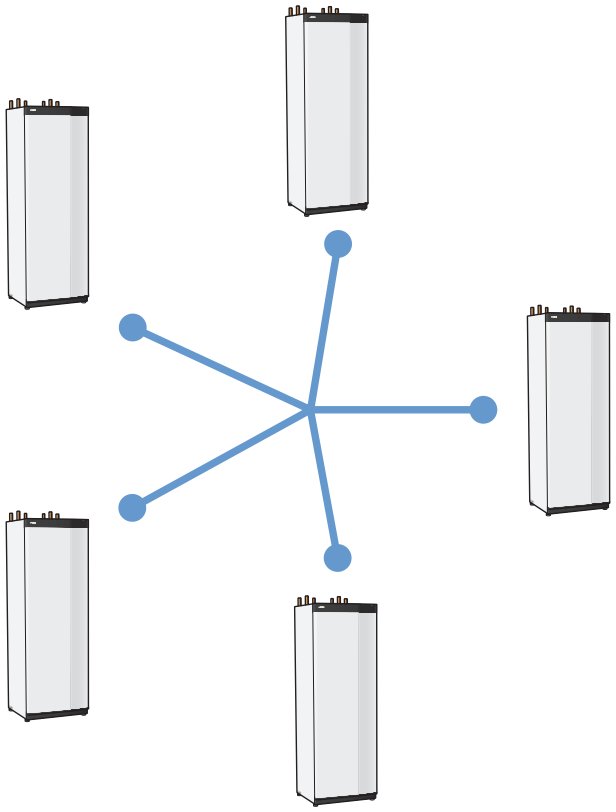
TECHNICAL INFORMATION

NIBE

MODBUS S-SERIES



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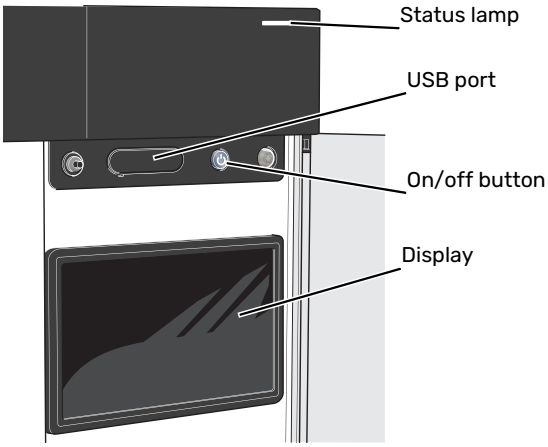
Control - Introduction

Display unit



THE STATUS LAMP

- lights up white during normal operation.
- lights yellow in emergency mode.
- lights red in the event of a deployed alarm.
- flashes white during active notice.
- is blue when system is switched off.

If the status lamp is red, you receive information and suggestions for suitable actions on the display.

THE USB PORT

Above the display, there is a USB port that can be used e.g. for updating the software. Log in to myuplink.com and click the "General" tab and then "Software" to download the latest software version for your installation.

THE ON/OFF BUTTON

The on/off button has three functions:

- start
- switch off
- activate emergency mode

To start: press the on/off button once.

To switch off, restart or activate emergency mode: press and hold the on/off button for 2 seconds. This brings up a menu with various options.

For hard switch off: press and hold the on/off button for 10 seconds.

To activate emergency mode when system is switched off: press and hold the on/off button for 5 seconds. (Deactivate the emergency mode by pressing once).

THE DISPLAY

Instructions, settings and operational information are shown on the display.

Navigation

system has a touchscreen where you simply navigate by pressing and dragging with your finger.

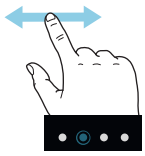
SELECT

Most options and functions are activated by lightly pressing on the display with your finger.

BROWSE

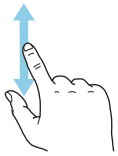
The symbols at the bottom edge show if there are more pages.

Drag to the right or left with your finger to browse between the pages.



SCROLL

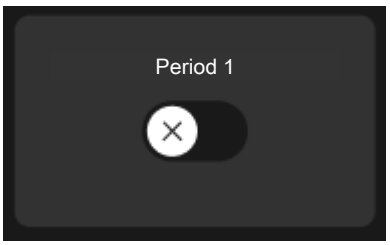
If the menu has several sub-menus, you can see more information by dragging up or down with your finger.



CHANGE A SETTING

Press the setting you want to change.

If it is an on/off setting, it changes as soon as you press it.

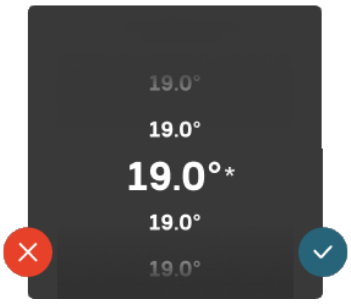


If there are several possible values, a spinning-wheel appears that you drag up or down to find the desired value.

Press ✓ to save your change, or ✗ if you don't want to make a change.

FACTORY SETTING

Factory set values are marked with *.

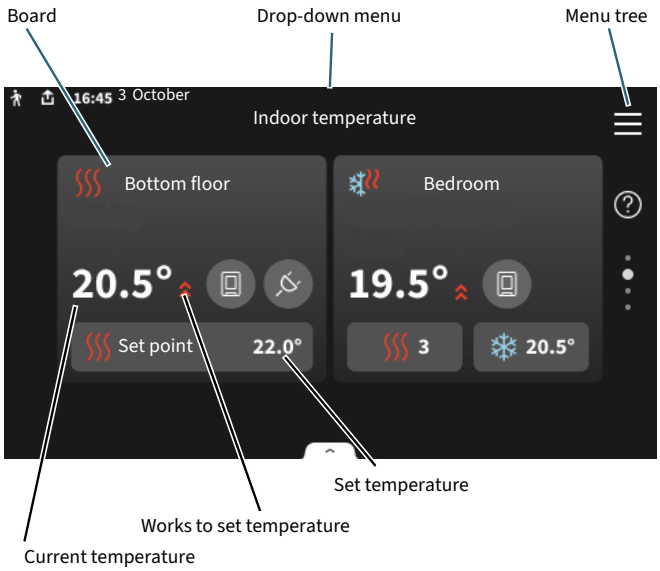


HELP MENU

In many menus there is a symbol that indicates that extra help is available.

Press the symbol to open the help text.

You may need to drag with your finger to see all text.



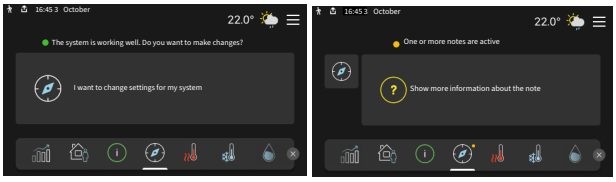
Menu types

HOME SCREENS

Smartguide

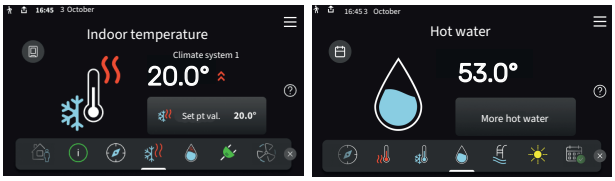
Smartguide helps you both to view information about the current status and to make the most common settings easily. The information that you see depends on the product you have and the accessories that are connected to the product.

Select an option and press it to proceed. The instructions on the screen help you to choose correctly or give you information about what is happening.



Function pages

On the function pages, you can both view information about the current status and easily make the most common settings. The function pages that you see depend on the product you have and the accessories that are connected to the product.



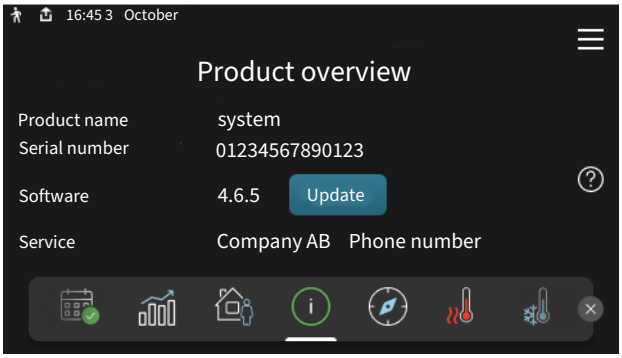
Drag to the right or left with your finger to browse between the function pages.

Press the card to adjust the desired value. On certain function pages, drag your finger up or down to obtain more cards.

Product overview

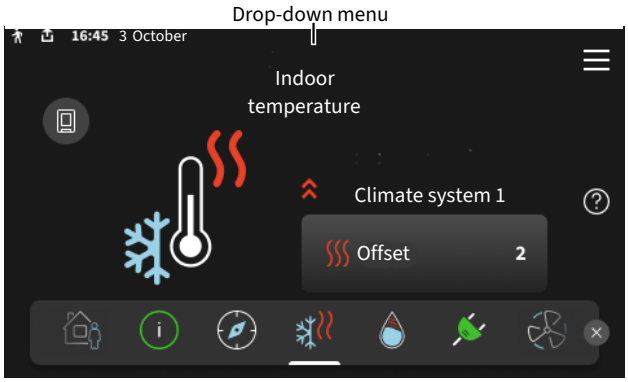
It can be a good idea to have the product overview open during any service cases. You can find it among the function pages.

Here, you can find information about the product name, the product's serial number, the version of the software, and the contact details of the company that provides service. When there is new software to download, you can do it here (provided that system is connected to myUplink).

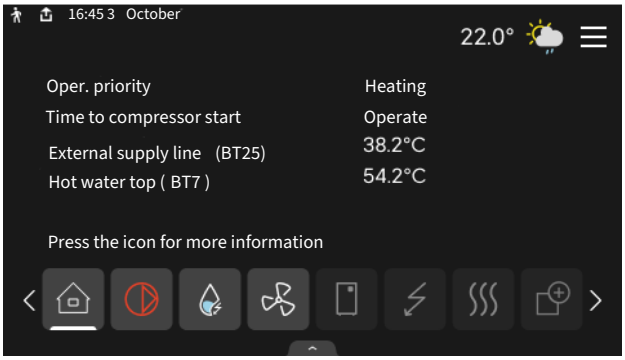


Drop-down menu

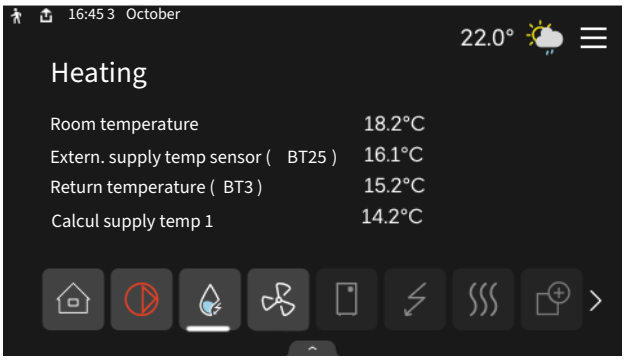
From the home screens, you reach a new window containing further information by dragging down a drop-down menu.



The drop-down menu shows the current status for system, what is in operation and what system is doing at the moment. The functions that are in operation are highlighted with a frame.



Press the icons on the menu's lower edge for more information about each function. Use the scroll bar to view all information for the selected function.



General Modbus information

NIBE S-series has built-in support for Modbus TCP/IP that can be activated in menu 7.5.9 - "Modbus TCP/IP".

TCP/IP settings are set in menu 5.2 - "Network settings". Only connections from IP addresses within the local address space as specified below:

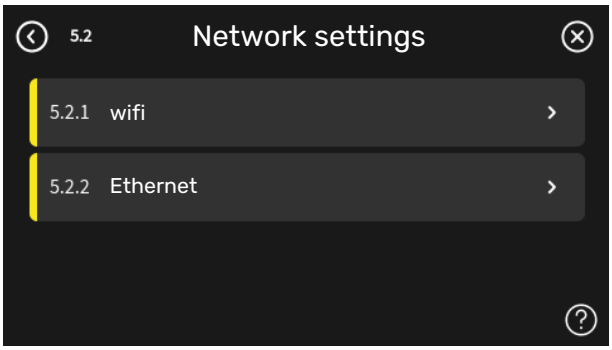
10.0.0.0 - 10.255.255.255

172.16.0.0 - 172.31.255.255

192.168.0.0 - 192.168.255.255

Software version 2.2.1 or later required.

Modbus protocol uses port 502 for communication.



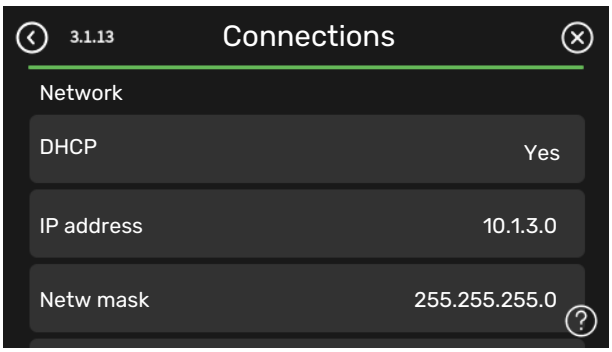
Choose wifi or ethernet.

Readable	ID	Description
Read	0x04	Input Register
Read writable	0x03	Holding Register
Writable multiple	0x10	Write multiple registers
Writable single	0x06	Write single register

The S-Series can handle a maximum of 100 registers per second and 20 registers per query.

Available registers are shown in the display for the currect product and its installed and activated accessories.

Current network settings is located in menu 3.1.13 - "Connections".



TIP!

Feel free to compare your values with menu 3.1 - "Operating info" to check that you are reading the correct values.

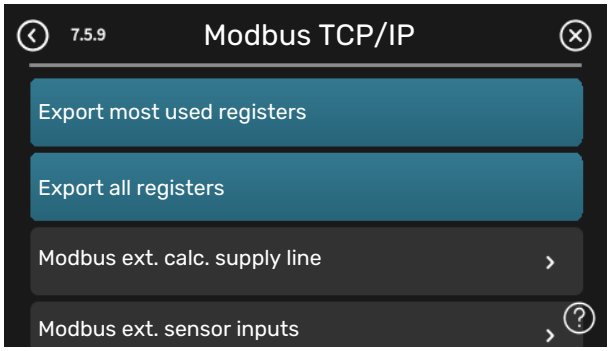
32-bit register

Some registers are larger than 16 bits and therefore occupy more than one register. These must be written using the write multiple holding registers function. When reading multiple registers, the registers are shown in reverse order, meaning that reading holding registers 11–12 will display the values as register 12 and register 11.

For more information, see relevant installer manual for that system.

Export register

1. Insert a USB memory.
2. Go to menu 7.5.9 and choose "Export most used registers"or"Export all registers". These will then be stored on the USB memory in CSV format. (These options is only shown when a USB memory in inserted in the display).

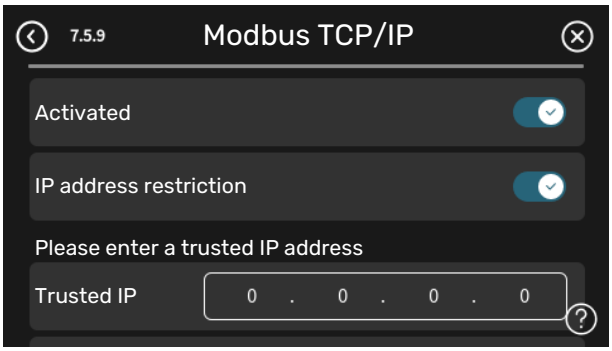


TIP!

In the Modbus list after the export, slaves 1-8 are named ”SlaveHeatpumpArray_1” for slave 1 and so on. Module 0 is EP14 and Module 1 is EP15.

IP address restriction

1. Go to menuy 7.5.9 and choose "IP address restriction".
2. Enter the IP address that is allowed to communicate with the system.



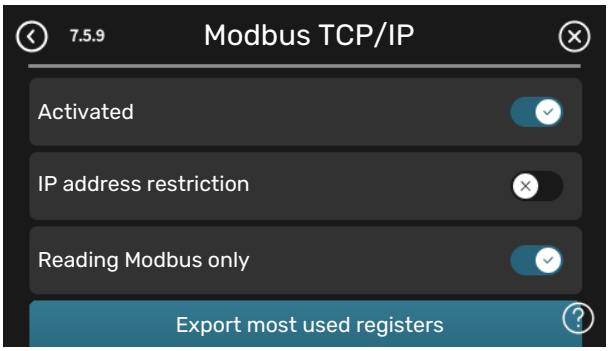
> **CAUTION!**
>
> Modbus/TCP communication over the open internet is very risky and is not recommended!

MAC address

Go to menu 3.1.13 - "Connections" to see the MAC address.

Reading only

Reading Modbus only means that no values can be sent to the system, only reading of values is possible.



Modbus registers

NIBE S1156/S1256/S1155/S1255

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Outdoor temperature (BT1)	1	FC04 Input Register	s16	°C	10	R	
Supply temperature (BT2) (F1255)	5	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	7	FC04 Input Register	s16	°C	10	R	
Hot water start (BT5)	2014	FC04 Input Register	s16	°C	10	R	
Hot water top (BT7)	8	FC04 Input Register	s16	°C	10	R	
Hot water charging (BT6)	9	FC04 Input Register	s16	°C	10	R	
Brine in (BT10)	10	FC04 Input Register	s16	°C	10	R	
Brine out (BT11)	11	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	12	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	13	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	14	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	16	FC04 Input Register	s16	°C	10	R	
Room temperature (BT50)	26	FC04 Input Register	s16	°C	10	R	
External supply line (BT25)	39	FC04 Input Register	s16	°C	10	R	
Compressor sensor (EB100-BT29)	86	FC04 Input Register	s16	°C	10	R	
Operating mode brine pump	96	FC03 Holding Register	s8	-	1	R/W	10 - intermittent 20 - continuous 30 - 10 days cont.
Heating medium pump speed (GP1)	1102	FC04 Input Register	u8	%	1	R	
Operating mode heating medium pump	853	FC03 Holding Register	s8	-	1	R/W	0 - auto 1 - manual
Heating medium pump speed (GP1) (at operation mode manual)	218	FC03 Holding Register	u8	%	1	R/W	
Current compressor frequency	1046	FC04 Input Register	u16	Hz	10	R	
Compressor starter	1083	FC04 Input Register	s32	-	1	R	
Compressor status	1100	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Brine pump speed (GP2)	1104	FC04 Input Register	u8	%	1	R	
Operating mode brine pump	1319	FC03 Holding Register	s8	-	1	R/W	0 - auto 1 - manual
Brine pump speed (GP2) (at operation mode manual)	222	FC03 Holding Register	s8	%	1	R/W	
Diverter valve (QN10)	2196	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water

Master/slave NIBE S1156/S1256/S1155/S1255 slave 1 and NIBE F1345/F1355 slave 1

Function	ID	Type of register	Size	Unit	Factor	Mode	S1X55	F1355/F1345
Supply temperature (BT2) (EP15)	1684	FC04 Input Register	s16	°C	10	R	X	-
Hot water charging (BT6) (EP15)	1682	FC04 Input Register	s16	°C	10	R	X	-
Hot water top (BT7) (EP15)	1683	FC04 Input Register	s16	°C	10	R	X	-
Return temperature (BT3) (EP15)	1454	FC04 Input Register	s16	°C	10	R	-	X
Brine in (BT10) (EP15)	1455	FC04 Input Register	s16	°C	10	R	-	X
Brine out (BT11) (EP15)	1456	FC04 Input Register	s16	°C	10	R	-	X
Condenser supply line (BT12) (EP15)	1457	FC04 Input Register	s16	°C	10	R	-	X
Discharge (BT14) (EP15)	1458	FC04 Input Register	s16	°C	10	R	-	X
Liquid line (BT15) (EP15)	1459	FC04 Input Register	s16	°C	10	R	-	X
Suction gas (BT17) (EP15)	1460	FC04 Input Register	s16	°C	10	R	-	X
Oil temperature (BT29) (EP15)	1461	FC04 Input Register	s16	°C	10	R	-	X
Pressure (BP8) (EP15)	1462	FC04 Input Register	s16	°C	10	R	-	X
Compressor status (EP15)	1685	FC04 Input Register	u8	0 - off 1 - on	1	R	-	X
Compressor, time to start (EB100-EP15)	1464	FC04 Input Register	u8	-	1	R	-	X
Heating medium pump speed (EB101-EP15)	1466	FC04 Input Register	u8	%	1	R	-	X
Brine pump speed (EB101-EP15)	1467	FC04 Input Register	u8	%	1	R	-	X
Total run time compressor (EP15)	1470	FC04 Input Register	u32	h	10	R	-	X
Total run time compressor hot water (EP15)	1472	FC04 Input Register	u32	h	10	R	-	X
Alarm number (EP15)	1474	FC04 Input Register	u16	-	1	R	-	X
Return temperature (BT3) (EP14)	1475	FC04 Input Register	s16	°C	10	R	X	X
Brine in (BT10) (EP14)	1476	FC04 Input Register	s16	°C	10	R	X	X
Brine out (BT11) (EP14)	1477	FC04 Input Register	s16	°C	10	R	X	X
Condenser supply line (BT12) (EP14)	1478	FC04 Input Register	s16	°C	10	R	X	X
Discharge (BT14) (EP14)	1479	FC04 Input Register	s16	°C	10	R	X	X
Liquid line (BT15) (EP14)	1480	FC04 Input Register	s16	°C	10	R	X	X
Suction gas (BT17) (EP14)	1481	FC04 Input Register	s16	°C	10	R	X	X
Oil temperature (BT29) (EP14)	1482	FC04 Input Register	s16	°C	10	R	X	X
Pressure (BP8) (EP14)	1483	FC04 Input Register	s16	°C	10	R	X	X
Compressor status (EP14)	1686	FC04 Input Register	u8	0 - on 1 - off	1	R	-	Only F1345
Current compressor frequency (EP14)	1803	FC04 Input Register	u16	Hz	10	R	X	Only F1355
Compressor, time to start (EB100-EP14)	1485	FC04 Input Register	u8	-	1	R	-	X
Heating medium pump speed (EB101-EP14)	1487	FC04 Input Register	u8	%	1	R	-	X
Brine pump speed (EB101-EP14)	1488	FC04 Input Register	u8	%	1	R	-	X
Total run time compressor (EP14)	1491	FC04 Input Register	u32	h	10	R	-	X
Total run time compressor hot water (EP14)	1493	FC04 Input Register	u32	h	10	R	-	X
Alarm number (EP14)	1495	FC04 Input Register	u16	-	1	R	-	X
Diverter valve (QN10) Slave 1-8	2437-2444	FC04 Input Register	s16	-	1	R	-	0 - heating 1 - hot water

NIBE VVM S320/S325/S500/SVM S332

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Outdoor temperature (BT1)	1	FC04 Input Register	s16	°C	10	R	
Supply temperature (BT2)	5	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	7	FC04 Input Register	s16	°C	10	R	
Hot water start (BT5)	2014	FC04 Input Register	s16	°C	10	R	
Hot water charging (BT6)	9	FC04 Input Register	s16	°C	10	R	
Hot water top (BT7)	8	FC04 Input Register	s16	°C	10	R	
Supply temp. 1 (BT63)	72	FC04 Input Register	s16	°C	10	R	
Heating medium pump speed (GP1)	1636	FC04 Input Register	u8	%	1	R	Not VVM S500
Heating medium pump speed (GP1)	2242	FC04 Input Register	u8	%	1	R	Only VVM S500
Charge pump speed (GP12)	1822	FC04 Input Register	u8	%	1	R	
Diverter valve (QN10)	2196	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water
Shunt valve (QN11)	1034	FC04 Input Register	u8	-	1	R	10 - off 20 - active 30 - passive 40 - opening 50 - closing
Diverter valve (QN35)	1821	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water

NIBE SMO S40

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Outdoor temperature (BT1)	1	FC04 Input Register	s16	°C	10	R	
Hot water top (BT7)	8	FC04 Input Register	s16	°C	10	R	
Hot water charging (BT6)	9	FC04 Input Register	s16	°C	10	R	
Room temperature (BT50)	26	FC04 Input Register	s16	°C	10	R	
External supply line (BT25)	39	FC04 Input Register	s16	°C	10	R	
Return temperature (BT71)	88	FC04 Input Register	s16	°C	10	R	
Operat. mode charge pump	783	FC03 Holding Register	u8	-	1	R/W	0 - auto 1 - manual
External heating medium pump (GP10) status	1066	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Charge pump (EB101-GP12)	1636	FC04 Input Register	u8	%	1	R	0 - off 1 - on
Diverter valve (QN10)	2196	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water
Diverter valve (QN10)-1 When connected to GSHP	2411	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water
Diverter valve (QN10)-2 When connected to GSHP	2412	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
AUX relay (AUX10)	216	FC03 Holding Register	u8	-	1	R/W	0 - alarm outp. 1 - groundwater pump 2 - cooling mode indication 3 - hw circulation 4 - ext. hm pump **5 - not used (Standard)** 6 - external hw div valve 7 - must not be used 8 - must not be used 9 - must not be used 10 - act. cool. 4-pipe 11 - spa 12 - group alarm 13 - holiday 14 - firewood dock. 15 - defrost 16 - solar elec aux 17 - outd. air damp. 18 - away mode 19 - valve sup air 20 - cool. mode ind. w delay 21- not used 22 - EB102-QN10
AUX relay (AUX11)	224	FC03 Holding Register	u8	-	1	R/W	0 - alarm outp. 1 - groundwater pump 2 - cooling mode indication 3 - hw circulation 4 - ext. hm pump **5 - not used (Standard)** 6 - external hw div valve 7 - must not be used 8 - must not be used 9 - must not be used 10 - act. cool. 4-pipe 11 - spa 12 - group alarm 13 - holiday 14 - firewood dock. 15 - defrost 16 - solar elec aux 17 - outd. air damp. 18 - away mode 19 - valve sup air 20 - cool. mode ind. w delay 21- must not be used 22 - EB102-QN10

NIBE S2125/F2120

slave 1

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Requested compressor frequency	301	FC04 Input Register	u8	Hz	10	R	
Low press (BP8)	550	FC04 Input Register	s16	°C	10	R	
High pressure (BP9)	551	FC04 Input Register	s16	°C	10	R	
Injection (BT81)	552	FC04 Input Register	s16	°C	10	R	
Evaporator out (BT84)	555	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	1475	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	1478	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	1479	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	1480	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	1481	FC04 Input Register	s16	°C	10	R	
Compressor starts (EP14)	1489	FC04 Input Register	u32	-	1	R	
Total run time compressor (EP14)	1491	FC04 Input Register	s32	h	10	R	
Outdoor temperature (BT28)	1621	FC04 Input Register	s16	°C	10	R	
Evaporator in (BT16)	1622	FC04 Input Register	s16	°C	10	R	
Current compressor frequency	1803	FC04 Input Register	s16	Hz	10	R	
Defrost	1805	FC04 Input Register	u8	-	1	R	0 - off 1 - active 2 - passive
Alarm number	400	FC04 Input Register	u8	-	1	R	
Fan speed	401	FC04 Input Register	u16	Rpm	1	R	

slave 2

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Requested compressor frequency	300	FC04 Input Register	u8	Hz	10	R	
Low press (BP8)	534	FC04 Input Register	s16	°C	10	R	
High pressure (BP9)	535	FC04 Input Register	s16	°C	10	R	
Injection (BT81)	536	FC04 Input Register	s16	°C	10	R	
Evaporator out (BT84)	539	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	1430	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	1433	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	1434	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	1435	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	1436	FC04 Input Register	s16	°C	10	R	
Compressor starts (EP14)	1444	FC04 Input Register	u32	-	1	R	
Total run time compressor (EP14)	1446	FC04 Input Register	u32	h	10	R	
Outdoor temperature (BT28)	1617	FC04 Input Register	s16	°C	10	R	
Evaporator in (BT16)	1618	FC04 Input Register	s16	°C	10	R	
Current compressor frequency	1789	FC04 Input Register	s16	Hz	10	R	
Defrost	1791	FC04 Input Register	u8	-	1	R	0 - off 1 - active 2 - passive
Alarm number	910	FC04 Input Register	u8	-	1	R	

slave 3

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Requested compressor frequency	299	FC04 Input Register	u8	Hz	10	R	
Low press (BP8)	518	FC04 Input Register	s16	°C	10	R	
High pressure (BP9)	519	FC04 Input Register	s16	°C	10	R	
Injection (BT81)	520	FC04 Input Register	s16	°C	10	R	
Evaporator out (BT84)	523	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	1385	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	1388	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	1389	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	1390	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	1391	FC04 Input Register	s16	°C	10	R	
Compressor starts (EP14)	1399	FC04 Input Register	u32	-	1	R	
Total run time compressor (EP14)	1401	FC04 Input Register	u32	h	10	R	
Outdoor temperature (BT28)	1613	FC04 Input Register	s16	°C	10	R	
Evaporator in (BT16)	1614	FC04 Input Register	s16	°C	10	R	
Current compressor frequency	1775	FC04 Input Register	s16	Hz	10	R	
Defrost	1777	FC04 Input Register	u8	-	1	R	0 - off 1 - active 2 - passive
Alarm number	885	FC04 Input Register	u8	-	1	R	

slave 4

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Requested compressor frequency	298	FC04 Input Register	u8	Hz	10	R	
Low press (BP8)	502	FC04 Input Register	s16	°C	10	R	
High pressure (BP9)	503	FC04 Input Register	s16	°C	10	R	
Injection (BT81)	504	FC04 Input Register	s16	°C	10	R	
Evaporator out (BT84)	507	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	1340	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	1343	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	1344	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	1345	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	1346	FC04 Input Register	s16	°C	10	R	
Compressor starts (EP14)	1354	FC04 Input Register	u32	-	1	R	
Total run time compressor (EP14)	1356	FC04 Input Register	u32	h	10	R	
Outdoor temperature (BT28)	1609	FC04 Input Register	s16	°C	10	R	
Evaporator in (BT16)	1610	FC04 Input Register	s16	°C	10	R	
Current compressor frequency	1761	FC04 Input Register	s16	Hz	10	R	
Defrost	1763	FC04 Input Register	u8	-	1	R	0 - off 1 - active 2 - passive
Alarm number	860	FC04 Input Register	u8	-	1	R	

NIBE F2040

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Requested compressor frequency	301	FC04 Input Register	u8	Hz	10	R	
Return temperature (BT3)	1475	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	1478	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	1479	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	1480	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	1481	FC04 Input Register	s16	°C	10	R	
Compressor starts (EP14)	1489	FC04 Input Register	s32	-	1	R	
Total run time compressor (EP14)	1491	FC04 Input Register	s32	h	10	R	
Outdoor temperature (BT28)	1621	FC04 Input Register	s16	°C	10	R	
Evaporator in (BT16)	1622	FC04 Input Register	s16	°C	10	R	
Pressure (BP4)	1801	FC04 Input Register	s16	bar	10	R	
Low pressure switch (BP2)	1802	FC04 Input Register	s16	bar	10	R	
Current compressor frequency	1803	FC04 Input Register	s16	Hz	10	R	
Defrost	1805	FC04 Input Register	u8	-	1	R	0 - off 1 - active 2 - passive
Evaporator (BT16 2)	1966	FC04 Input Register	s16	°C	10	R	

NIBE S735C/S735

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Outdoor temperature (BT1)	1	FC04 Input Register	s16	°C	10	R	
Supply temperature (BT2)	5	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	7	FC04 Input Register	s16	°C	10	R	
Hot water top (BT7)	8	FC04 Input Register	s16	°C	10	R	
Hot water charging (BT6)	9	FC04 Input Register	s16	°C	10	R	
Condenser supply line (BT12)	12	FC04 Input Register	s16	°C	10	R	
Discharge (BT14)	13	FC04 Input Register	s16	°C	10	R	
Liquid line (BT15)	14	FC04 Input Register	s16	°C	10	R	
Suction gas (BT17)	16	FC04 Input Register	s16	°C	10	R	
Exhaust air (BT20)	19	FC04 Input Register	s16	°C	10	R	
Extract air (BT21)	20	FC04 Input Register	s16	°C	10	R	
Low pressure (BP8)	2308	FC04 Input Register	s16	bar	100	R	
Current compressor frequency	1046	FC04 Input Register	u16	Hz	10	R	
Heating medium pump speed (GP1)	1102	FC04 Input Register	u8	%	1	R	
Operating mode heating medium pump	853	FC03 Holding Register	s8	-	1	R/W	0 - auto 1 - manual
Heating medium pump speed (GP1) Operating mode Manual	218	FC03 Holding Register	s8	%	1	R/W	
Airflow (BP16)	425	FC04 Input Register	s16	m3/h	10	R	
Diverter valve (QN10)	2196	FC04 Input Register	u8	-	1	R	0 - heating 1 - hot water
Fan speed GQ2	2133	FC04 Input Register	u8	%	1	R	

Common registers

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Degree minutes	11	FC03 Holding Register	s32	-	10	R/W	
Degree minutes cooling	20	FC03 Holding Register	s16	-	1	R/W	
Reset alarm	22	FC03 Holding Register	u8	-	1	R/W	
Heating curve	26	FC03 Holding Register	s8	-	1	R/W	
Offset curve	30	FC03 Holding Register	s8	-	1	R/W	
Supply temp. min.	34	FC03 Holding Register	s16	°C	10	R/W	
Supply temp. max.	38	FC03 Holding Register	s16	°C	10	R/W	
Own curve	39-45	FC03 Holding Register	s8	-	1	R/W	
Flow sensor (BF1)	40	FC04 Input Register	s16	l/m	10	R	
Current BE3	46	FC04 Input Register	u32	A	10	R	
Current BE2	48	FC04 Input Register	u32	A	10	R	
Current BE1	50	FC04 Input Register	u32	A	10	R	
Hot water demand	56	FC03 Holding Register	s8	-	1	R/W	0 - small 1 - medium 2 - large 3 - not in use 4 - smart control
Start temperature HW normal temperature	59	FC03 Holding Register	s16	-	10	R/W	
Stop temperature HW normal temperature	63	FC03 Holding Register	s16	-	10	R/W	
Period time heating	92	FC03 Holding Register	u8	-	10	R/W	
Period time hot water	93	FC03 Holding Register	u8	-	10	R/W	
Period time cooling	94	FC03 Holding Register	u8	-	10	R/W	
Degree minutes start additional heat	679	FC03 Holding Register	s16	-	1	R/W	
Degree minutes start compressor	97	FC03 Holding Register	s16	-	1	R/W	
Auto mode, start temperature for cooling	183	FC03 Holding Register	u8	-	10	R/W	
Auto mode, stop temperature for heating	184	FC03 Holding Register	s16	-	10	R/W	
Auto mode, additional heat stop temperature	185	FC03 Holding Register	s16	-	10	R/W	
Alarm action, lower room temperature	196	FC03 Holding Register	u8	-	1	R/W	
Alarm action lower HW temperature	197	FC03 Holding Register	u8	-	1	R/W	
Operating mode	237	FC03 Holding Register	u8	-	1	R/W	0 - auto 1 - manual 2 - add. heat only
Allow add.heat (at operation mode manual)	180	FC03 Holding Register	u8	-	1	R/W	0 - off 1 - on
Permit heating (at operation mode manual)	181	FC03 Holding Register	u8	-	1	R/W	0 - off 1 - on
Permit cooling (at operation mode manual)	182	FC03 Holding Register	u8	-	1	R/W	0 - off 1 - on
Pulse energy meter (BE7/BF3)	396	FC04 Input Register	u32	kWh	100	R	
Pulse energy meter (BE6/BF2)	398	FC04 Input Register	u32	kWh	100	R	
Calculated supply temp	1017	FC04 Input Register	s16	°C	10	R	
Calc supply temp cooling	1567	FC04 Input Register	s16	°C	10	R	
Total run time additional heat	1025	FC04 Input Register	s32	h	10	R	
Operating prioritisation	1028	FC04 Input Register	u8	-	1	R	10 - off 20 - hot water 30 - heat 40 - pool 60 - cooling
Add. heat steps	1029	FC04 Input Register	u8	-	1	R	
Compressor starter EP14	1083	FC04 Input Register	s32	-	1	R	

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Statistics compressor EP14	1087	FC04 Input Register	s32	h	1	R	
Flow measurement hot water (compressor incl. add)	1575	FC04 Input Register	u32	kWh	10	R	
Flow measurement (compressor incl. add.)	1577	FC04 Input Register	u32	kWh	10	R	
Flow measurement pool (compressor only)	1581	FC04 Input Register	u32	kWh	10	R	
Flow measurement hot water (compressor only)	1583	FC04 Input Register	u32	kWh	10	R	
Flow measurement heat (compressor only)	1585	FC04 Input Register	u32	kWh	10	R	
Active alarm	2195	FC04 Input Register	u8	-	1	R	0 - No alarm 1 - Active alarm
Alarm number	1975	FC04 Input Register	u16	-	1	R	
Instantaneous used power Used power with compressor and addition	2166	FC04 Input Register	u32	W	10	R	
Control calculated supply temp - heat	5009	FC03 Holding Register	s16	°C	10	R/W	
Control Calculated supply temp - cooling	5017	FC03 Holding Register	s16	°C	10	R/W	

Accessories

Shunt-contr add heat (EM1)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Boiler temperature (BT52)	38	FC04 Input Register	s16	°C	10	R	
External supply line (BT25)	39	FC04 Input Register	s16	°C	10	R	
Return temperature (BT71)	88	FC04 Input Register	s16	°C	10	R	
Shunt valve (QN11)	1034	FC04 Input Register	u8	-	1	R	10 - off 20 - active 30 - passive 40 - opening 50 - closing
Ext. heat. medium pump (GP10)	1066	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Step-contr add heat (EB1)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
External supply line (BT25)	39	FC04 Input Register	s16	°C	10	R	
Ret tmp (BT71)	88	FC04 Input Register	s16	°C	10	R	
Step add. heat type (ELK 26/42)	2454	FC04 Input Register	u8	-	1	R	
Ext. heat. medium pump (GP10)	1066	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Hot water circulation

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Outgoing hot water (BT70)	87	FC04 Input Register	s16	°C	10	R	
Hot water comfort return (BT82)	174	FC04 Input Register	s16	°C	10	R	
Hot water comfort heater (BT83)	175	FC04 Input Register	s16	°C	10	R	
Hot water circulation (GP11)	1063	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Ground water pump (AXC)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Circulation pump GP3	1835	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Extra climate system (ECS)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Supply temperature (BT2)	4	FC04 Input Register	s16	°C	10	R	
Return temperature (BT3)	77	FC04 Input Register	s16	°C	10	R	
Oper. mode shunt climate system 2	1032	FC04 Input Register	u8	-	1	R	0 - inactive 10 - off 20 - opening 30 - closing
Ext. heat. medium pump (GP10)	1825	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Shunt 0-10V	2401	FC04 Input Register	s8	-	0	R	

Shunt-contr brine (EP10)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Collector in (BT26)	106	FC04 Input Register	s16	°C	10	R	
Operating mode, shunt controlled brine (QN41)	2410	FC04 Input Register	u8	-	1	R	0 - closed 1 - open

Passive cooling (PCS 44)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Cooling temperature (EQ1-BT64)	30	FC04 Input Register	s16	°C	10	R	
Return line (EQ1-BT65)	31	FC04 Input Register	s16	°C	10	R	
Passive cooling pump (GP13)	1833	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Pool 40

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Pool temperature (BT51)	27	FC04 Input Register	s16	°C	10	R	
Diverter valve QN19	1134	FC04 Input Register	u8	-	1	R	0 - closed to pool 1 - open to pool
Circulation pump GP9/GP16	1828	FC04 Input Register	u8	-	1	R	0 - off 1 - on

Pool 310

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Pool temperature (BT51)	27	FC04 Input Register	s16	°C	10	R	
Diverter valve QN19	1134	FC04 Input Register	u8	-	1	R	0 - closed to pool 1 - open to pool
Charge pump speed (EQ1-GP12)	1589	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Circulation pump GP9/GP16	1828	FC04 Input Register	u8	-	1	R	0 - off 1 - on

ACS 45

Passive/active cooling 4-pipe

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Cooling temperature (BT64)	30	FC04 Input Register	s16	°C	10	R	
External supply line (BT25)	39	FC04 Input Register	s16	°C	10	R	
Return temperature (BT71)	88	FC04 Input Register	s16	°C	10	R	
Collector temperature (BT57)	90	FC04 Input Register	s16	°C	10	R	
Heating dump temperat. (BT75)	91	FC04 Input Register	s16	°C	10	R	
Heat dump QN36	1569	FC04 Input Register	u8	-	1	R	10 - off 20 - opening 30 - closing
Shunt valve QN18	1570	FC04 Input Register	u8	-	1	R	10 - off 20 - opening 30 - closing
Diverter valve QN12	1830	FC04 Input Register	u8	-	1	R	0 - closed 1 - open
ACS EQ1-GP14	1831	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Status ACS 45	1568	FC04 Input Register	u8	-	1	R	3 - passive 7 - active

ACS 310

Passive/active cooling 4-pipe

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Cooling temperature (BT64)	30	FC04 Input Register	s16	°C	10	R	
Charge pump speed (EQ1-GP12)	1589	FC04 Input Register	u8	-	1	R	0 - off 1 - on
Passive cooling pump (GP13)	1833	FC04 Input Register	u8	-	1	R	0 - off 1 - on

EME 20

Photovol control (EME20)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Current power	2176	FC04 Input Register	u32	W	1	R	
Total average power (Solar PV)	2178	FC04 Input Register	u32	W	1	R	
Total energy	2180	FC04 Input Register	s32	kWh	10	R	
Solar energy used for	2726	FC04 Input Register	u16	-	1	R	1 - hot water 2 - heat

ERS 40

Ventilation heat exchanger (ERS S40 1)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Exh. air (AZ30-BT20)	2202	FC04 Input Register	s16	°C	10	R	
Extr. air (AZ30-BT21)	2203	FC04 Input Register	s16	°C	10	R	
Supp. air (AZ30-BT22)	2204	FC04 Input Register	s16	°C	10	R	
Outd temperature (AZ30-BT23)	2205	FC04 Input Register	s16	°C	10	R	
Humidity (AZ30-BM20)	2206	FC04 Input Register	s16	RH	10	R	

Ventilation heat exchanger (ERS S40 2)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Exh. air (AZ31-BT20)	2207	FC04 Input Register	s16	°C	10	R	
Extract air (AZ31-BT21)	2208	FC04 Input Register	s16	°C	10	R	
Supply air (AZ31-BT22)	2209	FC04 Input Register	s16	°C	10	R	
Outd temperature (AZ31-BT23)	2210	FC04 Input Register	s16	°C	10	R	
Exh. air (AZ10-BT20)	2211	FC04 Input Register	s16	RH	10	R	

Ventilation heat exchanger (ERS S40 3)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Exh. air (AZ32-BT20)	2212	FC04 Input Register	s16	°C	10	R	
Extract air (AZ32-BT21)	2213	FC04 Input Register	s16	°C	10	R	
Supply air (AZ32-BT22)	2214	FC04 Input Register	s16	°C	10	R	
Outd temperature (AZ32-BT23)	2215	FC04 Input Register	s16	°C	10	R	
Humidity (AZ32-BM20)	2216	FC04 Input Register	s16	RH	10	R	

Ventilation heat exchanger (ERS S40 4)

Function	ID	Type of register	Size	Unit	Factor	Mode	Status
Exh. air (AZ33-BT20)	2217	FC04 Input Register	s16	°C	10	R	
Extract air (AZ33-BT21)	2218	FC04 Input Register	s16	°C	10	R	
Supply air (AZ33-BT22)	2219	FC04 Input Register	s16	°C	10	R	
Outd temperature (AZ33-BT23)	2220	FC04 Input Register	s16	°C	10	R	
Humidity (AZ33-BM20)	2221	FC04 Input Register	s16	RH	10	R	

Aux from modbus

Software version 2.4.3 or later is required for the AUX function via Modbus.

Function	ID	Type of register	Size	Mode	Status
Control AUX via modbus	2741	FC03 Holding Register	s16	R/W	0 - off 1 - on
Activate function	2740	FC03 Holding Register	u8	R/W	See ID below

The function is activated by sending the ID of the desired function to register **2740**. For example, to block additional heat, send the number 3 to 2740.

To turn on or off the function, send the number 0 or 1 to register 2741.

Function	ID	Mode	Status
Activate hot water large	1	W	0 - off 1 - on
Activate external adjustment	2	W	0 - off 1 - on
Block additional heat	3	W	0 - off 1 - on
Block compressor (EP14)	4	W	0 - off 1 - on
Block compressor (EP15)	5	W	0 - off 1 - on
Block heating	6	W	0 - off 1 - on
Block cooling	7	W	0 - off 1 - on
Fan speed 1	8	W	0 - off 1 - on
Fan speed 2	9	W	0 - off 1 - on
Fan speed 3	10	W	0 - off 1 - on
Fan speed 4	11	W	0 - off 1 - on
Hot water top (BT7)	12	R	
Level monitor brine	13	W	0 - on 1 - off
Operating mode brine pump	14	W	0 - off 1 - on
Room temperature (BT50)	15	R	
External supply line (BT25)	16	R	
Outdoor temperature (BT28)	17	R	
Cool/ht sensor (BT74)	18	R	
Tariff blocking	19	W	0 - off 1 - on
SG ready, input A	20	W	0 - off 1 - on
SG ready, input B	21	W	0 - off 1 - on
External alarm (NC)	22	W	0 - on 1 - off
External alarm (NO)	23	W	0 - off 1 - on
Additional heat (BT63)	24	R	
Cooling temperature (BT64)	25	R	

Function	ID	Mode	Status
Boiler sensor (BT52)	26	R	
Return temperature (BT71)	27	R	
External cooling supply temperature (BT25)	28	R	
Block (EB101)	29	W	0 - off 1 - on
Block (EB102)	30	W	0 - off 1 - on
Block Plusadjust	32	W	0 - off 1 - on
Block ext additional heat	33	W	0 - off 1 - on
Block hot water	34	W	0 - off 1 - on
FLM 1 BT50	36	R	
FLM 2 BT50	37	R	
FLM 3 BT50	38	R	
FLM 4 BT50	39	R	
Activate hot water small	41	W	0 - off 1 - on
Stove monitor	42	W	0 - on 1 - off
Low pressure, climate system (NC, alarm 398)	44	W	0 - on 1 - off
Hot water start (BT5)	48	R	
Ext. temp. sensor (BT37.1)	49	R	
Ext. temp. sensor (BT37.2)	50	R	
Compr. control cooling	51	W	0 - off 1 - on
Compr. control cooling EB101	53	W	0 - off 1 - on
Compr. control cooling EB102	54	W	0 - off 1 - on
Flow monitor, brine NC	56	W	0 - on 1 - off
Flow monitor, brine (NO)	57	W	0 - off 1 - on
Activate heating	58	W	0 - off 1 - on
Activate cooling	59	W	0 - off 1 - on
Hot water comfort return (BT82)	60	R	
Outgoing hot water (BT70)	61	R	
Ext. temp. sensor (BT37.3)	62	R	
Ext. temp. sensor (BT37.4)	63	R	
Ext. temp. sensor (BT37.5)	64	R	
Ext. temp. sensor (BT37.6)	65	R	
External request for power limiting	66	R	0 - off 1 - on
Flow monitor, brine	67	W	0 - on 1 - off

External sensors

Software version 2.21.12 or later required.

Can be activated in menu 7.5.9.2
Read/write S16, factor 1

The following Modbus register is used for external sensors

Outdoor temperature BT1 = 5217
Hot water start BT5 = 5220
Hot water charging BT6 = 5221
Hot water top BT7 = 5222
External supply line BT25 = 5218
Pool 1 temperature BT51 = 5223
Pool 2 temperature BT51 = 5224
Boiler temperature BT52 = 5225
Return temperature BT71 = 5219
Room sensor BT50 = 5987

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