital Input, Free 3, BE50-J4-ID1	**2161**
34H	**52**	R	L	[Dry contact] Digital Input, Free 4, BE50-J4-ID2	**2162**
35H	**53**	R	L	[Dry contact] Digital Input, Free 5, BE50-J4-ID3	**2163**
36H	**54**	R	L	[Dry contact] Digital Input, Free 6, BE50-J4-ID4	**2164**
37H	**55**	R	L	*[On/Off] Fan 1, High speed, Circuit 1*	**2614**
38H	**56**	R	L	*[On/Off] Fan 2, Circuit 1*	**2624**
39H	**57**	R	L	*[On/Off] Fan 3, Circuit 1*	**2634**
3AH	**58**	R	L	*[On/Off] Fan 4, Circuit 1*	**2644**
3BH	**59**	R	L	*not used*	
3CH	**60**	R	L	*[On/Off] Fan 1, High speed, Circuit 2*	**2654**
3DH	**61**	R	L	*[On/Off] Fan 2, Circuit 2*	**2664**
3EH	**62**	R	L	*[On/Off] Fan 3, Circuit 2*	**2674**
3FH	**63**	R	L	*[On/Off] Fan 4, Circuit 2*	**2684**
40H	**64**	R	L	*not used*	

@ (hexa)	@ (deci)				DS50
01H	**1**	R/W	1 = 1 s	[BMS] Activation of the control by a computer or an automat - mode BMS is activated if this value is different from zero, This value is decreased every second	**3934**
02H	**2**	R/W	1 = 1	[Unit] without pump: 0=Started; 1=Stoped [Unit] with pump: 1=Stoped; 2:P1 Only; 3=P2 Only; 4=P1-N P2-S; 5=P2-N P1-S; 6=P1/P2 by clock	**3112 (BMS)**
03H	**3**	R/W	1 = 1	[Unit] Change-over: 0=Cool. Only; 1=Heat. Only; 2=Auto. Pump; 3=Auto. No Pump	**3311 (BMS)**
04H	**4**	R/W	1 = 1	[Unit] Activation of the circuits: 0=C1 Only; 1=C2 Only; 2=C1/C2 by clock	**3411 (BMS)**
05H	**5**	R/W	10 = 1.0°c	[Occupation][Water SP] Required maximum water temperature in °C. Cooling set point	**3321 (BMS)**
06H	**6**	R/W	10 = 1.0°c	[Occupation][Water SP] Required minimum water temperature in °C. Heating set point	**3331 (BMS)**
07H	**7**	R/W	10 = 1.0°c	[Inoccupation][Water SP] Required maximum water temperature in °C. Cooling set point	**3321 (BMS)**
08H	**8**	R/W	10 = 1.0°c	[Inoccupation][Water SP] Required minimum water temperature in °C. Heating set point	**3331 (BMS)**
09H	**9**	R/W		*not used*	
0AH	**10**	R/W		*not used*	
0BH	**11**	R/W		*not used*	
0CH	**12**	R/W	1 = 1h	[Clock] Hour	**3121**

0DH	**13**	R/W	1 = 1m	[Clock] Minute	**3122**
0EH	**14**	R/W	1 = 1	[Clock] Day of the month	**3123**
0FH	**15**	R/W	1 = 1	[Clock] Month	**3124**
10H	**16**	R/W	1 = 2001	[Clock] Year	**3125**
11H	**17**	R/W		*not used*	
12H	**18**	R/W		*not used*	
13H	**19**	R/W	10 = 1.0°c	[BMS] Outdoor temperature coming from the BMS	**...**
14H	**20**	R/W		*not used*	
15H	**21**	R/W		*not used*	
16H	**22**	R/W		*not used*	
17H	**23**	R/W		*not used*	
18H	**24**	R/W		*not used*	
19H	**25**	R/W		*not used*	
1AH	**26**	R/W		*not used*	
1BH	**27**	R/W		*not used*	
1CH	**28**	R/W		*not used*	
1DH	**29**	R/W		*not used*	
1EH	**30**	R/W		*not used*	
1FH	**31**	R/W		*not used*	
20H	**32**	R/W		*not used*	
21H	**33**	R	1 = 1	[Alarm] Code Error	**1000**
22H	**34**	R	10 = 1.0°c	[Temperature] Intlet, Water	**2112**
23H	**35**	R	10 = 1.0°c	[Temperature] Outdoor, Air	**2111**
24H	**36**	R	10 = 1.0°c	[Temperature] Outlet, Water	**2113**
25H	**37**	R	10 = 1.0b	[Pressure] High, Circuit 1	**2125**
26H	**38**	R	10 = 1.0b	[Pressure] Low, Circuit 1	**2126**
27H	**39**	R	10 = 1.0b	[Pressure] High, Circuit 2	**2135**
28H	**40**	R	10 = 1.0b	[Pressure] Low, Circuit 2	**2136**
29H	**41**	R		*not used*	
2AH	**42**	R		*not used*	
2BH	**43**	R		*not used*	
2CH	**44**	R		*not used*	
2DH	**45**	R	1 = 1%	[% of opening] Fan, Modulation, Circuit 1	**2615**
2EH	**46**	R	1 = 1%	[% of opening] Fan, Modulation, Circuit 2	**2655**
2FH	**47**	R		*not used*	
30H	**48**	R		*not used*	
31H	**49**	R	10 = 1.0°c	[Dry contact] Temperature, Free 1, BE50-J9-B1	**2171**
32H	**50**	R	10 = 1.0°c	[Dry contact] Temperature, Free 2, BE50-J9-B2	**2172**
33H	**51**	R	10 = 1.0°c	[Dry contact] Temperature, Free 3, BE50-J10-B3	**2173**
34H	**52**	R	10 = 1.0°c	[Dry contact] Temperature, Free 4, BE50-J10-B4	**2174**

35H	**53**	R		*not used*	
36H	**54**	R		*not used*	
37H	**55**	R		*not used*	
38H	**56**	R		*not used*	
39H	**57**	R	10 = 1.0°c	[EEV] Current superheating value, Circuit 1	**2121**
3AH	**58**	R	10 = 1.0°c	[EEV] Current superheating value, Circuit 2	**2131**
3BH	**59**	R		*not used*	
3CH	**60**	R		*not used*	
3DH	**61**	R	10 = 1.0°c	[EEV] Saturated evaporation temperature, Circuit 1	**2124**
3EH	**62**	R	10 = 1.0°c	[EEV] Saturated evaporation temperature, Circuit 2	**2134**
3FH	**63**	R		*not used*	
40H	**64**	R		*not used*	

LonWorks

Type		Name NV	Type NV	Direction	Index pCO		DS50
ANL	1	I_Sp_WCool_1_BMS	105	input	1	[Occupation][Water SP] Required maximum water temperature in °C. Cooling set point	**3321 (BMS)**
ANL	1	O_Sp_WCool_1_BMS	105	output	1		
ANL	2	I_Sp_WHeat_1_BMS	105	input	2	[Occupation][Water SP] Required minimum water temperature in °C. Heating set point	**3331 (BMS)**
ANL	2	O_Sp_WHeat_1_BMS	105	output	2		
ANL	3	I_Sp_WCool_1_Uno	105	input	3	[Inoccupation][Water SP] Required maximum water temperature in °C. Cooling set point	**3321 (Uno)**
ANL	3	O_Sp_WCool_1_Uno	105	output	3		
ANL	4	I_Sp_WHeat_1_Uno	105	input	4	[Inoccupation][Water SP] Required minimum water temperature in °C. Heating set point	**3331 (Uno)**
ANL	4	O_Sp_WHeat_1_Uno	105	output	4		
ANL	17	O_Ia_TEEG	105	output	17	[Temperature] Intlet, Water	**2112**
ANL	18	O_T_Outside	105	output	18	[Temperature] Outdoor, Air	**2111**
ANL	19	O_Ia_TSEG	105	output	19	[Temperature] Outlet, Water	**2113**
ANL	20	O_Ia_P_HP_1	105	output	20	[Pressure] High, Circuit 1 (Bar)	**2125**
ANL	21	O_Ia_P_BP_1	105	output	21	[Pressure] Low, Circuit 1 (Bar)	**2126**
ANL	22	O_Ia_P_HP_2	105	output	22	[Pressure] High, Circuit 2 (Bar)	**2135**
ANL	23	O_Ia_P_BP_2	105	output	23	[Pressure] Low, Circuit 2 (Bar)	**2136**

Type		Name NV	Type NV	Direction	Index pCO		DS50
INT	1	I_Sp_BMS_Dog	8	input	208	[BMS] Activation of the control by a computer or an automat - mode BMS is activated if this value is different from zero, This value is decreased every second	**3934**
INT	1	O_Sp_BMS_Dog	8	output	208		
INT	2	I_Sp_RunUnit_BMS	8	input	209	[Unit] without pump: 0=Started; 1=Stoped [Unit] with pump: 1=Stoped; 2:P1 Only; 3=P2 Only; 4=P1-N P2-S; 5=P2-N P1-S; 6=P1/P2 by clock	**3112 (BMS)**
INT	2	O_Sp_RunUnit_BMS	8	output	209		
INT	3	I_Sp_ChOver_BMS	8	input	210	[Unit] Change-over: 0=Cool. Only; 1=Heat. Only; 2=Auto. Pump; 3=Auto. No Pump	**3311 (BMS)**
INT	3	O_Sp_ChOver_BMS	8	output	210		
INT	4	I_Sp_Rotat_BMS	8	input	211	[Unit] Activation of the circuits: 0=C1 Only; 1=C2 Only; 2=C1/C2 by clock	**3411 (BMS)**
INT	4	O_Sp_Rotat_BMS	8	output	211		
INT	5	I_Hour	8	input	212	[Clock] Hour	**3121**
INT	5	O_Hour	8	output	212		
INT	6	I_Minute	8	input	213	[Clock] Minute	**3122**
INT	6	O_Minute	8	output	213		
INT	7	I_Day	8	input	214	[Clock] Day of the month	**3123**
INT	7	O_Day	8	output	214		
INT	8	I_Month	8	input	215	[Clock] Month	**3124**
INT	8	O_Month	8	output	215		
INT	17	O_Error_Codes	8	output	224	[Alarm] Code Error	**1000**
INT	18	O_R_FCoil_PWM_1	81	output	225	[% of opening] Fan, Modulation, Circuit 1	**2615**
INT	19	O_R_FCoil_PWM_2	81	output	226	[% of opening] Fan, Modulation, Circuit 2	**2655**
Type		**Name NV**	**Type NV**	**Direction**	**Index pCO**		**DS50**
DGT	1	I_Sp_On_Unit	95	input	415	[On / Off] Unit	**3111**
DGT	1	O_Sp_On_Unit	95	output	415		
DGT	2	I_Sp_Reset	95	input	416	[Reset] Discharges the safety measures of the unit	**3112**
DGT	2	O_Sp_Reset	95	output	416		
DGT	3	I_Sp_Unoc	95	input	417	[BMS] Activation of the Inoccupation mode [Off] occupation mode - [On] inoccupation mode	**3935**
DGT	3	O_Sp_Unoc	95	output	417		
DGT	4	I_Clock	95	input	418	[Clock] [OFF] read hour & minute [ON] write hour & minute	**...**
DGT	17	O_Od_Alarm	95	output	431	[Alarm] General	**1000**
DGT	18	O_Od_Pump_1	95	output	432	[On/Off] Pump, 1	**2315**
DGT	19	O_Od_Pump_2	95	output	433	[On/Off] Pump, 2	**2317**
DGT	20	O_Od_Comp_11	95	output	434	[On/Off] Compressor 1, Circuit 1	**2416**
DGT	21	O_Od_Comp_21	95	output	435	[On/Off] Compressor 2, Circuit 1	**2426**
DGT	22	O_Od_Comp_31	95	output	436	[On/Off] Compressor 3, Circuit 1	**2436**
DGT	23	O_Od_CompHPump_1	95	output	437	[On/Off] Compressor, Heat pump, Circuit 1	**2417**
DGT	24	O_Od_Comp_12	95	output	438	[On/Off] Compressor 1, Circuit 2	**2446**
DGT	25	O_Od_Comp_22	95	output	439	[On/Off] Compressor 2, Circuit 2	**2456**
DGT	26	O_Od_Comp_32	95	output	440	[On/Off] Compressor 3, Circuit 2	**2466**
DGT	27	O_Od_CompHPump_2	95	output	441	[On/Off] Compressor, Heat pump, Circuit 2	**2447**
DGT	28	O_Od_FCoil_11_HS	95	output	442	[On/Off] Fan, High speed, Circuit 1	**2614**
DGT	29	O_Od_FCoil_21	95	output	443	[On/Off] Fans, Circuit 1	**2624**
DGT	30	O_Od_FCoil_12_HS	95	output	444	[On/Off] Fan, High speed, Circuit 2	**2654**
DGT	31	O_Od_FCoil_22	95	output	445	[On/Off] Fans, Circuit 2	**2664**