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H-Control System Parameter Description

Index

1. DESCRIPTION OF SYSTEM PARAMETERS YOU'LL FIND IN THE SERVICE MENU 3
2. INPUT/OUTPUT NUMBER LIST AND TYPES OF SIGNALS USED IN THE H-CONTROL SYSTEM 4
2.1. Digital inputs 4
2.2. Temperature inputs 4
2.3. Analog inputs 5
2.4. Digital outputs 5
2.5. Analog inputs 5
2.6. Modbus addresses 5
3. LIST OF SERVICE MENU PARAMETERS AND THEIR FUNCTIONS 6
3.1. IN1 – input parameters 1 6
3.2. IN2 – input parameters 2 7
3.3. SHED – AHU operation control 8
3.4. MB_S – Modbus Slave 9
3.5. D – plate heat recovery 10
3.6. SM – mixing 11
3.7. OV – water heater 12
3.8. OE1 – electric heater 1 13
3.9. OE2 – electric heater 2 14
3.10. TC1 –C.I.C. heat pump 1 15
3.11. TC2 –C.I.C. heat pump 2 16
3.12. R – rotary heat recovery 17
3.13. OG – gas heater 18
3.14. RG – glycolic recovery 19
3.15. ZP – steam humidification 20
3.16. UI010 – Setting remote (room) controller rights 21
3.17. CV – water cooler 22
3.18. CP – direct cooling 23
3.19. CI1 – inverter cooling 1 24
3.20. CI2 – inverter cooling 2 25
3.21. TS – software thermostats 26
3.22. W – fan run request 28

1. Description of system parameters you'll find in the service menu

You'll find the parameter setting of the service menu after login into H-control system Web interface under the "Level 1" service level. Press the "SERVICE" button, then the "ParamEdit" button and you'll find the setting in menus under buttons:

IN1	Input parameters 1
IN2	Input parameters 2
SHED	AHU operation control
MB_S	Modbus Slave
UI010	Setting rights for remote (room) controller
TS	Software thermostats
D	Plate heat recovery
R	Rotary heat recovery
RG	Glycolic recovery
W	Fun run request
SM	Mixing
OG	Gas heater
OV	Water heater
CV	Water cooler
OE1	Electric heater 1
OE2	Electric heater 2
CP	Direct cooling
CI1	Inverter cooling 1
CI2	Inverter cooling 2
TC1	C.I.C. heat pump 1
TC2	C.I.C. heat pump 2
ZP	Steam humidification

Abbreviations used:

DI	Digital input
DO	Digital output (relay, TRIAC)
TI	Temperature input
AI	Analog input (0-10 V, 4-20 mA)
AO	Analog input (0-10 V)
NO	Digital input/output type: normally open, connected when reporting event
NC	Digital input/output type: normally closed, disconnected when reporting event

The "Position in Built-in field" parameter gives the control sequence of AHU parts (built-in parts) that affect the resulting requirements for controlled variables (parameter cannot be changed). Other parameters can be changed with respect to their function. If you are not absolutely sure about the change, find the meaning of the parameter in question in the tables below.

If the "Usual setting" field of the table reads "0", look at the electrical diagram (in switchboard documentation) and assign the appropriate inputs/outputs (if desired).

After any parameter changes do not forget to save the changes and restart the control unit!

In case of any questions do not hesitate to contact us.

2. Input/output number list and types of signals used in the H-Control system

2.1. Digital inputs

Number	Location	Signal
0	FALSE constant (disconnected contact)	
1	DI1 regulator	+ 24 V =
2	DI2 regulator	+ 24 V =
3	DI3 regulator	+ 24 V =
4	DI4 regulator	+ 24 V =
5	DI5 regulator	+ 24 V =
6	DI6 regulator	+ 24 V =
7	DI7 regulator	+ 24 V =
8	DI8 regulator	+ 24 V =
9	TRUE constant (connected contact)	
10	Freq. inverter (supply) input:	18 (acc. to FI)
11	Freq. inverter (supply) input:	19 (acc. to FI)
12	Freq. inverter (supply) input:	27 (acc. to FI)
13	Freq. inverter (supply) input:	29 (acc. to FI)
14	Freq. inverter (supply) input:	33 (acc. to FI)
20	Freq. inverter (exhaust) input:	18 (acc. to FI)
21	Freq. inverter (exhaust) input:	19 (acc. to FI)
22	Freq. inverter (exhaust) input:	27 (acc. to FI)
23	Freq. inverter (exhaust) input:	29 (acc. to FI)
24	Freq. inverter (exhaust) input:	33 (acc. to FI)

2.2. Temperature inputs

Number	Location	Signal	Note
1	T1 + E1 regulator	KTY	
2	T1 + E2 regulator	KTY	
3	T1 + E3 regulator	KTY	
4	T1 + E4 regulator	KTY	
5	T1 + E5 regulator	KTY	
6	T1 + E6 regulator	KTY	
7	Low pressure HP sensor	4-20 mA	Evap. t.
8	High pressure HP sensor	4-20 mA	Cond. t.
9	Room unit (temperature)	RS-485	
11	T2 + E1 regulator	Pt1000	
12	T2 + E2 regulator	Pt1000	
13	T2 + E3 regulator	Pt1000	
14	T2 + E4 regulator	Pt1000	
15	T2 + E5 regulator	Pt1000	
16	T2 + E6 regulator	Pt1000	
21	GND + E1 regulator	0-10 V	0-50 °C
22	GND + E2 regulator	0-10 V	0-50 °C
23	GND + E3 regulator	0-10 V	0-50 °C
24	GND + E4 regulator	0-10 V	0-50 °C
25	GND + E5 regulator	0-10 V	0-50 °C
26	GND + E6 regulator	0-10 V	0-50 °C

2.3. Analog inputs

Number	Location	Signal
1	E1 regulator	0-10 V 0,4-20 mA
2	E2 regulator	0-10 V 0,4-20 mA
3	E3 regulator	0-10 V 0,4-20 mA
4	E4 regulator	0-10 V 0,4-20 mA
5	E5 regulator	0-10 V 0,4-20 mA
6	E6 regulator	0-10 V 0,4-20 mA
9	Room unit (humidity)	RS-485
10	Freq. inverter (supply) input:	53, 0-10 V
11	Freq. inverter (supply) input:	60, 4-20 mA
20	Freq. inverter (exhaust) input:	53, 0-10 V
21	Freq. inverter (exhaust) input:	60, 4-20 mA

2.4. Digital outputs

Number	Location	Type	Note
0	Not connected		
1	K1, K2 regulator	TRIAC	Max. 100 mA
2	A-K2 regulator	Relay	Max. 2 A 250 V
3	B-K3 regulator	Relay	Max. 2 A 250 V
4	C-K4 regulator	Relay	Max. 2 A 250 V
5	C-K5 regulator	Relay	Max. 2 A 250 V
6	D-K6 regulator	Relay	Max. 2 A 250 V
7	D-K7 regulator	Relay	Max. 2 A 250 V
8	D-K8 regulator	Relay	Max. 2 A 250 V
10	Freq. inverter (supply)	Relay	Max. 2 A 250 V
20	Freq. inverter (exhaust)	Relay	Max. 2 A 250 V

2.5. Analog inputs

Number	Location	Signal
1	A1 regulator	0-10 V
2	A2 regulator	0-10 V
3	A3 regulator	0-10 V
4	A4 regulator	0-10 V
5	A5 regulator	0-10 V
6	A6 regulator	0-10 V

2.6. Modbus addresses

Address	Device	
11	Freq. inverter (supply)	FC51, 102
21	Freq. inverter (exhaust)	FC51, 102
30	Steam humidifier	CONDAIR CP3 Pro
31	Rot. heat recover freq. inverter	FC51, 102
95	HP1 compressor freq. inverter	FC51, 102
96	HP2 compressor freq. inverter	FC51, 102

3. List of service menu parameters and their functions

3.1. IN1 – input parameters 1

	Parameter	Usual setting	IN1 – input parameters 1
0	Index v aVest	1	Always 1
1	Vyrobni cislo	1111	Serial number of unit - appears on display and web
2	DI Zanes Filtr1 Priv	10	Number of dig. input to which a NC filter differential manometer is connected
3	DI Zanes Flitr2 Priv	0	As above
4	DI Zanes Filtr 1 Odv	20	As above
5	DI Zanes Filtr2 Odv	0	As above
6	DO Hlas. CHOD	4	Number of dig. input reporting operation
7	DO Hlas.VYSTRAHA	0	Number of dig. input reporting warning
8	DO Hlas.NE PORUCHA	5	Number of dig. input reporting not error
9	TI cerstvy vzduch	1	Number of thermometer input to which a thermometer for fresh (outdoor) air is connected
10	TI privodni	2	Number of thermometer input to which a thermometer for supply air (supplied to the room) is connected
11	TI odvodni	3	Number of thermometer input to which a thermometer for exhaust air (drained away from the room) is connected
12	TI odpadni	4	Number of thermometer input to which a thermometer for waste air (blown out of the unit) is connected
13	TI teplota ref	2	Number of thermometer input to which a thermometer used for regulation is connected. It could be the same as supply (regulation of supply air temperature), exhaust (regulation to exhaust air temperature) or suitably placed separate reference thermometer.
14	PI_P:0.1.x zes.tepl.	200	Proportional constant of the main temperature PI regulator (when regulating to the exhaust or reference temperature)
15	PI_I: cas v Sec	480	Integral constant of the main temperature PI regulator

3.2. IN2 – input parameters 2

	Parameter	Usual setting	IN2 – input parameters 2
0		0	
1	Al vlhkost cerstvy	0	Number of analog input fed by a signal of fresh air hygrometer 0~10 V = 0~100 %
2	Al vlhkost privodni	0	Number of analog input fed by a signal of supply air hygrometer 0~10 V = 0~100 %
3	Al vlhkost odvodni	0	Number of analog input fed by a signal of exhaust air hygrometer 0~10 V = 0~100 %
4	Al vlhkost odpadni	0	Number of analog input fed by a signal of waste air hygrometer 0~10 V = 0~100 %
5	Al vlhkost ref.	0	Number of analog input fed by a signal of reference air hygrometer 0~10 V = 0~100 %
6	PI_P:0.1x zes.vlhk	200	Proportional constant of the main humidity PI regulator
7	PI_I: cas v Sec	600	Integral constant of the main humidity PI regulator
8	Jazyk: 1-CZ, 2-EN	1	Language of service menu parameters: 1 - Czech, 2 - English
9			
10			
11			
12	Al CO ref	0	Number of analog input to which the CO_2 sensor used for regulation is connected
13	Rozsah cidla: ppm	0	Measuring range of air quality sensor (e.g.: 0-2000 ppm = 0-10 V) - type in 2000
14	PI_P:0.1x zesil.CO	2000	Proportional constant of air quality PI regulator
15	PI_I: cas v Sec	480	Integral constant of air quality PI regulator

3.3. SHED – AHU operation control

	Parameter	Usual setting	SHED – AHU operation control
0	DI CHOD dle AUTOMATU	9	If this DI is switched on, unit runs under time schedule
1	DI CHOD dle BOD1	0	If this DI is switched on, unit runs under point 1
2	DI CHOD dle BOD2	0	If this DI is switched on, unit runs under point 2
3	DI CHOD dle BOD3	0	If this DI is switched on, unit runs under point 3
4	DI CHOD dle BOD4	0	If this DI is switched on, unit runs under point 4
5	DI CHOD dle BOD5	0	If this DI is switched on, unit runs under point 5
6	DI CHOD dle BOD6	0	If this DI is switched on, unit runs under point 6
7	DI CHOD dle BOD7	0	If this DI is switched on, unit runs under point 7
8	DI CHOD dle BOD8	0	If this DI is switched on, unit runs under point 8
9	DI STOP od EPS – NC	2 (9)	After disconnecting the DI, unit stops
10	DO CHOD dle BOD1	0	Number of digital input reporting run under operating point 1
11	DO CHOD dle BOD2	0	Number of digital input reporting run under operating point 2
12	DO CHOD dle BOD3	0	Number of digital input reporting run under operating point 3
13	DO CHOD dle BOD4	0	Number of digital input reporting run under operating point 4
14			
15			

3.4. MB_S – Modbus Slave

	Parameter	Usual setting	MB_S – Modbus Slave
0	Modbus Address	1..127	Unit address as Modbus Slave to 2D+/2D- if 0, the function is turned off
1	Baud Rate	9600	Baud rate
2	Parity	0	0 - none, 1 - odd, 2 - even
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

3.5. D – plate heat recovery

	Parameter	Usual setting	D – plate heat recovery
0	Pozice v aVest	0	Position in Built-in field
1	Ucinnost %	55	Nominal efficiency of plate HRV in %
2	DI namraza rek. NC	9	Differential pressure sensor input for monitoring freezing of plate heat exchanger
3	DO servo open	0	3-way servo control – servo opens
4	DO servo close	0	3-way servo control – servo closes
5	AO servo analog	0	Servo voltage control 2~10 V (Belimo)
6	PI_P:0.1x zesileni	26	Proportional constant of plate heat recovery PI regulator
7	PI_I: cas v Sec	88	Integral constant of plate heat recovery PI regulator
8	Aktivace PMO °C ODA	-5	Activation temperature for antifreeze protection of plate heat exchanger from outdoor (fresh) air
9	Tepl. EHA pro PMO °C	5	Activation temperature for antifreeze protection of plate heat exchanger in waste air (behind the exchanger)
10			
11			
12			
13			
14			
15			

3.6. SM – mixing

	Parameter	Usual setting	SM - mixing
0	Pozice v aVest	0	If there is mixing, than position in Built-in field ≠ 0
1	ODV:0-NE,1-ODV,2-ODP	1	Exhaust fan position. 0 – if not used, 2 – exhaust fan placed in exhaust air, 2 – exhaust fan placed in waste air.
2	DO VEN open	8,0	Outdoor air damper – 2 or 3-point servo opens
3	DO VEN close	0,0	Out. air damper – 3-point servo closes
4	AO VEN	0,2	Out. air damper – servo voltage control 2-10 V
5	DO ODP open	8,0	Waste air damper – 2 or 3-point servo opens
6	DO ODP close	0,0	Waste air damper – 3-point servo closes
7	AO ODP	0,3	Waste air damper – servo voltage control 2-10 V
8	DO MIX open	0,0	Mixing damper – 2 or 3-point servo opens
9	DO MIX close	0,0	Mixing damper – 3-point servo closes
10	AO MIX	0,4	Mixing damper – servo voltage control 2-10 V
11	0=AHU,1=T,2=RT	0	0 = air handling unit, 1 = pool dehumidification unit with heat pump, 2 = pool dehumidification unit with heat pump and plate heat recovery
12			
13			
14			
15			

3.7. OV – water heater

	Parameter	Usual setting	OV – water heater
0	Pozice v aVest	0	Position in Built-in field
1	Ohrev o st.C	20	Rated heating (by how much heater heats up at full power)
2	PI_P:0.1x zesileni	88	Proportional constant of heater PI regulator
3	PI_I: cas v Sec	90	Integral constant of heater PI regulator
4	DI PMO – NC	9	Antifreeze protection capillary input
5	TI Teplota zpatecky	5	Thermometer input on heater reverse
6	TI Ref. teplota.	2	Reference thermometer measuring output air temperature behind heater
7	DO Cerpadlo CHOD	0	Circulatory pump run / heating water request
8	DO Servo open	0	3-way valve servo – opens
9	DO Servo close	0	3-way valve servo – closes
10	AO servo analog	0	3-way valve servo – voltage control 2-10 V
11	St.C PMO alarm	5	At this temperature the reverse reports alarm
12	St.C PMO aktivace	15	System tries to keep the minimum reverse temperature at this level
13	Max teplota st.C	40	Maximum output temperature behind exchanger
14	DI NC porucha cerp.	9	Disconnecting contact for circulatory pump error input
15			

3.8. OE1 – electric heater 1

	Parameter	Usual setting	OE1 – electric heater 1
0	Pozice v aVest	0	Position in Built-in field
1	Ohrev o st.C	20	Rated heating (by how much heater heats up at full power)
2	PI_P: 0.1x zesileni	88	Proportional constant of heater PI regulator
3	PI_I: cas v Sec	120	Integral constant of heater PI regulator
4			
5	DI termostat 60C NC	0	Operating thermostat 60 °C
6	DI termostat 80C NO	0	Emergency thermostat 80 °C
7	TI ref.teplomer	2	Reference thermometer measuring output air temperature behind heater
8	AO Sekce SSR	0	Signal for SSR section 0-10 V
9	Max vyst teplota C	40	Maximum output temperature behind exchanger
10			
11			
12			
13			
14			
15			

3.9. OE2 – electric heater 2

	Parameter	Usual setting	OE2 – electric heater 2
0	DO sekce SSR – PWM	1	Output to which a solid state relay is connected
1	DO sekce 1	0	Output for 1. section contactor
2	DO sekce 2	0	Output for 2. section contactor
3	DO sekce 3	0	Output for 3. section contactor
4	DO sekce 4	0	Output for 4. section contactor
5	DO sekce 5	0	Output for 5. section contactor
6	DO sekce 6	0	Output for 6. section contactor
7	DO sekce 7	0	Output for 7. section contactor
8	% vykonu v sekci SSR	100	how many percent of heater power this section consists
9	% vykonu v sekci 1	0	how many percent of heater power this section consists
10	% vykonu v sekci 2	0	how many percent of heater power this section consists
11	% vykonu v sekci 3	0	how many percent of heater power this section consists
12	% vykonu v sekci 4	0	how many percent of heater power this section consists
13	% vykonu v sekci 5	0	how many percent of heater power this section consists
14	% vykonu v sekci 6	0	how many percent of heater power this section consists
15	% vykonu v sekci 7	0	how many percent of heater power this section consists

3.10. TC1 –C.I.C. heat pump 1

	Parameter	Usual setting	TC1 – C.I.C. heat pump 1
0	Pozice v aVest	0	Position in Built-in field
1	Ohrev o st.C	15	Rated heating (by how many °C pump heats up at full power)
2	Ochlazeni o st. C	15	Rated cooling (by how many °C pump cools down at full power)
3	PI_P: 0.1x zesileni	150	Proportional constant of PI regulator
4	PI_I: cas v Sec	200	Integral constant of PI regulator
5	poz. aVest predehrev	0	Built-in position securing condenser pre-heating in winter
6	TI ref.teplomer	2	Reference thermometer measuring output air temperature behind heat pump
7	DI sled fazi NC	0	Input for phase sequence evaluation relay
8	DI NT NC	0	Input for low-pressure protection switch
9	DI VT NC	0	Input for high-pressure protection switch
10	AI NT	11	Input for low pressure exchanger 4-20 mA - 80..700 kPa
11	AI VT	21	Input for high pressure exchanger 4-20 mA 0..3 MPa
12	DO komp1 chod	0	Output for 1. compressor contactor (95 = exchanger)
13	DO komp2 chod	0	Output for 2. compressor contactor (96 = exchanger)
14	DO komp1 digital	1	Output for digital compressor control coil ((open = compressing, closed = not compressing)
15	DO reverz	0	Output for reverse 4-way valve coil (open = heating, closed = cooling)

3.11. TC2 –C.I.C. heat pump 2

	Parameter	Usual setting	TC –C.I.C. heat pump 2
0	AO klapka cerst.vzd.	0	Output for outdoor/waste air damper
1	T kond max st.C	45	Maximum condensing temperature
2	Velikost kompr.1 ZR:	22..250	For FI-controlled compressors
3	Velikost kompr.1 ZR:	22..250	For FI-controlled compressors
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

3.12. R – rotary heat recovery

	Parameter	Usual setting	R – rotary heat recovery
0	Pozice v aVest	0	Position in Built-in field
1	Ucinnost %	60	Rotary heat recovery efficiency in %
2	Vykon % pro bypass	0	Air flow rate in %, at which the rotary heat recovery bypass dampers open
3	DO bypass	0	Digital output for bypass dampers opening (open/closed)
4			
5			
6	PI_P:0.1x zesileni	26	Proportional constant of rotary heat recovery PI regulator
7	PI_I: cas v Sec	88	Integral constant of rotary heat recovery PI regulator
8	Aktivace PMO °C ODA,	-10	Activation temperature for antifreeze protection of plate heat exchanger from outdoor (fresh) air
9	Tepl. EHA pro PMO °C	-5	Activation temperature for antifreeze protection of plate heat exchanger in waste air (behind the exchanger)
10			
11			
12			
13			
14			
15			

3.13. OG – gas heater

	Parameter	Usual setting	OG – gas heater
0	Pozice v aVest	0	Position in Built-in field
1	Delta t st.C	35	Rated heating (by how many °C heater heats up at full power)
2	PI_P: 0.1x zesileni	88	Proportional constant of gas heating PI regulator
3	PI_I: cas v Sec	90	Integral constant of gas heating PI regulator
4	DI NC porucha horaku	0	Disconnecting contact of gas burner error
5	DI nahrati kotle NO	0	Connecting operating thermostat of gas burner (forced fans run)
6	TI ref. Teplomer	2	Reference thermometer measuring output air temperature behind heater
7	TI teplota spalin	0	Reference thermometer measuring flue gas output temperature (Pt 1000)
8	DO chod	0	Digital output, gas heater run
9	DO horak up	0	Digital output for 3-point control of gas heater operation (power increase)
10	DO horak down	0	Digital output for 3-point control of gas heater operation (power reduction)
11	AO horak vykon	0	Analog control of gas heater power (0-10 V = 0-100 %)
12	AO bypass klapka	0	Output for gas heater bypass damper (0-10 V)
13	Dobeh v Sec	80	Forced fan run until gas burner cools down (in sec.)
14	Min.vykon 0..1000	290	Real minimum power at which burner is able to work (45 % = 450)
15	DobaPrestaveni v Sec	17	Real time of adjustment of burner power from minimum to maximum

3.14. RG – glycolic recovery

	Parameter	Usual setting	RG – glycolic recovery
0	Pozice v aVest	0	Position in Built-in field
1	Ucinnost %	25	Glycolic recovery efficiency in %
2	DO Cerpadlo CHOD	0	Digital output for glycolic recovery circulatory pump
3	DO servo open	0	3-point servo control – servo opens
4	DO servo close	0	3-point servo control – servo closes
5	AO servo analog	0	Servo voltage control 2~10 V (Belimo)
6	PI_P:0.1x zesileni	26	Proportional constant of glycolic recovery PI regulator
7	PI_I: cas v Sec	88	Integral constant of glycolic recovery PI regulator
8	DI Porucha NC	9	Disconnecting contact of glycolic recovery error (pump, level sensor etc.)
9			
10			
11			
12			
13			
14			
15			

3.15. ZP – steam humidification

	Parameter	Usual setting	ZP – steam humidification
0	Pozice v aVest	0	Position in Built-in field
1	0.1 g/kg s.v. navlhc	0	By how much the humidifier is able to humidify (in g/kg * 0,1)
2	DO chod zvlhcovace	0	Digital output humidifier run command
3	AO vykon zvlhcovace	0	Analog output of humidifier power control (0-10 V = 0-100 %)
4	DI por. zvlhcov. NC	0	Digital output disconnecting contact of humidifier error
5	MB zarizeni 0,3		Humidifier control by MODBUS protocol, device address (CONDAIR CP3)
6			
7			
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9			
10			
11			
12			
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3.16. UI010 – Setting remote (room) controller rights

Room controller can be configured in different ways according to the requirements for qualified operators, or just used as a display unit.

Individual options can either be turned on or off (0 - off, 1 - on) or you can select the limit values for temperature, relative humidity and CO_2 concentration.

	Parameter	Usual setting	UI010 –Setting remote (room) controller rights
0	Nepoužito	0	Not used
1	Lze STOP 0/1	1	Allows to turn AHU off from room controller (0 - off, 1 - on)
2	Lze bod1 0/1	1	Allows to select operating point 1 from remote controller (0 - off, 1 - on)
3	Lze bod2 0/1	1	Allows to select operating point 2 from remote controller (0 - off, 1 - on)
4	Lze Tyden. Kalend 0/1	1	Allows to select run by weekly schedule from remote controller (0 - off, 1 - on)
5	Menit Prutok	1	Allows to change fan rotation speed from remote controller (0 - off, 1 - on)
6	Menit Cerstvy	0	Allows to change % of fresh air from remote controller. If this function is on, any change of operating point sets the % of fresh air to zero (default)! (0 - off, 1 - on)
7	Menit Teplotu	1	Allows user to set temperature from room controller in the range of “Min nast. T °C” and “Max nast. T °C”
8	Menit vlhkost	0	Allows user to change relative humidity from room controller in the range of “Min nast. rH %” and “Max nast. rH %”
9	Menit koncentraci	0	Allows user to change CO_2 concentration from room controller in the range “Min nast. Konc %” and “Max nast. Konc %”
10	Min nast. T °C	15	Allows setting minimum desired temperature (in °C)
11	Max. nast. T °C	30	Allows setting maximum desired temperature (v °C)
12	Min nast. rH %	25	Allows setting minimum desired relative air humidity (in % rH)
13	Max. nast. rH %	95	Allows setting maximum desired relative air humidity (in % rH)
14	Min nast. Konc %	500	Allows setting minimum desired relative air quality (in ppm CO_2)
15	Max. nast Konc %	2500	Allows setting maximum desired relative air quality (in ppm CO_2)

3.17. CV – water cooler

	Parameter	Usual setting	CV – water cooler
0	Pozice v aVest	0	Position in Built-in field
1	Ochlazení o st. C	15	Rated cooling (by how many °C cooler cools down at full power)
2	PI_P: 0.1x zesileni	88	Proportional constant of water cooling PI regulator
3	PI_I: cas v Sec	90	Integral constant of water cooling PI regulator
4	DI zamrza NC	9	Digital out for disconnecting contact of water cooler freeze
5	TI ref teplota	2	Reference thermometer measuring output air temperature behind cooler
6	DO cerpadlo Chod	0	Circulatory pump run / cooling water request
7	DO servo open	0	3-way valve servo – opens
8	DO servo close	0	3-way valve servo – closes
9	AO servo analog	0	3-way valve servo – voltage control 2-10 V (Belimo)
10			
11			
12			
13			
14			
15			

3.18. CP – direct cooling

	Parameter	Usual setting	CP – direct cooling
0	Pozice v aVest	0	Position in Built-in field
1	Chlazeni o st.C	15	Rated cooling (by how many °C cooler cools down at full power)
2	PI_P:0.1x zesileni	88	Proportional constant of direct cooling PI regulator
3	PI_I: cas v Sec	180	Integral constant of direct cooling PI regulator
4	TI Ref. teplota.	2	Reference thermometer measuring output air temperature behind cooler
5	DI Porucha kond. NC	0	Digital output disconnecting contact of cooling unit error
6	DO povel chod	0	Digital output for cooling unit run command
7	AO % vykonu	0	Analog output, cooling unit power control (0-10 V = 0-100 %)
8	DO 1.sekce	0	Dig. output direct compressor control (section 1)
9	DO 2.sekce	0	Dig. output direct compressor control (section 2)
10	DO 3.sekce	0	Dig. output direct compressor control (section 3)
11	DO 4.sekce	0	Dig. output direct compressor control (section 4)
12	% vykonu v sekci 1	0	% of power in section 1
13	% vykonu v sekci 2	0	% of power in section 2
14	% vykonu v sekci 3	0	% of power in section 3
15	% vykonu v sekci 4	0	% of power in section 4

3.19. CI1 – inverter cooling 1

	Parameter	Usual setting	CI1 – inverter cooling 1
0	Pozice v aVest	0	Position in Built-in field
1	Typ inverteru 0,1..3	0	Type of known inverter: 0 - general inverter - only transmits the converted temperature, 1 - Sanyo AHU Box + ACC-SP1AG(B), 2 - Daikin EKEQFCB, 3 - Toshiba RAV DI KIT + RBC-FDP2-BMS-PE
2	TI ref. Teplomer	2	Reference thermometer measuring output air temperature behind inverter
3	DI NC Error	0	Digital input, disconnecting contact of inverter error
4	DI NO Defrost	0	Digital input, connecting contact for unit defrosting
5	DO Run	0	Digital output, general run command (cooling or heating)
6	DO Cool	0	Digital output, cooling run command (cooling only)
7	DO Heat	0	Digital output, heating run command (heating only)
8	AO Temp	0	For type: 0 – acc. to parameter “Typ0: 0,1 st C pro 0 V” “LTyp0: 0,1 st C pro 10 V”, 1- 0..50 °C is in the range 0-10 V, 2- -5K .. +5K is in the range 0..10 V, 3- 18 °C corresponds to 1,3 V, 30 °C corresponds to 9,0 V
9	AO Mode1	0	Analog output (0-10 V) M1, for voltage control of condensing unit mode
10	AO Mode2	0	Analog output (0-10 V) M2, for voltage control of condensing unit mode
11	Ohrev o st.C	15	Rated heating (by how many °C heats up at full power)
12	Ochlazeni o st.C	15	Rated cooling (by how many °C cools down at full power)
13	Odvhceni o 0.1g/kg	0	Rated dehumidification (by how many 0.1 g/kg dehumidifies at full power)
14			
15			

3.20. CI2 – inverter cooling 2

	Parameter	Usual setting	CI2 – inverter cooling 2
0	Nepoužito	0	Not used
1	Typ0: 0.1stC pro 0V	180	Desired temperature at 0 V voltage (temperature in °C * 10)
2	Typ0: 0.1stC pro 10V	300	Desired temperature at 10 V voltage (temperature in °C * 10)
3	Utop 0.1V 100*M2+M1	6633	In case of heating request generates voltage of 6.6 V to “AO Mode2" output and voltage of 3.3 V to "AO Mode1" output (valid range 0-9999)
4	Uchl 0.1V 100*M2+M1	1575	In case of heating request generates voltage of 1.5 V to “AO Mode2" output and voltage of 7.5 V to "AO Mode1" output (valid range 0-9999)
5	Uodvl0.1V 100*M2+M1	9999	In case of heating request generates voltage of 9.9 V to “AO Mode2" output and voltage of 9.9 V to "AO Mode1" output (valid range 0-9999)
6		0	
7		0	
8		0	
9		0	
10		0	
11	T1:Sanyo AHUBox	0	Help: for condensing unit types see the “Typ inverteru 0,1..3” parameter
12	T2: Daikin EKEQFCB	0	Help: for condensing unit types see the “Typ inverteru 0,1..3” parameter
13	T3: Toshiba RAVDIKIT	0	Help: for condensing unit types see the “Typ inverteru 0,1..3” parameter
14		0	
15		0	

3.21. TS – software thermostats

Software thermostats serve as freely programmable switches of digital outputs or requests to operating points, depending on the measured temperature or analog quantity. They work as switches with hysteresis, which can be used for selecting parameters.

Parameter description:
The TS configuration field contains four groups of four parameters each for four separate thermostats:

	Parameter	Usual setting	TS – software thermostats
0	1:Ref. TI,100+AI	0	Indicates number of reference thermometer or analog input, value 1-39 indicates number of thermometer, value 101-139 indicates number of analog input 1-39
1	1:Vystup DO,100+Bod	0	Values 1-39 indicate number of digital output controlled by thermostat output, values 100-109 directly create request for run/stop of unit: 100 = stop, 101-108 = run under operating points 1-8, 109 = run under weekly schedule
2	1:Hodnota SET	0	Value at which output is set to TRUE state (connected), temperature value is set at 0.1 ° C (250 = 25 °C), analog input value is set between 0...1000, i.e. for voltage inputs 0...10 V, 1000 = 10.0 V, for current inputs 0.4... 20 mA, 1000... 20 mA
3	1:Hodnota RESET	0	Value at which output is set to FALSE state (disconnected)
4	2:Ref. TI,100+AI	0	Indicates number of reference thermometer or analog input, value 1-39 indicates number of thermometer, value 101-139 indicates number of analog input 1-39
5	2:Vystup DO,100+Bod	0	Values 1-39 indicate number of digital output controlled by thermostat output, values 100-109 directly create request for run/stop of unit: 100 = stop, 101-108 = run under operating points 1-8, 109 = run under weekly schedule
6	2:Hodnota SET	0	Value at which output is set to TRUE state (connected), temperature value is set at 0.1 ° C (250 = 25 °C), analog input value is set between 0...1000, i.e. for voltage inputs 0...10 V, 1000 = 10.0 V, for current inputs 0.4... 20 mA, 1000... 20 mA
7	2:Hodnota RESET	0	Value at which output is set to FALSE state (disconnected)
8	3:Ref. TI,100+AI	0	Indicates number of reference thermometer or analog input, value 1-39 indicates number of thermometer, value 101-139 indicates number of analog input 1-39
9	3:Vystup DO,100+Bod	0	Values 1-39 indicate number of digital output controlled by thermostat output, values 100-109 directly create request for run/stop of unit: 100 = stop, 101-108 = run under operating points 1-8, 109 = run under weekly schedule
10	3:Hodnota SET	0	Value at which output is set to TRUE state (connected), temperature value is set at 0.1 ° C (250 = 25 °C), analog input value is set between 0...1000, i.e. for voltage inputs 0...10 V, 1000 = 10.0 V, for current inputs 0.4... 20 mA, 1000... 20 mA

11	3:Hodnota RESET	0	Value at which output is set to FALSE state (disconnected)
12	4:Ref. TI,100+AI	0	Indicates number of reference thermometer or analog input, value 1-39 indicates number of thermometer, value 101-139 indicates number of analog input 1-39
13	4:Vystup DO,100+Bod	0	Values 1-39 indicate number of digital output controlled by thermostat output, values 100-109 directly create request for run/stop of unit: 100 = stop, 101-108 = run under operating points 1-8, 109 = run under weekly schedule
14	4:Hodnota SET	0	Value at which output is set to TRUE state (connected), temperature value is set at 0.1 ° C (250 = 25 °C), analog input value is set between 0...1000, i.e. for voltage inputs 0...10 V, 1000 = 10.0 V, for current inputs 0.4... 20 mA, 1000... 20 mA
15	4:Hodnota RESET	0	Value at which output is set to FALSE state (disconnected)

3.22. W – fan run request

	Parameter	Usual setting	W – fan run request
0	Hystereze-probuzeni	0	Position in Built-in field (last built-in that affects the desired values: t, rH, CO_2 by running fans
1	Od teploty °C:	0	Difference between reference temperature and the temperature at which unit wakes up
2	Od R.vlhkosti %:	0	Difference between reference relative humidity and the humidity at which unit wakes up
3	Od A.vlhk. 0.1 g/kg:	0	Difference between reference absolute humidity and the humidity at which unit wakes up
4	Od CO2 ppm:	0	Difference between reference CO_2 value and the CO_2 value at which unit wakes up
5	Min.Prutok po prob.%	0	Minimum flow in % when activating state of awakening from t, rH, CO_2
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7			
8			
9			
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