

FLSTDMMAHUE










Sw application for Air Handling Units



QUICK GUIDE

Preliminary Documentation





SUMMARY

USER INTERFACE	4
DISPLAY	4
MAIN MENU - FUNCTIONS TREE.....	7
USE AT USER LEVEL	8
 SERVICE LEVEL (1)	10
 SERVICE LEVEL (2)	12
 SERVICE LEVEL (3)	14
 MANUFACTURER LEVEL (1).....	16
 MANUFACTURER LEVEL (2).....	18
 MANUFACTURER LEVEL (3).....	20
 I/O CONFIGURATION: GENERAL	22
 I/O CONFIGURATION: INPUTS.....	24
GENERAL CONTROL STRATEGY (1).....	28
GENERAL CONTROL STRATEGY (2).....	29
 ALARMS TABLE	30
BMS VARIABLE LIST	34

USER INTERFACE

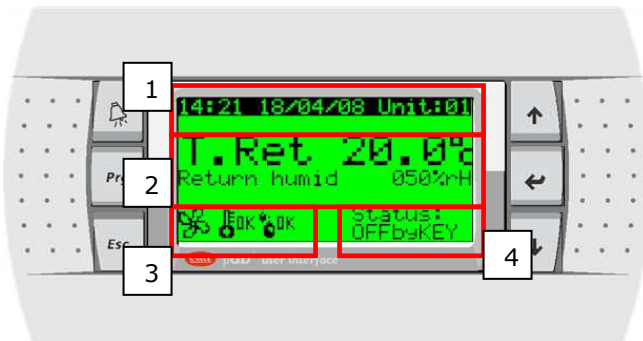
AHUE interfaces with the user via the pGD1 terminal, in wall or panel versions or even via the “built-in” terminal present directly in the Pco3 boards.

This terminal, illustrated in the previous figure has six keys with the following meaning:

 - Alarm	displays the list of alarms.
Prg - Prg	allows to enter the main menu tree.
ESC - Esc	goes back to the previous mask.
 - Up	scrolls a list upwards or allows to increase the display shown on the display.
 - Down	scrolls a list downwards or allows to decrease the display shown on the display.
 - Enter	enters the selected submenu or confirms the value set.

DISPLAY











1) Main screen:



- 1- Displays the date, time and the unit pLAN network address (for shared terminal)
- 2- Main displayed parameter and corresponding values (can be set from parameter)
- 3- Main operation modes (4 possible icons)
- 4- Unit status

This is the mask that appears during normal operation of the unit: if in a different menu, press ESC until this mask is displayed.


Icons that can appear in the “Main operation modes” (3):

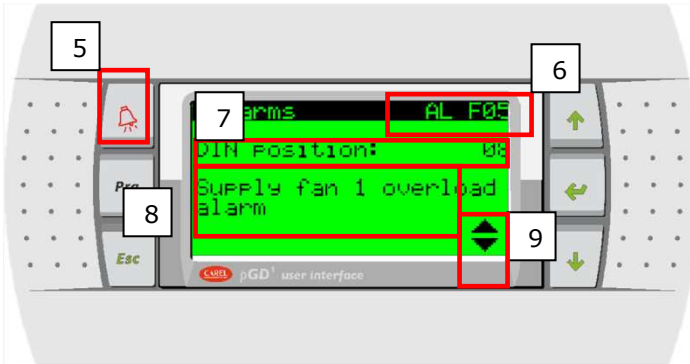
●○○○		When moving, it indicates that the fan is on <i>NB in the start-up phase this icon is in standstill</i>
○●○○		Indicates that there is no pre/re-heat or cooling coil activation.
○●○○		Indicates that the cooling coil is active to satisfy COOLING or DEHUMIDIFICATION demand.
○●○○		Indicates that one of the two possible heating coils is activated for satisfy HEATING demand (for temperature regulation) PRE-HEATING (adiabatic humidification) RE-HEATING (in dehumidification phase) UNIT FROST PROTECTION
○○●○		Indicates that there is no cooling coil or humidifier activation in order to satisfy the humidity SETPOINT.
○○●○		Cooling coil is active for the dehumidification phase
○○●○		Humidifier is active for the humidification phase
○○○●		The heat recovery is active
○○○●		Freecooling or freeheating is active
○○○●		The frost protection is active

Status that may appear in the Status bar (4):

Wording	Meaning	Notes
Wait	The software is performing internal diagnostic	
Unit ON	Unit on	
OFFdaALR	Unit off by ALARM	Alarm LED on
OFFdaBMS	Unit off by BMS	
OFFdaFSC	Unit off by Scheduller	Scheduller has been enabled
OFFdaDIN	Unit off by digital input	Check input status
OFFdaKEY	Unit off by User interface keypad	Check ON/OFF menu (A)
Comfort	Unit on in COMFORT mode	“Autocomf” by scheduller
Pre-Comf	Unit on in PRECOMFORT mode	“Autoprec” by scheduller
Economy	Unit on in ECONOMY mode	“Autocon” by scheduller
Protez	Unit switched ON automatically	Room temperature threshold
Startup	AHU is starting up	Fans switch-on delay
Shutdown	AHU is shutting down	Fans switch-off delay
Washing	Unit forced in full fresh air	
Manual	At least one output/controlled devices is forced in manual operation	See masks [Gg]

2) Alarm screens:

In the event of an alarm condition, the red LED behind the ALARM button  flashes.



5- ALARM key, press to access the menu; press again to reset

6- alarm code

7- physical position where the alarm occurred

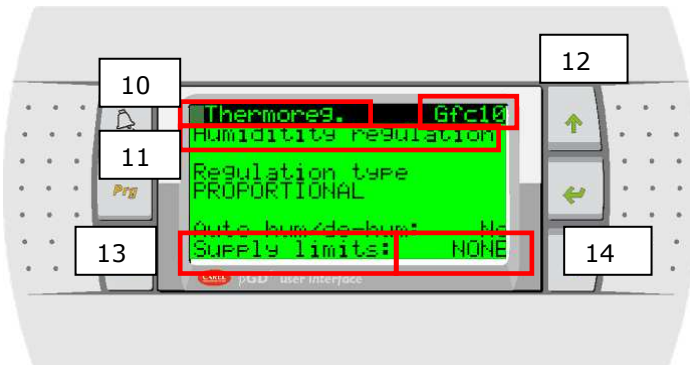
8- description of the alarm

9- scrolling arrows: use UP and DOWN to scroll the alarms list; pressing ENTER at the end of the list, the user can access the complete alarm log (menu (E))

🕒 See alarms table on page 30

3) Set-up parameters screens:

To access these screens, press the PRG button to view the main menu: scroll the menu using the UP and DOWN keys and confirm using ENTER (see functions tree).



10- Title of the menu selected

11- Title of the submenu where the parameters can being edited










12- mask unique identification index.


13- Description of the parameter


14- Editable value.

🕒 Note: the editable values are represented by numerical values or capital letters.

MAIN MENU - FUNCTIONS TREE

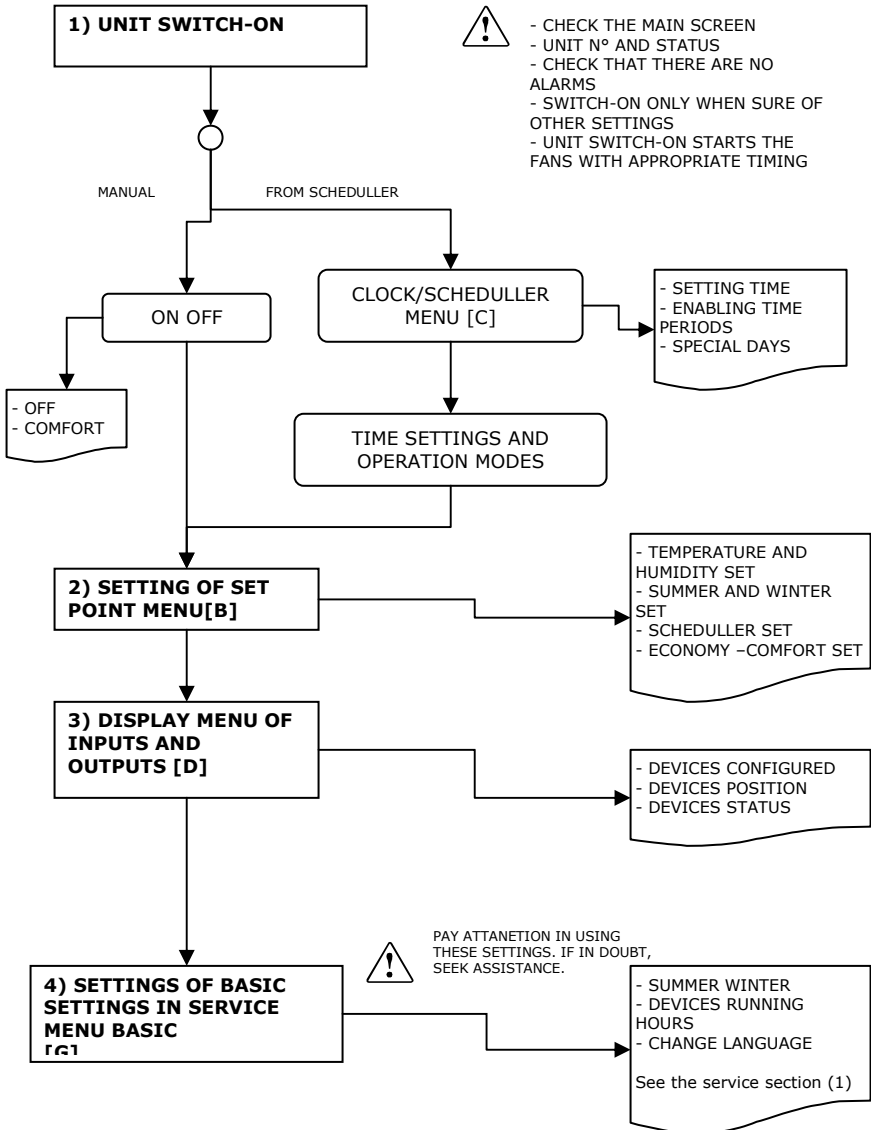
A.  Unit On-Off unit	
B.  Set point	
C.  Clock/Scheduller	
D.  Inputs/Outputs	
E.  Data Logger	
F.  Board switch	
G.  Service	
<p style="text-align: center;">To access these submenu, the password PW1 will be required</p>	a. Change language
	b. Information
	c. Summer/Winter
	d. Working Hours
	e. BMS config.
	f. Service Settings
	g. Manual management
<p>a. Working hour set</p> <p>b. Probes adjustment</p> <p>c. Thermoregulation</p> <p>d. User DEV /ChangePW1</p>	
<p>H.  Manufacturer</p> <p style="text-align: center;">To access these submenu, the password PW2 will be required</p>	a. Configuration
b. I/O configuration	
c. Factory settings	
d. Initialization	
e. Input/Output Test	


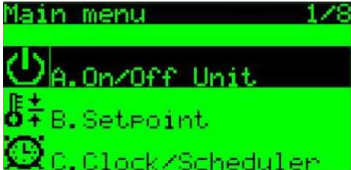
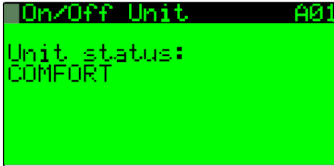
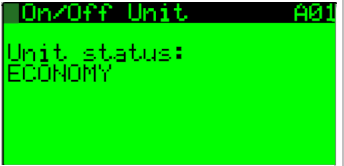
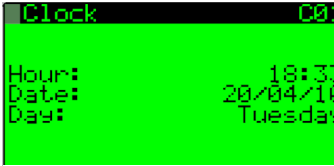

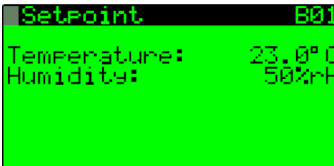

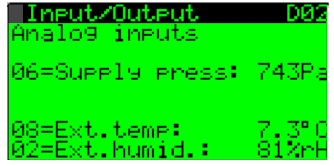
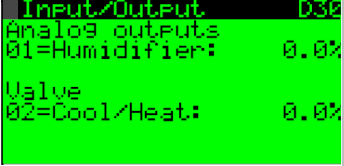
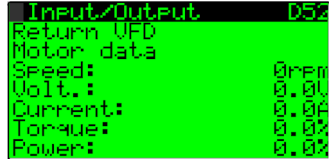
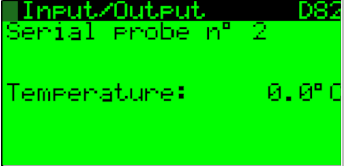
 *Note: the menus with restricted access can be view by submitting a numerical password with 4 characters. This can be which can be changed at the customer choose: the passwords can be defined in their specific setup screens. The access with PSW2 will allows access also to all other levers protected by PSW1: after a timeout of 10 minutes it will be necessary to enter the password again*

 *Note: the structure of the menus is reflected by the mask index structure, e.g. point (12) of the previous figure indicates that the mask is the "04" item of the submenu "C", belonging to menu "f" of the Service main menu item "G". Square brackets will be used for the mask indexes, in this case [Gfc04].*

USE AT USER LEVEL

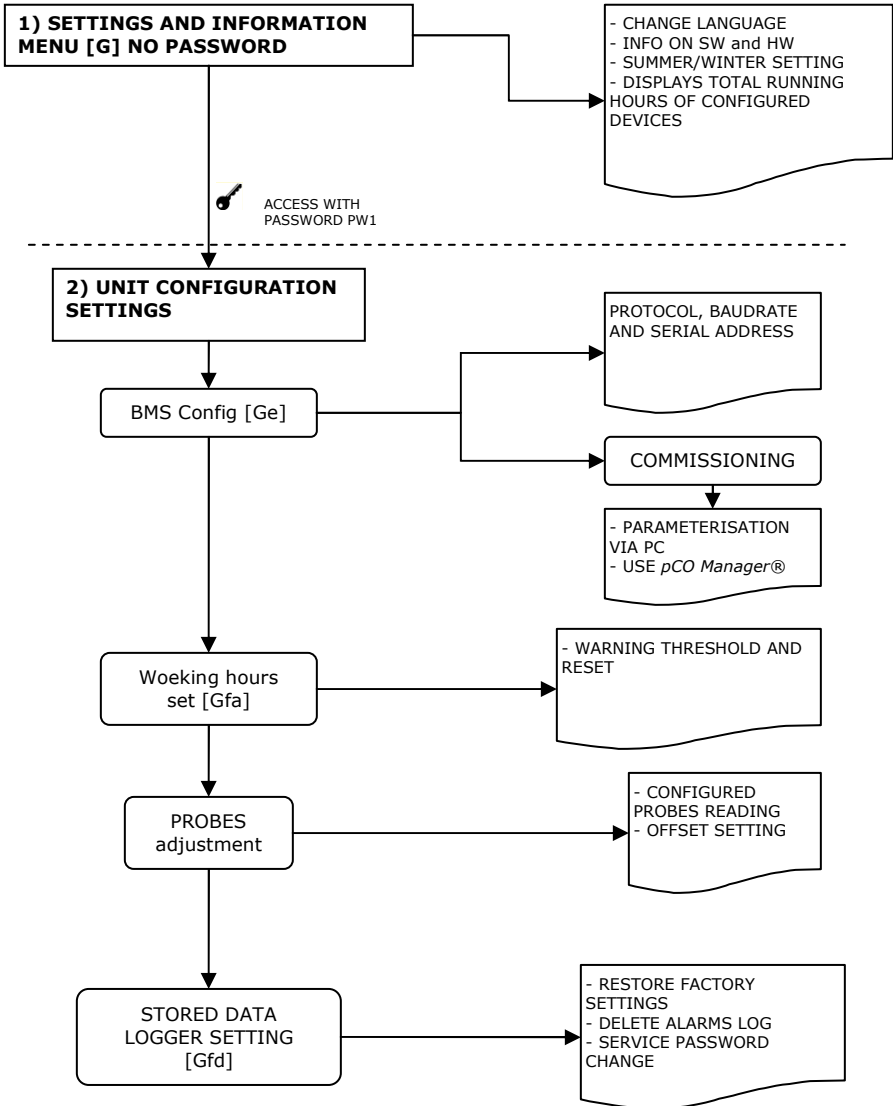
Parameters and displays to use during normal operation of the unit.



			
A01	Switches the Unit ON COMFORT If time periods enabled ECONOMY PRE-COMFORT COMFORT		
C01	Clock set		
C02	Setting of 4 daily time bands Copy time bands		
C03	Holidays set		
C05	Special days set Daylight saving time set		
B01	T and H current operational set Compensations		
B02	T and H sets set for every type of time bands(if enabled)		
B04	Summer and Winter differentiated sets		
D01-D05	Analogue inputs		
D07-D15	Digital inputs		
D17-D27	Digital outputs		
D28-D31	Analogue outputs		
D40-D52	Inverter on Modbus		
D60-D75	MP bus actuators		
D81-D86	Serial probes		

SERVICE LEVEL (1)

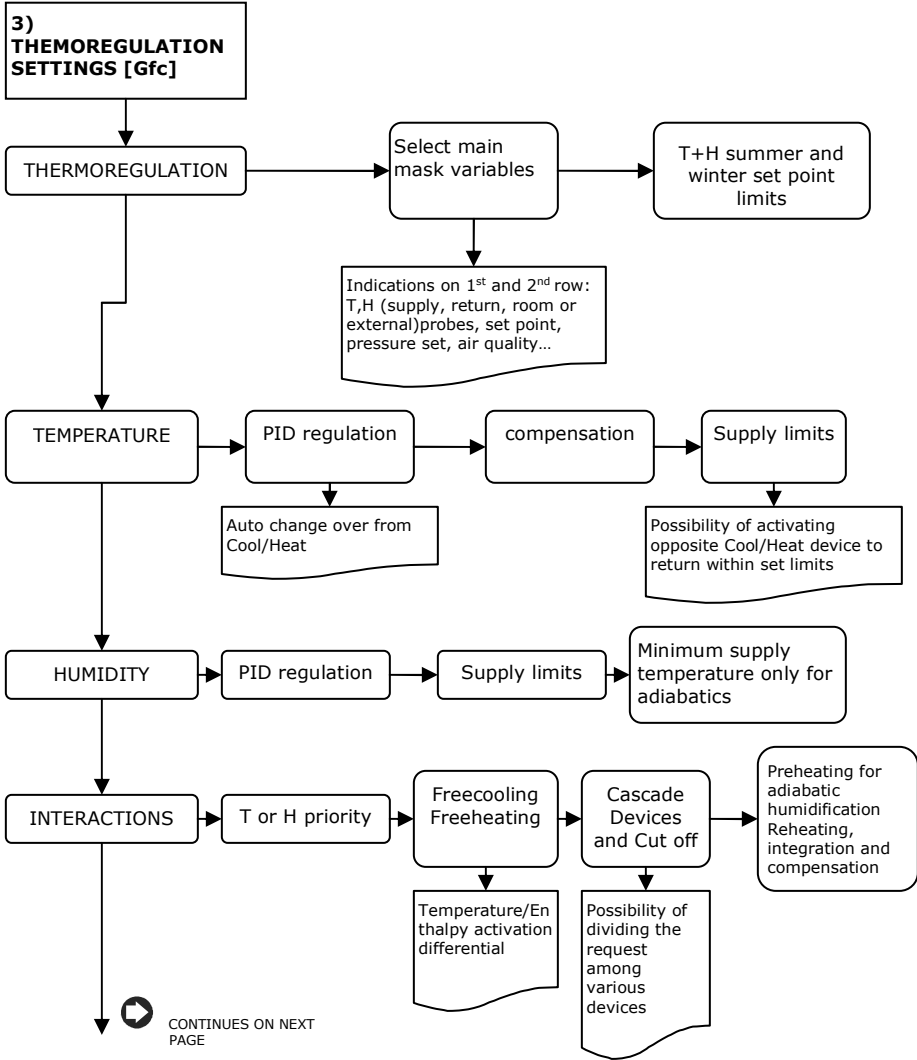
Displayed settings and parameters of the unit for the enabled devices; settings to optimize the plant operation, to be performed during commissioning or maintenance.

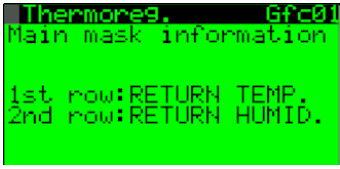
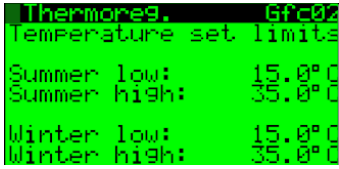
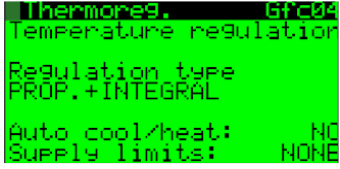
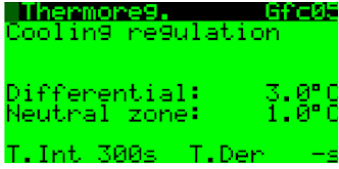
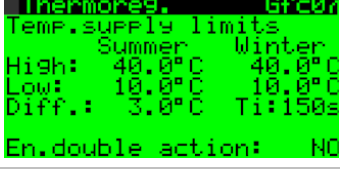

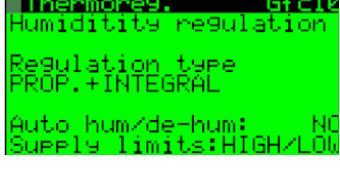
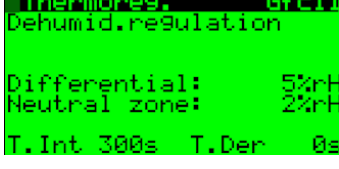
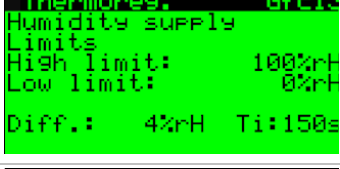


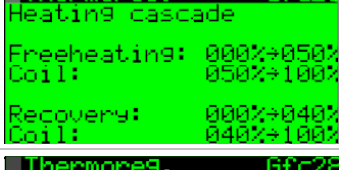
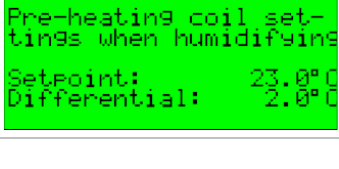
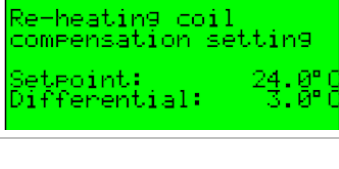


Ga01	-Display language setting		
Ga02	- Settings to requests the change of language each time the unit is powered up		
Gc01	Season setting mode Temperature and humidity different sets (menu (B))		Possible selections KEYBOARD DIGITAL INP. B.M.S. KEYBOARD/B.M.S. (overwriting) AUTO ←fixed days and control on external temperature)
Gc02	Season setting		
Gb01	Info regarding HW and application		
Gd01	Devices hour counter		
Ge01	BMS setting		
Ge02	Enabling of alarm for BMS offline		
Ge03	Enable commissioning		
Gfa01	Devices working hours settings		
Gfb01	Probes adjustment with value read and offset that can be set		
Gfb08			
Gfd01	Restore previous configuration (if saved)		
Gfd02	Delete alarms log		
Gfd03	Change password		

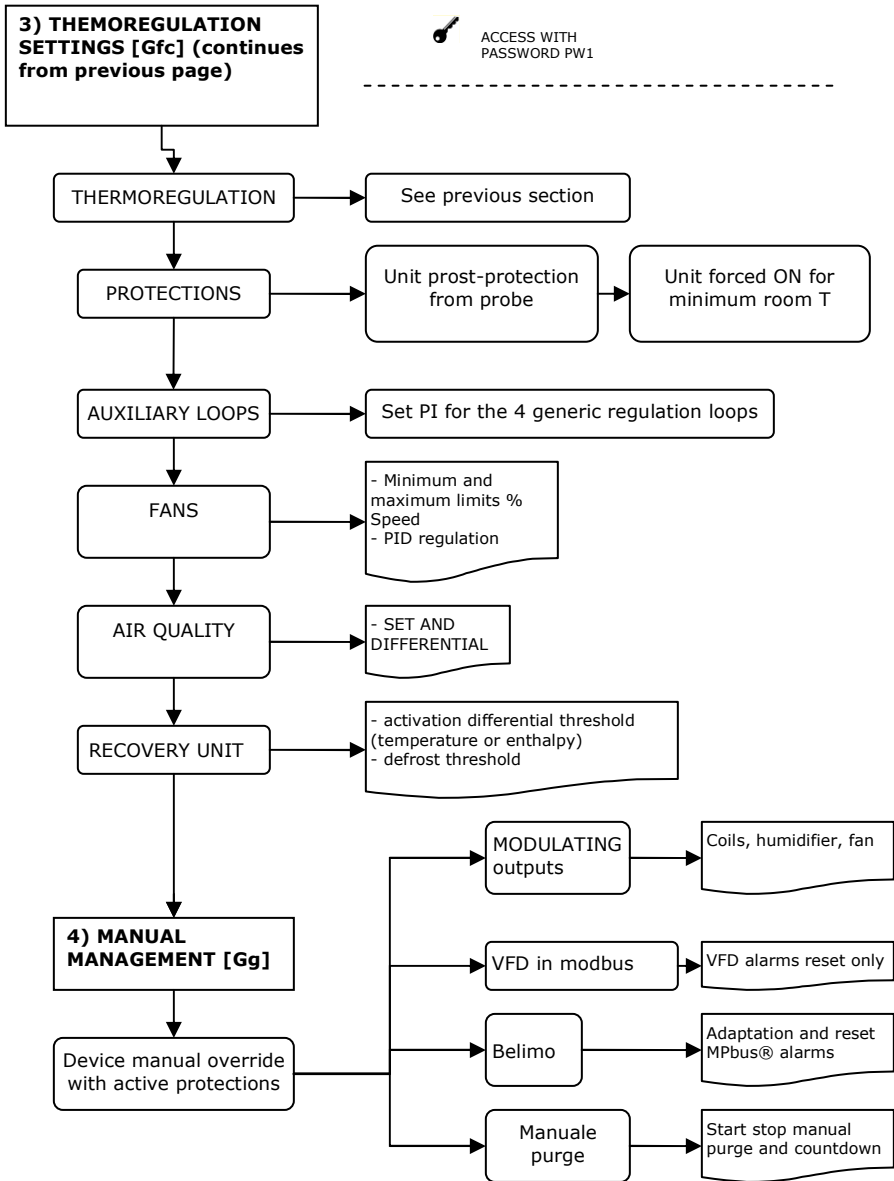
🔧 SERVICE LEVEL (2)

🔑 ACCESS WITH
PASSWORD PW1



Gfc01 Gfc02	Main mask displays the selected variables (2 lines)		
	T+H summer and winter set point limits		
Gfc04 Gfc05 Gfc06	Type of temperature regulation		
	PID heating cooling parameters		
Gfc07 Gfc08 Gfc09	Supply temperature limits		
	Summer/winter temperature compensation		
Gfc10 Gfc11 Gfc12	Type of humidity regulation		
	Enable limits		
Gfc13 Gfc14	PID humidification and dehumidification parameters		
	Supply humidity limits		
Gfc15 Gfc20 Gfc24 Gfc26 Gfc29	Freecooling		
	Cascade control		
Gfc25 Gfc27 Gfc28	Actuators cut off		
	Set Preheat-Ing		
	Supply reheat. compensation if regulation on return T		

SERVICE LEVEL (3)



Preliminary Documentation

Gfc33	- Frost-protection setting from probe	<pre>Thermore9. Gfc33 Frost settings Setpoint: 5.0°C Differential: 3.0°C</pre>	<pre>Thermore9. Gfc34 Room frost Protection enable: YES Threshold: 5.0°C</pre>
Gfc34	- Room protection		
Gfc36 → Gfc39	Setpoint and differential for generic regulation for the aux. loops	<pre>Thermore9. Gfc35 Adiabatic humidifier Supply low temp.limit Enable limit: YES Setp.: 15.0°C Diff.: 2.0°C</pre>	
Gfc17 → Gfc19	- supply and return inverter minimum and maximum limits - PID pressure regulation	<pre>Thermore9. Gfc17 Supply inverter Min Power: 30.0% Max Power: 100.0% Return inverter Min Power: 30.0% Max Power: 100.0%</pre>	<pre>Thermore9. Gfc18 Supply inverter flow Setp.: 1500Pa Diff.: 300Pa Int.time: 300s Der.time: 10s</pre>
Gfc30	- air quality setpoint and differential	<pre>Thermore9. Gfc30 Air quality with CO2 Setp.: 1200PPM Diff.: 200PPM</pre>	
Gfc31	Recovery activation and regulation	<pre>Thermore9. Gfc31 Heat recovery temp. activation Delta recovery: 5.0°C Diff. recovery: 3.0°C</pre>	<pre>Thermore9. Gfc32 Heat recovery defrost Setpoint: -1.0°C Diff.: 4.0°C Heater offset: 3.0°C</pre>
Gfc32	PID heating cooling parameters	<pre>Thermore9. Gfc32 Enthalpy regulation Differential: ---kJ/kg</pre>	
Gg01	Analogue outputs and manual management	<pre>Manual mn9. G901 Supply fan: 072% Return fan: 023% Cooling coil: AUTO Pre-heating coil: AUTO Re-heating coil: AUTO Humidifier: AUTO</pre>	<pre>Manual mn9. G900 Belimo 1 Start adaption: NO Start testrun: NO</pre>
Gg60 → Gg67	Belimo manual management		<pre>Adapted angle: Yes Alarms reset: NO</pre>
Gg40 Gg50	Modbus Inverter manual management (supply/return)	<pre>Manual mn9. G940 Supply VFD Reset Alarms: NO</pre>	<pre>Manual mn9. G902 Air quality Start cleaning: NO Stop cleaning: NO</pre>
Gg02	Manual purge		<pre>Cleaning time remaining: -min Repeat at start-up: NO</pre>

MANUFACTURER LEVEL (1)


1) MAIN DEVICES CONFIGURATION [Ha]

 ACCESS WITH PASSWORD PW2





MANUFACTURER PARAMETERS CAN ONLY BE MODIFIED WITH UNIT IN **OFF** STATUS: THE SOFTWARE DISPLAYS A MESSAGE IF THIS ACCESS IS ATTEMPTED WHEN THE UNIT IS ON

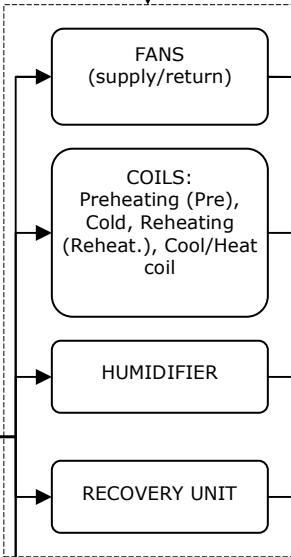
MAIN DEVICE ENABLE

 ENABLE DEVICES AND NUMBER OF DEVICES: THE FOLLOWING CONFIGURATION MASKS THAT RELATE TO THESE DEVICES (SEE DOTTED BOX) APPEAR ONLY IF THE DEVICE IS ENABLED, THEREFORE SOME MASKS SHOWN FURTHER ON MAY NOT BE VISIBLE

DEVICES CONFIGURATION REGULATION

 THESE MASKS ARE ALWAYS PRESENT AND DO NOT DEPEND ON THE ENABLING PERFORMED IN MASK Ha01: ATTENTION, THE DAMPERS CONFIGURATION MASK IS IMMEDIATELY AFTER DEVICES ENABLING

 MASK Ha15 IN THE REGULATION OF AIR QUALITY APPEARS ONLY IF FANS AND/OR DAMPERS ARE ENABLED



FANS (supply/return)

Fan types (ON-Off, inverter, two speed..), regulations, alarms type

COILS: Preheating (Pre), Cold, Reheating (Reheat.), Cool/Heat coil

Actuators type (valves and type, electric coils and stages), enable acillary functionalities (dehumidify, preheating, integration,..)

HUMIDIFIER

Adiabatic/Isothermic, Modulating/ON-OFF

RECOVERY UNIT

Type (crossed flow, double coil, rotary), bypass damper, defrosting,

DAMPERS

Type (Fresh air, mixing, exhaust), enabling freecooling, free heating and air quality

OTHER REGULATIONS

Air quality regulation, frost protection type, remote ON OFF (ID and/or BMS), Set point from ID. Compensation Set from AIN and Aux. Loops (see next section)

2) INPUTS AND OUTPUTS CONFIGURATION [Hb]

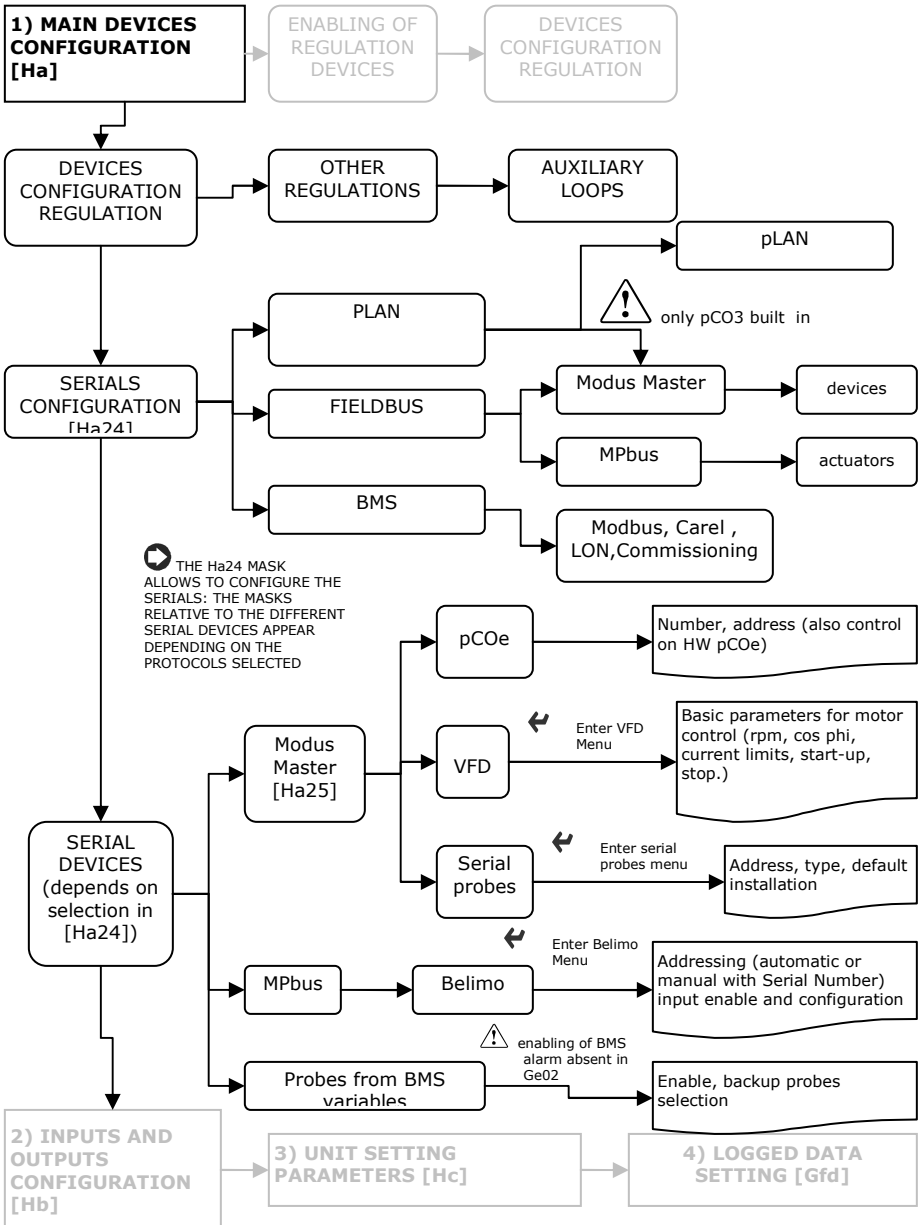
3) UNIT SETTING PARAMETERS

4) LOGGED DATA SETTING [Gfd]

Preliminary Documentation

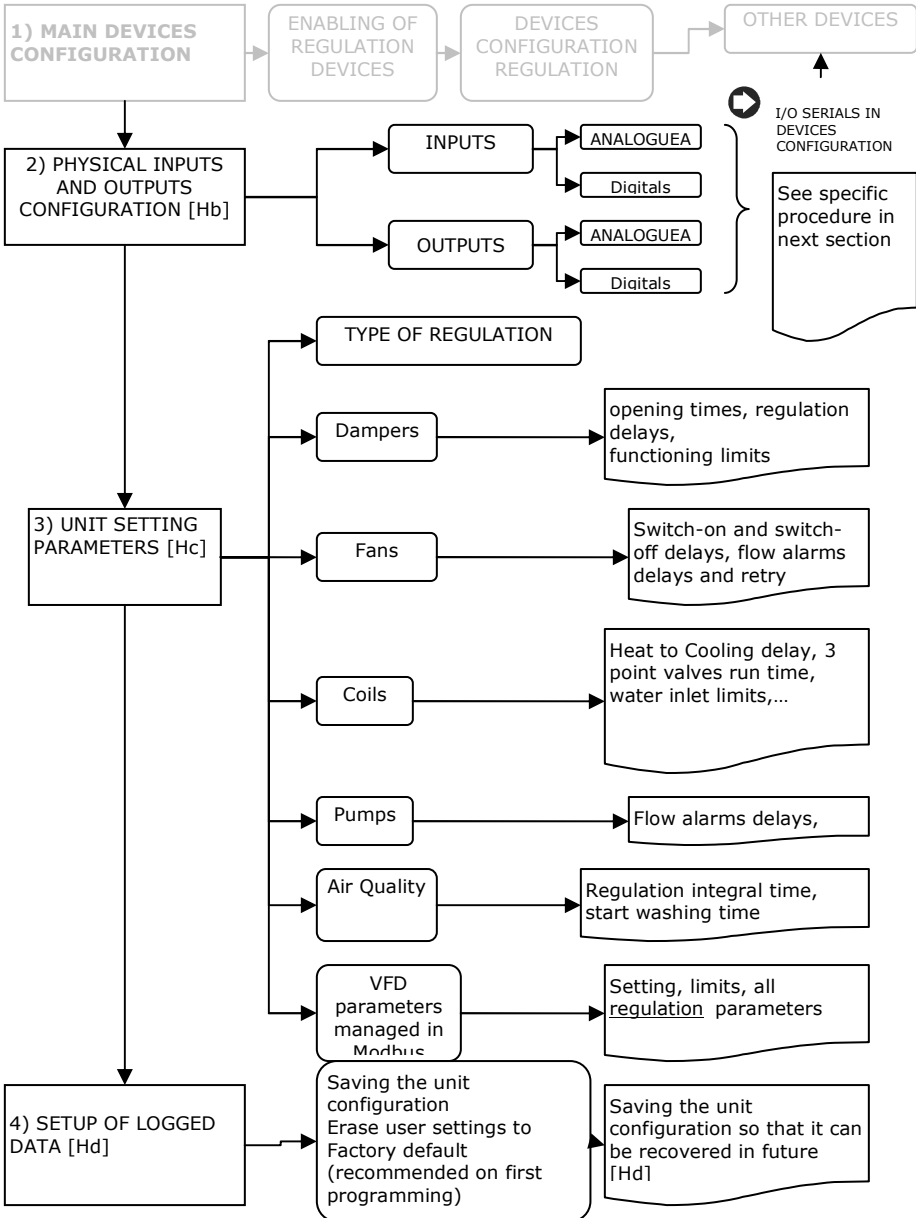
Ha01	- enabling main devices	<pre> Configuration Ha01 Main device enable </pre>	<pre> Configuration Ha02 Dampers type: FRESH AIR+MIXING Freecooling: TEMPERAT. Freeheating: ENTHALPHY En.air quality mn9: YES </pre>
Ha02	- Type of Dampers -enable air quality control	<pre> Fans: SUPPLY+RETURN Coil: COOL/HEAT COIL Humidifier: DISABLED Recovery: ENABLED </pre>	
Ha03 Ha04	Fans Configuration	<pre> Configuration Ha03 Fan type: INVERTER Fan regulation: STATIC PRESSURE </pre>	<pre> Configuration Ha04 Fans alarms Overload: NONE Air flow: SUPPLY+RETURN Air flow from: P.SWITCH Stop action: ALL </pre>
Ha05	Heating Devices	<pre> Configuration Ha05 Pre-heating output: MODULATING VALVE </pre>	<pre> Configuration Ha06 Cooling output type: MODULATING VALVE </pre>
Ha06	Cooling		
Ha07	Heat/Cool Coil	<pre> Temperature probe when humidifying: REGULATION </pre>	<pre> Dehumidification: ON REGULATION PROBE </pre>
Ha08	Re-heating	<pre> Configuration Ha08 Re-heating output: HEATERS Heaters number: 3 Heaters type: ON/OFF Re-heating working mode: COMPENS+INT </pre>	<pre> Configuration Ha09 Enable water pumps Cooling: NO Pre-Heating: NO </pre>
Ha09 → Ha12	Enabling of coil water pumps		
Ha13	Humidifier	<pre> Configuration Ha13 Humidifier Type: ADIABATIC (Modulating control) </pre>	<pre> Configuration Ha14 Heat recovery type: MOD.ROTARY EXCHANG. Regulation: TEMPERATURE ByPass damper: ON/OFF Wheel min speed: 7% Defrost probe: EXT-RET Defrost heater: YES </pre>
Ha14	Heat Recovery		
Ha15	Air quality	<pre> Configuration Ha15 Air quality </pre>	
Ha16	Type of frost protection	<pre> Regulation type: P+I Probe type: CO2 Enable cleaning: YES </pre>	<pre> Frost protection: By PROBE </pre>
Ha17	ON-OFF from BMS	<pre> Configuration Ha17 Enable unit OnOff By digit input: YES By BMS: NO </pre>	<pre> Configuration Ha18 Setpoint from digital input: NO </pre>
Ha18	COMFORT-ECONOMY from digital input		

MANUFACTURER LEVEL (2)



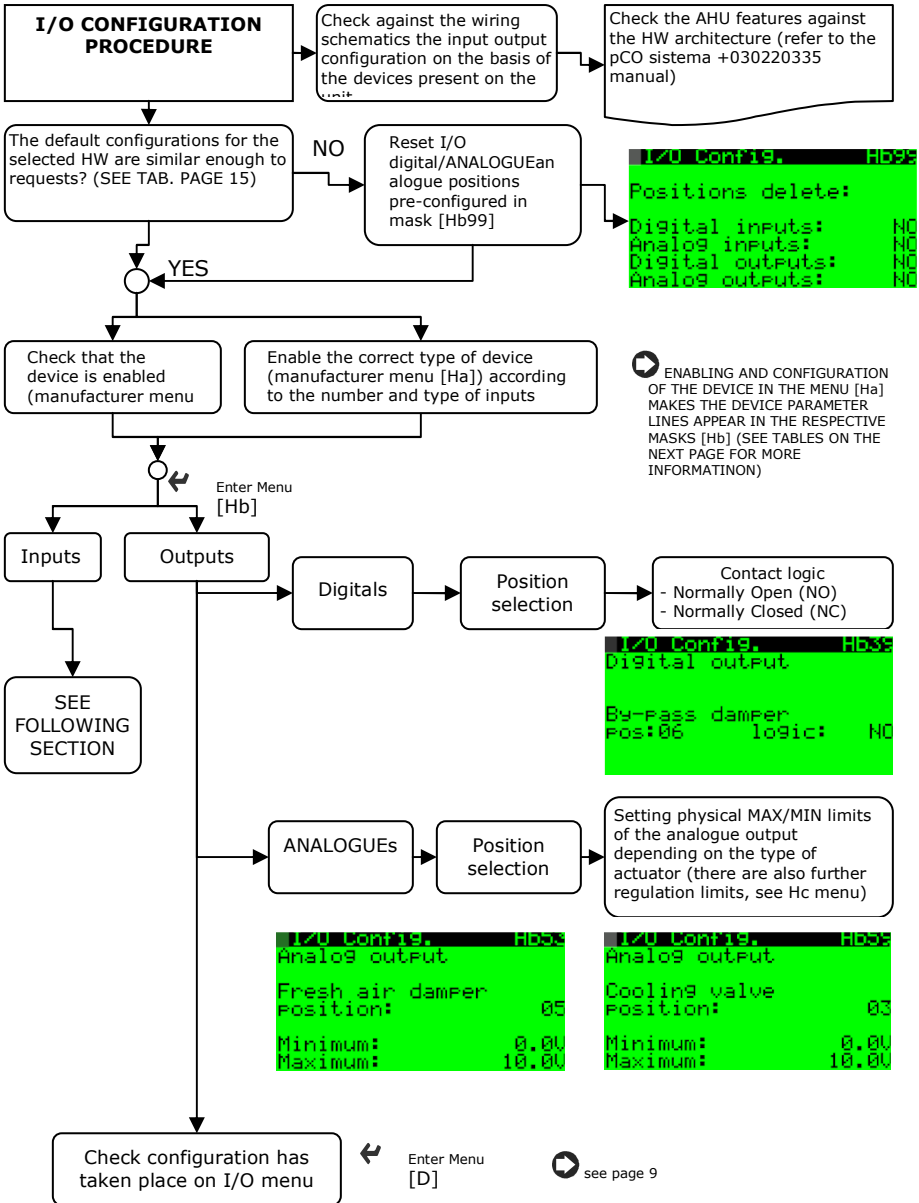
<p>Ha19 Ha20 → Ha23</p>	<p>Set point Compensat. from analogue input Number aux. loops Configuration of Aux loop</p>	<pre>Configuration Ha19 Enable setpoint offset by analog input: YES Auxiliary regulation loop: NONE</pre>	<pre>Configuration Ha20 Regulation loop 1 Regul.type: DIRECT Output type:MOD+ON/OFF Other management: ON WITH SUPPLY FAN</pre>
<p>Ha24 Ha25</p>	<p>Protocols configuration on the 3 serials Modbus master setting (if selected in Ha24)</p>	<pre>Configuration Ha24 Protocol PLAN port: PLAN BMS port: WINLOAD Field port:MODBUS Mst.</pre>	<pre>Configuration Ha25 Modbus Master settings Baudrate: 19200 Stop bit: 2 Parity mode: NONE Timeout: 300ms</pre>
<p>Ha26 Ha91 → Ha96</p>	<p>Expansion board configuration and number of serial probes Serials probes configuration (type and address)</p>	<pre>Configuration Ha26 PC0e number: 1 PC0e 1 address: 3 Number of serial probe: 2</pre>	<pre>Configuration Ha91 Serial Probe n° 1 Address: 128 Type: TEMPERATURE Default inst.: NO</pre>
<p>Ha40 → Ha23</p>	<p>VFD configuration Supply and Return Special menu: access by pressing ENTER only if VFD is connected in Modbus</p>	<pre>Configuration Ha40 Supply VFD Address: 1 Data address: 0 Data value: 0 Default install: N</pre>	<pre>Configuration Ha41 Supply VFD Control place: KEYPAD Speed reference type: AIN1 Rotation type: CLOCKWISE</pre>
<p>Ha40 → Ha23</p>	<p>VFD configuration Supply and Return Special menu: access by pressing ENTER only if VFD is connected in Modbus</p>	<pre>Configuration Ha42 Supply VFD Motor control mode: FREQUENCY CONTROL Start function: RAMP Stop function: COASTING</pre>	<pre>Configuration Ha43 Supply VFD Motor Parameters Volt.: 0V cosfi:0.8 Frequency: 0.0Hz Speed: 0rpm Current: 0.0A Current limit: 0.0A</pre>
<p>Ha30 Ha27</p>	<p>Enabling probes from BMS with backup probes Enabling of Belimo actuators</p>	<pre>Configuration Ha30 Enable BMS probes and digital inputs: YES Backup probe 1: AIN 01 Backup probe 2: AIN 02 Backup probe 3: NONE Backup probe 4: NONE</pre>	<pre>Configuration Ha27 Belimo device Number of actuators: 1 NOTE: Check the serial port configuration</pre>
<p>Ha60 → Ha83</p>	<p>Configuration of Belimo actuators (3 masks each): -addressing -input configuration -limits</p>	<pre>Configuration Ha60 Belimo 1 Device type: None Addressing mode: AUTO SN:00000-00000-000-000 Address actuator: NO</pre>	<pre>Configuration Ha61 Belimo 1 Enable external Input/probe: YES Type: 0-10V Min value: 0.0 Max value: 50.0</pre>

MANUFACTURER LEVEL (3)



Hc01	Regulation probe	<pre> Factory settings Hc01 Main regulation probe selection Temperature: RETURN Humidity: RETURN </pre>	<pre> Factory settings Hc20 Generic alarm input delay: 0s Disable buzzer: NO </pre>
Ha20	Generic alarm delay		
Hc02	Dampers settings:	<pre> Factory settings Hc02 Dampers limits settings Fresh air damper Min: 0.0% Max:100.0% Mixing damper Min: 0.0% Max:100.0% </pre>	<pre> Factory settings Hc03 Damper settings Coil start delay when freeC/H active: 0min Opening time: 60s Closing delay: 120s </pre>
Ha03	-limits -delays		
Hc04 → Ha07	Fans Settings (delays, number of retries on flow warning,...)	<pre> Factory settings Hc04 Fans timing Stop delay: 30s Supply-Return: 0s </pre>	<pre> Factory settings Hc05 Fans flow alarm Start-up delay: 20s Running delay: 5s Flow warning retries:3 </pre>
Hc08 → Hc16	Coils settings and valves if selected	<pre> Factory settings Hc08 En.Preheating coil water temp.thresh.:YES Threshold: 25.0°C Differential: 2.0°C </pre>	<pre> Factory settings Hc10 Cooling coil Floating valve running time: 180s </pre>
Hc17	Pumps settings	<pre> Factory settings Hc17 PUMPS Alarm flow delay Startup: 10s Running: 5s </pre>	<pre> Factory settings Hc18 Air quality Integral time: 300s Cleaning time: 10min </pre>
Hc19	Air Quality Regulation Settings		
Ha40 → Ha42 Ha50 → Ha52	VFD regulation Settings managed in Modbus (Supply and Return)	<pre> Factory Settings Hc40 Supply VFD Volt.at 0 Hz: 0.0% Switch.freq.: 0.0kHz U/F curve midpoint Voltage: 0.0% Frequency: 0.0Hz </pre>	<pre> Factory Settings Hc41 Supply VFD U/F ratio: LINEAR U/F optimisation: AUTOMATIC BOOST Auto restart: USED </pre>
Hd01	Save unit configuration	<pre> Initialization Hd01 Save unit configuration: YES </pre>	<pre> Initialization Hd02 DEFAULT INSTALLATION Erase user settings and install global default value: YES </pre>
Hd02	Load of default parameters	<pre> Last saving: 04/02/10 >> please wait... << </pre>	<pre> >> please wait... << </pre>

I/O CONFIGURATION: GENERAL



Configurable analogue outputs

Mask	ANALOGUE OUTPUTS
Hb51	Supply fan
Hb52	Return fan
Hb53	Fresh air damper
Hb54	Mixing damper
Hb55	Exhaust damper
Hb56	By-pass damper
Hb57	Humidifier
Hb58	Preheating valve
Hb59	Cold/common valve
Hb60	Preheat. resistance inverter
Hb61	Reheating valve
Hb62	Reheat. Electric Coil inverter
Hb63	Rotary recovery unit
Hb64	Auxiliary loop 1
Hb65	Auxiliary loop 2
Hb66	Auxiliary loop 3
Hb67	Auxiliary loop 4

Possible selections

pCO	pCOxs (3 only PWM)	1..3
	pCO3 S	1..4
	pCO3 M	1..4
	pCO3 L	1..6
pCOe	pCOe 1	E1
	pCOe 2	E2
Belimo		M1..M8

🔍 The modulation output to the fan can be operated either via a physical 0..10V signal or via Modbus: the configuration takes place in its specific menu.

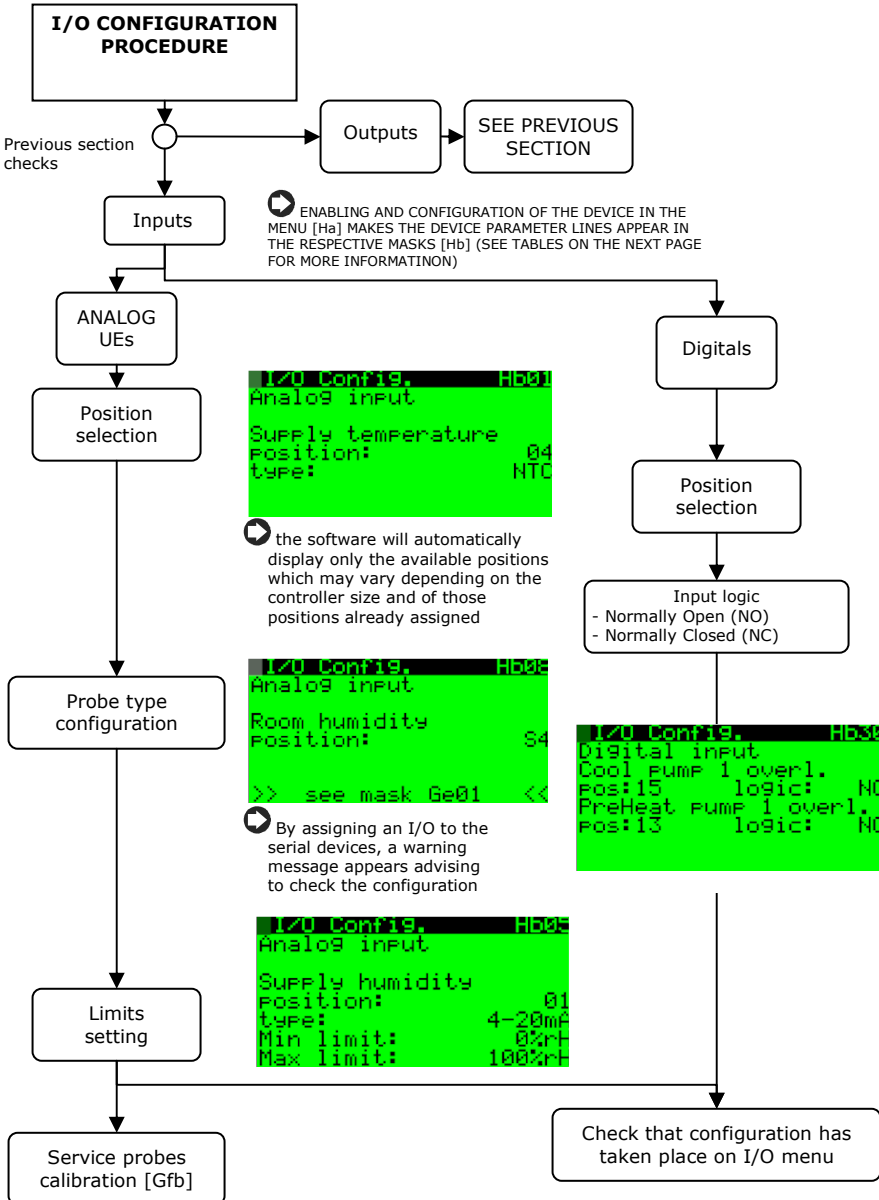
Configurable digital outputs

Mask	DIGITAL OUTPUTS
Hb35	Supply fan 1
Hb35	Return fan 1
Hb35	Humidifier
Hb36	Supply fan 2
Hb36	Return fan 2
Hb37	Supply fan star delta
Hb38	Return fan star delta
Hb39	Fresh air damper
Hb39	By-pass damper
Hb39	Rotary recovery unit/Run Arroud Pump.
Hb40	Generic alarm
Hb40	Serious alarm
Hb40	Minor alarm
Hb41	Unit status (ON-OFF)
Hb41	Filters alarm
Hb41	Recovery heater.
Hb42	Cool/Heat
Hb43	Cooling pump 1
Hb43	Preheat. pump 1
Hb43	Reheat. pump 1
Hb44	Cooling pump 2
Hb44	Preheat. pump 2
Hb44	Reheat. pump 2
Hb45	Cooling 3p opening signal
Hb45	Preheat. 3p opening signal
Hb45	Reheat. 3p opening signal
Hb46	Cooling 3p closing signal
Hb46	Preheat. 3p closing signal
Hb46	Reheat. 3p closing signal
Hb47	Cooling step 1
Hb47	Cooling step 2
Hb47	Cooling step 3
Hb48	Preheat. heaters 1
Hb48	Preheat. heaters 2
Hb48	Preheat. heaters 3
Hb48	Preheat. heaters 4
Hb49	Reheat. heaters 1
Hb49	Reheat. heaters 2
Hb49	Reheat. heaters 3
Hb49	Retheat. heaters 4
Hb50	On/Off aux.loop 1
Hb50	On/Off aux.loop 2
Hb50	On/Off aux.loop 3
Hb50	On/Off aux.loop 4

Possible selections

pCO	XS	1..5
	pCO3 S	1..8
	pCO3 M	1..13
	pCO3 L	1..18
pCOe	pCOe 1	E1..E4
	pCOe 2	E5..E8

I/O CONFIGURATION: INPUTS



Configurable ANALOGUE inputs

Mask	ANALOGUE INPUTS	Type
Hb01	Supply temperature	All
Hb02	Return temperature	All
Hb04	Room temperature	All
Hb03	External temperature	All
Hb11	Frost protection temperature	All
Hb12	Off-coil temperature	All
Hb15	Exhaust temperature	All
Hb16	H2O Temp. cooling Heat/Cool coil	All
Hb17	H2O preheat. temperature	All
Hb18	H2O reheat. temperature	All
Hb19	Aux 1 loop probe	All
Hb20	Aux 2 loop probe	All
Hb21	Aux 3 loop probe	All
Hb22	Aux 4 loop probe	All
Hb05	Supply humidity	Active+serial
Hb06	Return humidity	Active+serial
Hb08	Room humidity	Active+serial
Hb07	External humidity	Active+serial
Hb09	Supply pressure differential	Active
Hb10	Return pressure differential	Active
Hb13	CO2 probe	Active
Hb14	VOC probe	Active
Hb23	Set point offset from AIN	Active

ANALOGUE input possible selections

pCO	XS	1..4
	pCO3 S	1..5
	pCO3 M	1..8
	pCO3 L	1..10
pCOe (no PT1000)	pCOe 1	E1
	pCOe 2	E2
Serial probes	Temp	T1..T6; A1..A6
	Humid.	H1..H6; A1..A6
Belimo (ntc,0-1V.0-10V)		M1..M8
Variables from BMS		S1..S4

Achievable averages combinations with the serial probes (T or H)

A1	Average between all
A2	Average between 1-2
A3	Average between 1-2-3
A4	Average between 3-4
A5	Average between 4-5 or 4-5-6
A6	Average between 5-6

Configurable digital inputs

Mask	DIGITAL INPUTS
Hb24	Remote on/off
Hb24	Summer/Winter
Hb24	Setpoint from dig. inp.
Hb25	Generic alarm
Hb25	Serious alarm
Hb25	Frost-stat
Hb26	Supply filter 1 alarm
Hb26	Supply filter 2 alarm
Hb26	Return filter alarm
Hb27	Supply flow switch
Hb27	Return flow switch
Hb28	Humidifier alarm
Hb28	Supply inverter alarm
Hb28	Return inverter alarm
Hb29	Supply fan overload 1
Hb29	Supply fan overload 2
Hb29	Ret. fan overload 1
Hb29	Ret. fan overload 2
Hb30	Cooling pump 1 overload
Hb30	Preheat. pump 1 overload
Hb30	Reheat. pump 1 overload
Hb31	Cooling pump 2 overload
Hb31	Preheat. pump 2 overload
Hb31	Reheat. pump 2 overload
Hb32	Cooling pump flow switch
Hb32	Preheat. Pump flow switch
Hb32	Reheat. pump flow switch
Hb33	Hear Recovery clogged alarm
Hb33	Preheat. Heaters overload
Hb33	Postheat. heaters overload
Hb34	Dirty filters alarm
Hb34	Door switch contact
Hb34	Fire-smoke alarm

Digital input possible selections

pCO	XS	1..6
	pCO3 S	1..8
	pCO3 M	1..12
	pCO3 L	1..14
pCOe	pCOe 1	E1
	pCOe 2	E2
Belimo		M1..M8
Variables from BMS		S1..S4

Preliminary Documentation

Default configuration: ANALOGUE Inputs

N.	pCO3 Small	pCO3 Medium	pCO3 Large	pCOxs
B1	Supply humidity	Supply humidity	Supply humidity	Supply humidity
B2	Supply air diff. pressure	External humidity	External humidity	Return humidity
B3	Frost protection temperature	Return humidity	Return humidity	Return temperature
B4	Supply temperature	Supply temperature	Supply temperature	Supply temperature
B 5	External temperature	Return temperature	Return temperature	
B 6		Frost protection temperature	Supply air diff. pressure	BL1.B External temperature
B 7		Off-coil temperature	Air Quality sensor	BL2.B Frost protection temperature
B 8		External temperature	External temperature	BL4.B Off-coiltemperature
B 9			Fost protection temperature	
B 10			Off-coil temperature	

Default configuration: Digital Inputs

N.	pCO3 Small	pCO3 Medium	pCO3 Large	pCOxs
ID 1	Serious alarm	Serious alarm	Serious alarm	Serious alarm
ID 2	On-Off	On-Off	On-Off	On-Off
ID 3	Supply fan flow alarm	Supply fan flow alarm	Supply fan flow alarm	Supply fan flow alarm
ID 4	Return fan flow alarm	Exhaust fan flow alarm	Return fan flow alarm	Return fan flow alarm
ID 5	Supply filter alarm	Supply filter alarm	Supply filter alarm	Supply filter alarm
ID 6	Humidifier Alarm.	Humidifier Alarm	Humidifier Alarm	Humidifier Alarm
ID 7	Supply fan inverter alarm	Return filter alarm	Return filter alarm	
ID 8	Heating water pump overload	Supply fan overload	Supply fan overload	
ID 9		Return fan overload	Return fan overload	
ID 10		Recovery unit clogged alarm	Heaters overload	
ID 11		Preheat. water pump 1 overload	Supply fan inverter alarm	
ID 12		Preheat. Water pump 2 overload	Return fan inverter alarm	
ID 13		Reheat. Water pump 1 overload	Preheat. Water pump 1 overload	
ID 14		Reheat. Water pump 2 overload	H2O preheat. pump 2 overload	
ID 15			H2O cool. pump 1 overload	
ID 16			H2O cool. pump 2 overload	
ID 17			Recovery unit clogged	
ID 18				

Preliminary Documentation

Default configuration: Digital Outputs

N.	pCO3 Small	pCO3 Medium	pCO3 Large	pCOxs
DO1	Supply fan	Supply fan	Supply fan	Supply fan
DO2	Return fan	Exhaust fan	Return fan	Return fan
DO3	Heating water pump	Preheating water pump 1	Heater 1	Preheating water pump
DO4	External air damper	Preheating water pump 2	Heater 2	Reheating water pump
DO5	Supply filter alarm	External air damper	Heater 3	General alarm
DO 6		By-pass damper	By-pass damper	
DO 7	Humidifier	Humidifier	Humidifier	
DO 8	General Alarm	General Alarm	General Alarm	
DO 9		Reheating water pump 1	Preheating water pump 1	
DO 10		Reheating water pump 2	Preheating water pump 2	
DO 11			Cooling water pump 1	
DO 12			Cooling water pump 2	
DO 13				
DO 14				
DO 15				
DO 16				
DO 17				
DO 18				

Default configuration: ANALOGUE Outputs

N.	pCO3 Small	pCO3 Medium	pCO3 Large	pCOxs
Y1	Humidifier	Humidifier	Humidifier	Humidifier
Y2	Heating valve	Preheating valve	Preheating valve	
Y3	Cooling valve	Cooling valve	Cooling valve	BL1.Y Mixed air damper
Y 4	Supply fan	Reheating valve	Supply fan	BL2.Y Preheat. valve
Y 5			External air damper	BL3.Y Cooling valve
Y 6			Mixing damper	BL4.Y Reheat. valve

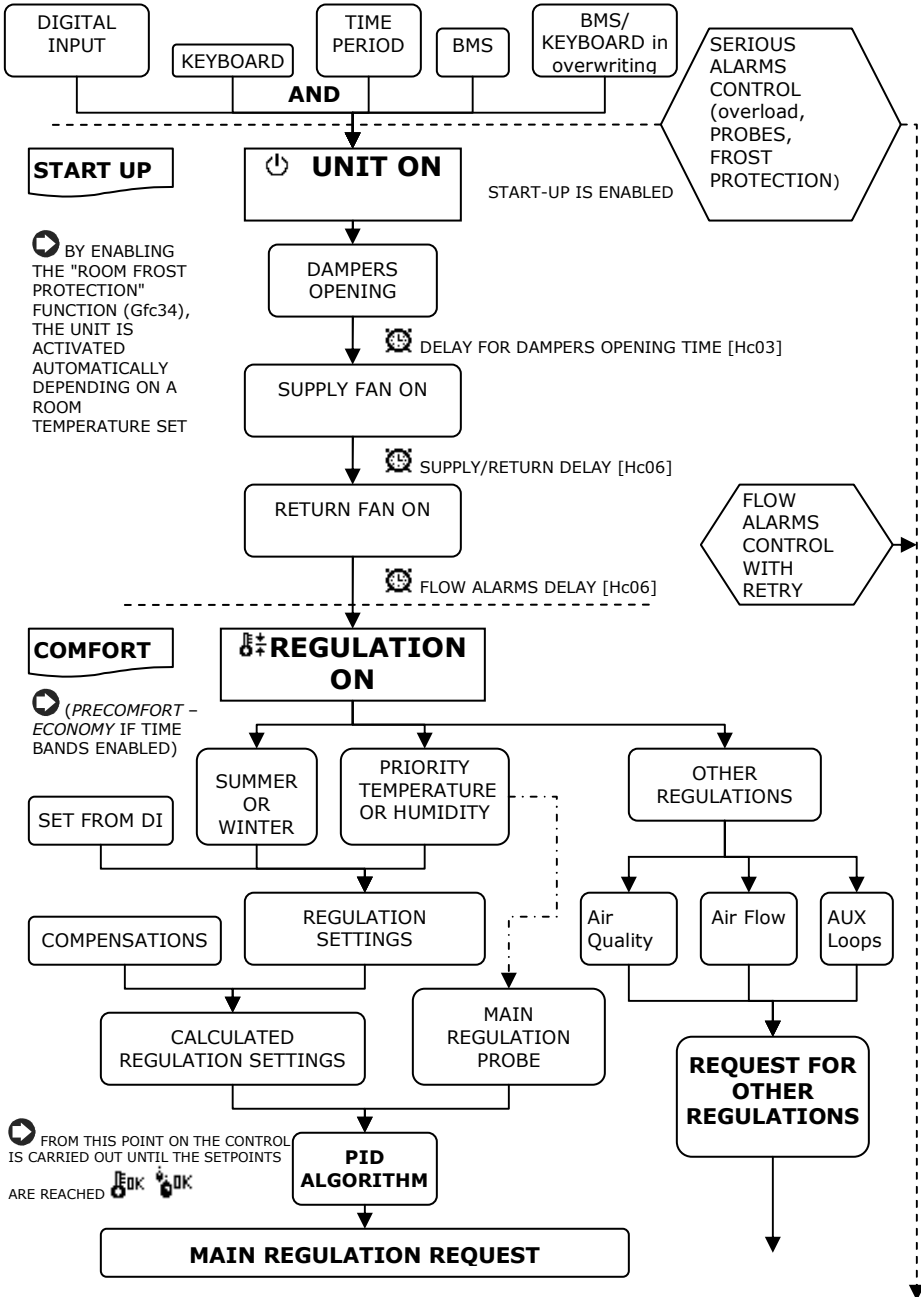
The I/O that **are highlighted** have technical characteristics different from the others I/O of the same kind, meaning:

B** input can accept only passive sensors, ID** digital inputs 24-230Vac, DO** are of a switching outputs type

On pCOxs the ANALOGUE outputs connected to the Belimo actuators in MPbus ® are in bold.

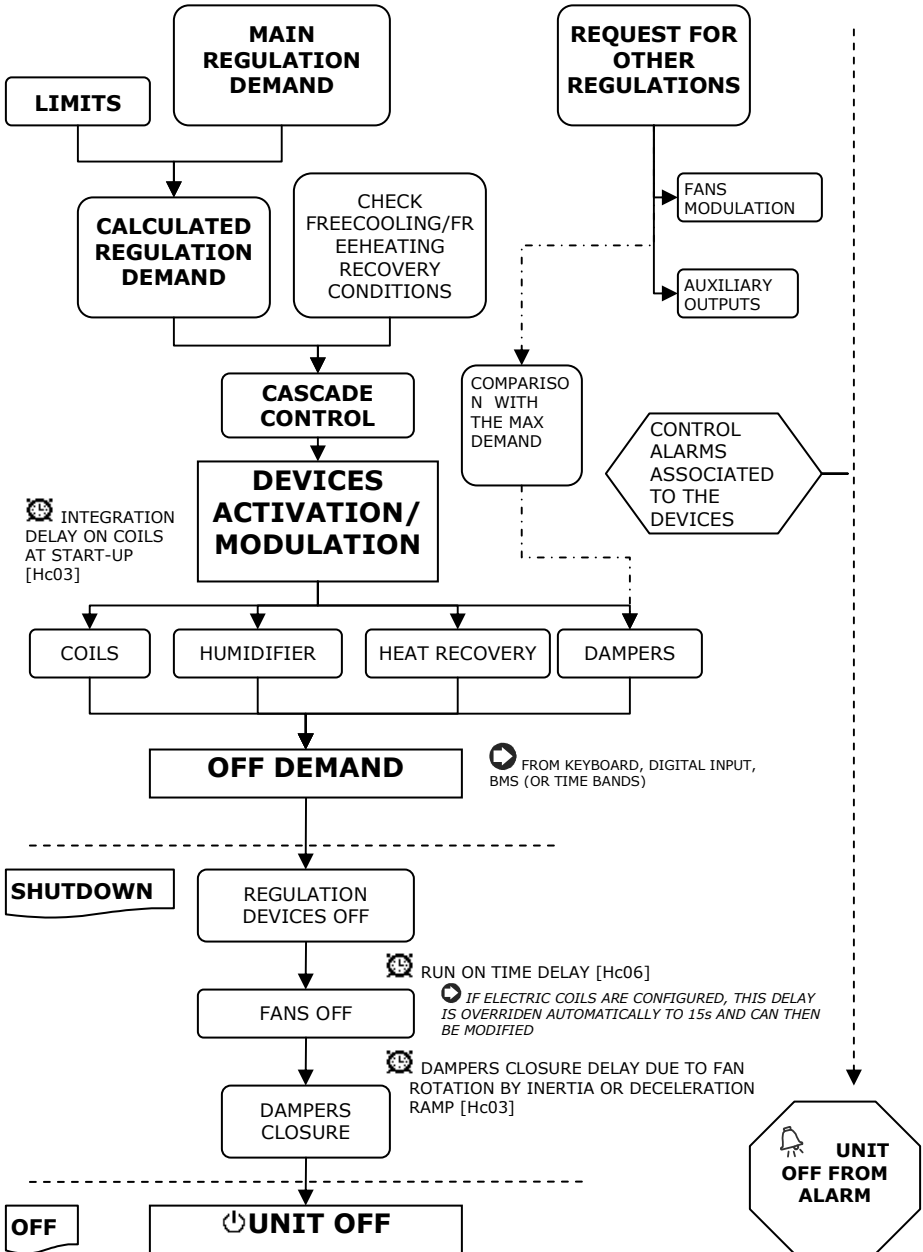
It is possible to control up to 8 actuators using the MPbus® protocol. This option is embedded in a pCOxs model while it is a possible feature on pCO3 by installing MPbus® board on the fieldbus (see pCO sistema manual). Alternatively the pCO3 can be connected in Modbus® to other field devices, such as expansions board, probes and VFD that control the fan motors.

STRATEGY OF OPERATION (1)



STRATEGY OF OPERATION (2)

CONTINUES FROM PREVIOUS PAGE



 **ALARMS TABLE**

CODE [COD]		Code that appears on the alarm mask	
DESCRIPTION		Complete description of the alarm	
Type of rearm (REARM)	MANUAL (M)	the alarm must be reset manually in order to re-start the unit	
	AUTOMATIC (A)	the alarm is reset and the unit re-starts automatically on elimination of the alarm condition	
	SEMI-AUTO (S)	Rearm is automatic but the alarm indication remains	
DEVICES BLOCKED (STOP)		U	Immediate shut down of the unit (no timings are taken into account)
		SH	Unit activated its shutdown procedure respecting fan switch-off delays
		PA	Stop action is set by a parameter (for return fans, duty fans and pumps,...)
		F	Stop of the individual operation without forcing the unit in OFF
ALARMS SERIOUSNESS (S/M)		G	Serious (with closure of the specific output)
		L	Minor (with closure of the specific output)
		P	Serious or Minor decided by parameter

CODE	DESCRIPTION	REARM	STOP	NOTE	G/L
A01	Supply temperature probe alarm	A	F	Temperature limits, reheating	G
A02	Return temperature probe alarm	A	F	Compensation, heat recovery,	G
A03	External temperature probe alarm	A	F	Compensation; heat recovery	L
A04	Supply humidity probe alarm	A	F	Humidity limits	G
A05	Return humidity probe alarm	A	F	If regulation stops the unit	G
A06	External humidity probe alarm	A	F	Compensation; freecooling; heat recovery	L
A07	Supply pressure probe alarm	A	PA	Individual stop of the fan or unit as from parameter	G
A08	Return pressure probe alarm	A	PA	Individual stop of the fan or unit as from parameter	G
A09	Frost protection temperature probe alarm	A	SH	Unit stops	G
A10	Off-coil temperature alarm	A	F		L
A11	CO2 quality probe alarm	A	F	Fan at maximum speed	L
A12	VOC quality probe alarm	A	F	Fan at maximum speed	L
A13	Exhaust temperature alarm	A	F	Heat Recovery if frost protection control is on exhaust probe	L
A14	Cooling or Heat/Cool coil water temperature alarm	A	SH	If control is enabled	L
A15	Preheating coil water temperature alarm	A	SH	If control is enabled	L
A16	Postheating coil water temperature alarm	A	SH	If control is enabled	L
A17	Aux probe 1 alarm	A	F	Aux loop	L
A18	Aux probe 2 alarm	A	F	Aux loop	L
A19	Aux probe 3 alarm	A	F	Aux loop	L
A20	Aux probe 4 alarm	A	F	Aux loop	L

Preliminary Documentation

CODE	DESCRIPTION	REARM	STOP	NOTE	G/L
A21	Room temperature probe alarm	A	F	Room frost protection detected	L
A22	Room humidity probe alarm	A	F		L
A23	External set point offset alarm	A	F	Removes the offset	L
A24	Regulation probe alarm	A	SH		G
B01	Heat recovery clogged alarm	A	F	Recovery	L
B02	Reheating heater overload alarm	M	SH		G
B03	Preheating heater overload alarm	M	SH		G
B04	Cooling coil water alarm	A	F	Cooling	G
B05	Preheating water alarm	A	F	Preheating	G
B06	Reheating water alarm	A	F	Reheating	G
B07	Heat/Cool water alarm	A	F		G
E11	pCOE 1 offline	S	SH		G
E12	Probes 1-2 pCOe 1 configuration incorrect	A	U	Configuration incorrect The unit does not start	G
E13	Probes 3-4 pCOe 1 configuration incorrect	A	U	Configuration incorrect The unit does not start	G
E21	pCOE 2 offline	S	SH		G
E22	Probes 1-2 pCOe 2 configuration incorrect	A	U	Configuration incorrect The unit does not start	G
E23	Probes 3-4 pCOe 2 configuration incorrect	A	U	Configuration incorrect The unit does not start	G
F01	Supply flow 1 alarm	M	PA	Stops all devices	G
F02	return flow 1 alarm	M	PA		G
F03	Supply flow 2 alarm	M	PA	Stops all devices	G
F04	return flow 2 alarm	M	PA	See parameter; Stops all devices	G
F05	Supply fan overload 1	M	PA	Stops all devices	G
F06	Ret. fan overload 1	M	PA	See parameter	G
F07	Supply inverter alarm	M	PA		G
F08	Return inverter alarm	M	PA		G
F09	Supply fan overload 2	M	PA	Stops all devices	G
F10	Ret. fan overload 2	M	PA	See parameter	G
F11	Supply flow 1 warning	A	F	Attempts from parameter	L
F12	Supply flow 2 warning	A	F	Attempts from parameter	L
F13	Return flow 1 warning	A	F	attempts	L
F14	Return flow 2 warning	A	F	attempts	L
G01	Faulty Clock	M	F	Time bands are disabled	L
G02	Extended memory failure	M	F		L
G03	AIN frost protection alarm	A	F	Frost protection management	L
G04	DIN frost protection alarm	A	F	Frost protection management	L
G05	Low room temperature protection	A	F	Automatically switches on the unit	L
H01	Humidifier alarm	M	F	Humidification Block	G
M11	Belimo 1 Offline	S	U		G
M12	Belimo 1 Probe faulty	S	F		L
M13	Belimo 1 FireSmoke	M	U		G
M21	Belimo 2 Offline	S	U		G
M22	Belimo 2 Probe faulty	S	F		L
M23	Belimo 2 FireSmoke	M	U		G
M31	Belimo 3 Offline	S	U		G
M32	Belimo 3 Probe faulty	S	F		L
M33	Belimo 3 FireSmoke	M	U		G
M41	Belimo 4 Offline	S	U		G
M42	Belimo 4 Probe faulty	S	F		L
M43	Belimo 4 FireSmoke	M	U		G

Preliminary Documentation

CODE	DESCRIPTION	REARM	STOP	NOTE	G/L
M51	Belimo 5 Offline	S	U		G
M52	Belimo 5 Probe faulty	S	F		L
M53	Belimo 5 FireSmoke	M	U		G
M61	Belimo 6 Offline	S	U		G
M62	Belimo 6 Probe faulty	S	F		L
M63	Belimo 6 FireSmoke	M	U		G
M71	Belimo 7 Offline	S	U		G
M72	Belimo 7 Probe faulty	S	F		L
M73	Belimo 7 FireSmoke	M	U		G
M81	Belimo 8 Offline	S	U		G
M82	Belimo 8 Probe faulty	S	F		L
M83	Belimo 8 FireSmoke	M	U		G
O01	BMS offline alarm	A	F	The controller uses the physical back-up probes instead that the BMS probes	G
P01	Cooling coil Pump 1 flow warning	A	F		L
P02	Cooling coil Pump 2 flow warning	A	F		L
P03	Cooling coil Pump 1 flow alarm	M	PA	depends on the number of pumps	G
P04	Cooling coil Pump 2 flow alarm	M	PA	depends on the number of pumps	G
P05	Cooling coil Pump 1 overload	M	PA	depends on the number of pumps	G
P06	Cooling coil Pump 2 overload	M	PA	depends on the number of pumps	G
P07	Preheating coil Pump 1 flow warning	A	F		L
P08	Preheating coil Pump 2 flow warning	A	F		L
P09	Preheating coil Pump 1 flow alarm	M	PA	depends on the number of pumps	G
P10	Preheating coil Pump 2 flow alarm	M	PA	depends on the number of pumps	G
P11	Preheating coil Pump 1 overload	M	PA	depends on the number of pumps	G
P12	Preheating coil Pump 2 overload	M	PA	depends on the number of pumps	G
P13	Reheating coil Pump 1 flow warning	A	F		L
P14	Reheating coil Pump 2 flow warning	A	F		L
P15	Reheating coil Pump 1 flow alarm	M	PA	depends on the number of pumps	G
P16	Reheating coil Pump 2 flow alarm	M	PA	depends on the number of pumps	G
P17	Reheating coil Pump 1 overload	M	PA	depends on the number of pumps	G
P18	Reheating coil Pump 2 overload	M	PA	depends on the number of pumps	G
S11	Serial humid. probe 1 faulty alarm	S	F		L
S12	Serial probe offline 1 alarm	S	F		L
S13	Serial temp. probe 1 faulty alarm	S	F		L
S21	Serial humid. probe 2 faulty alarm	S	F		L
S22	Serial probe offline 2 alarm	S	F		L
S23	Serial temp. probe 2 faulty alarm	S	F		L
S31	Serial humid. probe 3 faulty alarm	S	F		L
S32	Serial probe offline 3 alarm	S	F		L
S33	Serial temp. probe 3 faulty alarm	S	F		L
S41	Serial humid. probe 4 faulty alarm	S	F		L
S42	Serial probe offline 4 alarm	S	F		L
S43	Serial temp. probe 4 faulty alarm	S	F		L
S51	Serial humid. probe 5 faulty alarm	S	F		L
S52	Serial probe offline 5 alarm	S	F		L
S53	Serial temp. probe 5 faulty alarm	S	F		L

Preliminary Documentation

CODE	DESCRIPTION	REARM	STOP	NOTE	G/L
S61	Serial humid. probe 6 faulty alarm	S	F		L
S62	Serial probe offline 6 alarm	S	F		L
S63	Serial temp. probe 6 faulty alarm	S	F		L
T01	Humidifier maintenance warning	M	F	Reset time from service	L
T02	Supply fan 1 maintenance warning	M	F	Reset time from service	L
T03	Return fan 1 maintenance warning	M	F	Reset time from service	L
T04	Cooling coil Pump 1 maintenance warning	M	F	Reset time from service	L
T05	Cooling coil Pump 2 maintenance warning	M	F	Reset time from service	L
T06	Preheating coil Pump 1 maintenance warning	M	F	Reset time from service	L
T07	Preheating coil Pump 2 maintenance warning	M	F	Reset time from service	L
T08	Reheating coil Pump 1 maintenance warning	M	F	Reset time from service	L
T09	Reheating coil Pump 2 maintenance warning	M	F	Reset time from service	L
T10	Heater 1 reheating warning	M	F	Reset time from service	L
T11	Heater 2 reheating warning	M	F	Reset time from service	L
T12	Heater 3 reheating warning	M	F	Reset time from service	L
T13	Rotary heat recovery warning	M	F	Reset time from service	L
T14	Supply fan 2 maintenance warning	M	F	Reset time from service	L
T15	Return fan 2 maintenance warning	M	F	Reset time from service	L
T16	Heater 4 reheating warning	M	F	Reset time from service	L
T17	Heater 1 preheating warning	M	F	Reset time from service	L
T18	Heater 2 preheating warning	M	F	Reset time from service	L
T19	Heater 3 preheating warning	M	F	Reset time from service	L
T20	Heater 4 preheating warning	M	F	Reset time from service	L
U01	Generic alarm from digital input	A	U		L
U02	Serious alarm from digital input	M	U		G
U03	Supply filter 1 alarm	A	F	Filters alarm output	L
U04	Supply filter 2 alarm	A	F	Filters alarm output	L
U05	Return filter alarm	A	F	Filters alarm output	L
U06	Smoke/fire alarm	M	U		G
U07	Door open alarm	M	U		G
U08	Filter dirty alarm	A	F	Filters alarm output	L
V11	VFD supply offline alarm	S	U		G
V12	VFD supply 1-2-3-5 alarms	S	PA		P
V13	VFD supply 9-11-13-14-15 alarms	S	PA		P
V14	VFD supply 16-17-22-25-29 alarms	S	PA		P
V15	VFD supply 34-40-41-50-51 alarms	S	PA		P
V16	VFD supply 52-53-54-55 alarms	S	PA		P
V21	VFD return offline alarm	S	U		G
V22	VFD return 1-2-3-5 alarms	S	PA		P
V23	VFD return 9-11-13-14-15 alarms	S	PA		P
V24	VFD return 16-17-22-25-29 alarms	S	PA		P
V25	VFD return 34-40-41-50-51 alarms	S	PA		P
V26	VFD return 52-53-54-55 alarms	S	PA		P
Z01	No alarm active				
Z02	Alarms reset				

BMS VARIABLES

Digital Variables

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
1	HeartBit	Heart-bit	R/W
2	Bms_Din_1	Digital Input 1 from BMS	R/W
3	Bms_Din_2	Digital Input 2 from BMS	R/W
4	Bms_Din_3	Digital Input 3 from BMS	R/W
5	Bms_Din_4	Digital Input 4 from BMS	R/W
6	Din_On_Off	Unit On/Off	R
7	Din_Season	Season selection by digit input	R
8	Din_Double_Set	Double setpoint	R
9	Din_Generic	Generic alarm	R
11	Al_Din_Humidifier	Humidifier alarm by digit input	R
12	Al_Antifreeze_Din	Frost protection alarm by digit input	R
13	Din_Supply_Filter	Supply filter alarm	R
14	Din_Supply_Filter_2	Supply filter 2 alarm	R
15	Din_Return_Filter	Return filter alarm	R
16	Din_Supply_Flow	Supply flow alarm	R
17	Din_Return_Flow	Return flow alarm	R
18	Din_OverL_Pump1_Cool	Cooling coil pump 1 overload	R
19	Din_OverL_Pump1_PreHeat	Pre-Heat coil pump 1 overload	R
20	Din_OverL_Pump1_PostHeat	Re-Heat coil pump 1 overload	R
21	Din_OverL_Pump2_Cool	Cooling coil pump 2 overload	R
22	Din_OverL_Pump2_PreHeat	Pre-Heat coil pump 2 overload	R
23	Din_OverL_Pump2_PostHeat	Re-Heat coil pump 2 overload	R
24	Din_Cool_Flow	Cooling coil flow alarm	R
25	Din_PostHeat_Flow	Re-Heat coil flow alarm	R
26	Din_PreHeat_Flow	Pre-Heat flow alarm	R
27	Din_OverL_Supply_Fan_1	Supply fan 1 overload	R
28	Din_OverL_Supply_Fan_2	Supply fan 2 overload	R
29	Din_OverL_Return_Fan_1	Return fan 1 overload	R
30	Din_OverL_Return_Fan_2	Return fan 2 overload	R
31	Din_Supply_Inv_Fan_Alarm	Supply inverter alarm	R
32	Din_Return_Inv_Fan_Alarm	Return inverter alarm	R
33	Din_OverL_PreH_Heaters	Pre-Heating heaters overload	R
34	Din_OverL_PostH_Heaters	Re-heating heaters overload	R
35	Din_Dirty_Recovery	Heat recovery clogged alarm	R
39	On_Off_Supply_Fan_1	Supply fan 1 On/Off output	R
40	On_Off_Supply_Fan_2	Supply fan 2 On/Off output	R
41	On_Off_Return_Fan_1	Return fan 1 On/Off output	R
42	On_Off_Return_Fan_2	Return fan 2 On/Off output	R
43	Supply_Fan_Line	Supply fan line	R
44	Return_Fan_Line	Return fan line	R
45	SysOn	System On/Off	R
46	On_Off_Humidifier	Humidifier On/Off output	R
47	On_Off_Rotary_Recovery	Rotary recovery On/Off output	R
48	Recovery_Heater	Defrost heat recovery heaters	R
50	Al_Serious	AL U02 - Serious alarm	R
51	Al_Minor	Minor alarm	R
52	Al_Filters	Filters alarm output	R
53	On_Off_External_Damper	External damper On/Off output	R
54	On_Off_ByPass_Damper	ByPass damper On/Off output	R
55	Heaters_Post_1	Re-Heat Heater 1 output	R
56	Heaters_Post_2	Re-Heat Heater 2 output	R
57	Heaters_Post_3	Re-Heat Heater 3 output	R
58	Heaters_Post_4	Re-Heat Heater 4 output	R

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
59	Heaters_Pre_1	Pre-Heat Heater 1 output	R
60	Heaters_Pre_2	Pre-Heat Heater 2 output	R
61	Heaters_Pre_3	Pre-Heat Heater 3 output	R
62	Heaters_Pre_4	Pre-Heat Heater 4 output	R
63	Cool_Step_1	Cooling step 1	R
64	Cool_Step_2	Cooling step 2	R
65	Cool_Step_3	Cooling step 3	R
66	Common_Cool_Heat	Cooling or heating mode for cool/heat coil	R
67	Cool_Pump_1	Cool or Cool/Heat pump 1 output	R
68	PreHeat_Pump_1	Pre-Heat coil pump 1 output	R
69	PostHeat_Pump_1	Re-Heat coil pump 1 output	R
70	Cool_Pump_2	Cool or Cool/Heat coil pump 2 output	R
71	PreHeat_Pump_2	Pre-Heat coil pump 2 output	R
72	PostHeat_Pump_2	Re-Heat coil pump 2 output	R
73	Cool_3P_Open	Cool or Cool/Heat coil floating valve open	R
74	Cool_3P_Close	Cool or Cool/Heat coil floating valve close	R
75	PreHeat_3P_Open	Pre-Heat coil floating valve open	R
76	PreHeat_3P_Close	Pre-Heat coil floating valve close	R
77	PostHeat_3P_Open	Re-Heat coil floating valve open	R
78	PostHeat_3P_Close	Re-Heat coil floating valve close	R
79	OnOff_Auxiliary_1	On/Off regulation loop 1	R
80	OnOff_Auxiliary_2	On/Off regulation loop 2	R
81	OnOff_Auxiliary_3	On/Off regulation loop 3	R
82	OnOff_Auxiliary_4	On/Off regulation loop 4	R
83	SCHEDULER.En_Resume_time	Resume time enable	R/W
84	SCHEDULER.Write_Data	Write the hour/minute scheduler settings	R/W
85	SCHEDULER.Day_Scheduler_En	Scheduler enable	R/W
86	SCHEDULER.Holiday_Period_En	Holiday period enable	R/W
87	SCHEDULER.Special_Days_En	Special days enable	R/W
88	Dst.En_DST	Daylight saving time enable	R/W
126	Belimo_1.AL_Belimo_Offline	AL M11 - Belimo 1 offline	R
127	Belimo_2.AL_Belimo_Offline	AL M21 - Belimo 2 offline	R
128	Belimo_3.AL_Belimo_Offline	AL M31 - Belimo 3 offline	R
129	Belimo_4.AL_Belimo_Offline	AL M41 - Belimo 4 offline	R
130	Belimo_5.AL_Belimo_Offline	AL M51 - Belimo 5 offline	R
131	Belimo_6.AL_Belimo_Offline	AL M61 - Belimo 6 offline	R
132	Belimo_7.AL_Belimo_Offline	AL M71 - Belimo 7 offline	R
133	Belimo_8.AL_Belimo_Offline	AL M81 - Belimo 8 offline	R
134	Warning_Cool_Pump1	AL P01 - Cooling coil pump 1 flow lack warning	R
135	Warning_Cool_Pump2	AL P02 - Cooling coil pump 2 flow lack warning	R
136	Warning_PreH_Pump1	AL P07 - Pre-heating coil pump 1 flow lack warning	R
137	Warning_PreH_Pump2	AL P08 - Pre-heating coil pump 2 flow lack warning	R
138	Warning_PostH_Pump1	AL P13 - Re-heating coil pump 1 flow lack warning	R
139	Warning_PostH_Pump2	AL P14 - Pre-heating coil pump 2 flow lack warning	R
140	Cool_Pumps.AL_Flow_Pump_1	AL P03 - Cooling coil pump 1 flow alarm	R
141	Cool_Pumps.AL_Flow_Pump_2	AL P04 - Cooling coil pump 2 flow alarm	R
142	PreHeat_Pumps.AL_Flow_Pump_1	AL P09 - Pre-heating pump 1 flow alarm	R
143	PreHeat_Pumps.AL_Flow_Pump_2	AL P10 - Pre-heating coil pump 2 flow alarm	R
144	ReHeat_Pumps.AL_Flow_Pump	AL P15 - Re-heating coil pump 1 flow alarm	R

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
	1		
145	ReHeat_Pumps.AI_Flow_Pump_2	AL P16 - Re-heating coil pump 2 flow alarm	R
146	Cool_Pumps.AI_Overload_1	AL P05 - Cooling coil pump 1 overload	R
147	Cool_Pumps.AI_Overload_2	AL P06 - Cooling coil pump 2 overload	R
148	PreHeat_Pumps.AI_Overload_1	AL P11 - Pre-heating coil pump 1 overload	R
149	PreHeat_Pumps.AI_Overload_2	AL P12 - Pre-heating coil pump 2 overload	R
150	ReHeat_Pumps.AI_Overload_1	AL P17 - Re-heating coil pump 1 overload	R
151	ReHeat_Pumps.AI_Overload_2	AL P18 - Re-heating coil pump 2 overload	R
168	TEMP_REG.Regulation_Mode	Season/Auto regulation	R/W
169	TEMP_REG.En_Double_Actions	Enable double action	R/W
170	HUMID_REG.Regulation_Mode	Auto regulation of Humid/Dehumid	R/W
171	Temp_Hum_Priority	Temperature or humidity priority	R/W
172	SCHEDULER.Set_Protection_En	Room frost protection enable	R/W
173	HUMIDIFIER.En_Sup_LT_Lim_Ctrl	Enable supply low temp. limit when adiabatic humidifier	R/W
174	SCHEDULER.Summer_Winter_Auto_Fix	Summer Winter Auto/Fix selection (Auto Mode)	R/W
175	AIR_QUALITY.Msk_Start_Cleaning	Start cleaning command	R/W
176	AIR_QUALITY.Msk_Stop_Cleaning	Stop cleaning command	R/W
177	Supply_VFD_1.Reset_VFD_Alarms	Reset supply VFD alarms	R/W
178	Return_VFD_1.Reset_VFD_Alarms	Reset return vfd alarms	R/W
179	BMS_Season	Summer/Winter selection	R/W
207	Reset_Alarm_BMS	Alarm Reset from BMS	R/W

ANALOGUE variables

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
1	Bms_Ain_1	ANALOGUE input 1 by supervisor	R/W
2	Bms_Ain_2	ANALOGUE input 2 by supervisor	R/W
3	Bms_Ain_3	ANALOGUE input 3 by supervisor	R/W
4	Bms_Ain_4	ANALOGUE input 4 by supervisor	R/W
10	Supply_Temp	Supply temperature	R
11	Return_Temp	Return temperature	R
12	Room_Temp	Room temperature	R
13	Supply_Humid	Supply humidity	R
14	Return_Humid	Return humidity	R
15	Room_Humid	Room humidity	R
16	External_Temp	External temperature	R
17	External_Humid	External humidity	R
18	Freeze_Temp	Frost temperature	R
19	Saturation_Temp	Off coil temperature	R
20	Exhaust_Temp	Exhaust temperature	R
21	Air_Quality_VOC	VOC air quality	R
22	Cool_Coil_Temp	Cool or cool/heat coil water temperature	R
23	PreHeat_Coil_Temp	Pre-Heat coil water temperature	R
24	PostHeat_Coil_Temp	Re-Heat coil water temperature	R
25	Temp_Setp_Offset	Offset set point	R
26	Auxiliary_1	Auxiliary 1	R
27	Auxiliary_2	Auxiliary 2	R

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
28	Auxiliary_3	Auxiliary 3	R
29	Auxiliary_4	Auxiliary 4	R
30	Supply_Enth	Supply enthalpy	R
31	Return_Enth	Return enthalpy	R
32	Room_Enth	Room enthalpy	R
33	External_Enth	External enthalpy	R
34	Setp_Enth	enthalpy setpoint	R
35	Mod_Supply_Fan	Supply fan modulate output	R
36	Mod_Return_Fan	Return fan modulate output	R
37	Mod_Exhaust_Damper	Exhaust damper modulating output	R
38	Mod_External_Damper	External damper modulating output	R
39	Mod_ByPass_Damper	ByPass damper modulating output	R
40	Mod_Mixing_Damper	Mixing damper modulating output	R
41	Mod_Humidifier	Humidifier modulating output	R
42	Mod_PostH_Heater_Inv	Re-Heat Heater inverter output	R
43	Mod_PreH_Heater_Inv	Heater inverter output	R
44	Mod_Rotary_Recovery	Rotary recovery modulating output	R
45	Mod_Valve_cool	Cool or Cool/Heat valve modulating output	R
46	Mod_Valve_PostHeat	Re-Heat valve modulating output	R
47	Mod_Valve_PreHeat	Pre-Heat valve modulating output	R
48	Mod_Auxiliary_1	Modulating regulation loop 1	R
49	Mod_Auxiliary_2	Modulating regulation loop 2	R
50	Mod_Auxiliary_3	Modulating regulation loop 3	R
51	Mod_Auxiliary_4	Modulating regulation loop 4	R
52	VFDs_Status	Status of Supply and return VFD	R
53	Supply_VFD_1.Speed_Require	Supply speed require for VFD	R
54	Supply_VFD_1.Voltage	Supply voltage	R
55	Supply_VFD_1.Current	Supply current	R
56	Supply_VFD_1.Torque	Supply torque	R
57	Supply_VFD_1.Power	Supply power	R
58	Supply_Speed_Hz	Supply speed (Hz)	R
59	Return_VFD_1.Speed_Require	Return speed require for VFD	R
60	Return_VFD_1.Voltage	Return voltage	R
61	Return_VFD_1.Current	Return current	R
62	Return_VFD_1.Torque	Return torque	R
63	Return_VFD_1.Power	Return power	R
64	Return_Speed_Hz	Supply speed (Hz)	R
65	Aout_Belimo_1	Belimo 1 require	R
66	Act_Belimo_Position_1	Feedback position belimo 1	R
67	Aout_Belimo_2	Belimo 2 require	R
68	Act_Belimo_Position_2	Feedback position belimo 2	R
69	Aout_Belimo_3	Belimo 3 require	R
70	Act_Belimo_Position_3	Feedback position belimo 3	R
71	Aout_Belimo_4	Belimo 4 require	R
72	Act_Belimo_Position_4	Feedback position belimo 4	R
73	Aout_Belimo_5	Belimo 5 require	R
74	Act_Belimo_Position_5	Feedback position belimo 5	R
75	Aout_Belimo_6	Belimo 6 require	R
76	Act_Belimo_Position_6	Feedback position belimo 6	R
77	Aout_Belimo_7	Belimo 7 require	R
78	Act_Belimo_Position_7	Feedback position belimo 7	R
79	Aout_Belimo_8	Belimo 8 require	R
80	Act_Belimo_Position_8	Feedback position belimo 8	R
81	Serial_Temp_1	Serial probe temperature 1	R
82	Serial_Humid_1	Serial probe humidity 1	R
83	Serial_Temp_2	Serial probe temperature 2	R
84	Serial_Humid_2	Serial probe humidity 2	R

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
85	Serial_Temp_3	Serial probe temperature 3	R
86	Serial_Humid_3	Serial probe humidity 3	R
87	Serial_Temp_4	Serial probe temperature 4	R
88	Serial_Humid_4	Serial probe humidity 4	R
89	Serial_Temp_5	Serial probe temperature 5	R
90	Serial_Humid_5	Serial probe humidity 5	R
91	Serial_Temp_6	Serial probe temperature 6	R
92	Serial_Humid_6	Serial probe humidity 6	R
93	Set_Temperature	Actual temperature setpoint	R
94	SCHEDULER.Set_Temp_Comf_S	Comfort temperature setpoint (Summer)	R/W
95	SCHEDULER.Set_Temp_Comf_W	Comfort temperature setpoint (Winter)	R/W
96	SCHEDULER.Set_Temp_PreComf_S	Pre-Comfort temperature setpoint (Summer)	R/W
97	SCHEDULER.Set_Temp_PreComf_W	Pre-Comfort temperature setpoint (Winter)	R/W
98	SCHEDULER.Set_Temp_Econ_S	Economy temperature setpoint (Winter)	R/W
99	SCHEDULER.Set_Temp_Econ_W	Economy temperature setpoint (Winter)	R/W
100	Al_Probe_Status_1	Alarm probe status 1 (Bitfield)	R
101	Al_Probe_Status_2	Alarm probe status 2 (Bitfield)	R
102	Al_Belimo_Prb_FS	Belimo probe alarm and firesmoke (bitfield)	R
103	Al_Working_Hours_1	Working hours threshold require maintenance	R
104	Al_Working_Hours_2	Working hours threshold require maintenance	R
105	Al_Serial_Prb	Analog input of serial probe fault (Bitfield)	R
106	SCHEDULER.Set_T_Lim_Low_S	Low temperature setpoint limit (Summer)	R/W
107	SCHEDULER.Set_T_Lim_Hi_S	High temperature setpoint limit (Summer)	R/W
108	SCHEDULER.Set_T_Lim_Low_W	Low temperature setpoint limit (Winter)	R/W
109	SCHEDULER.Set_T_Lim_Hi_W	high temperature setpoint limit (Winter)	R/W
110	TEMP_REG.Diff_Reg_Cool	Cooling differential	R/W
111	TEMP_REG.NZ_Reg_Cool	Cooling neutral zone	R/W
112	TEMP_REG.Diff_Reg_Heat	Heating differential	R/W
113	TEMP_REG.NZ_Reg_Heat	Heating neutral zone	R/W
114	TEMP_REG.Setp_Sum_L_Lim	Summer supply low limit threshold	R/W
115	TEMP_REG.Setp_Win_L_Lim	Winter supply low limit threshold	R/W
116	TEMP_REG.Setp_Sum_H_Lim	Summer supply high limit threshold	R/W
117	TEMP_REG.Setp_Win_H_Lim	Winter supply high limit threshold	R/W
118	TEMP_REG.Diff_Lim	Supply limit differential	R/W
119	Start_Ext_Temp_Sum	Start point of summer compensation	R/W
120	End_Ext_Temp_Sum	End point of summer compensation	R/W
121	Max_Comp_Temp_Sum	Max compensation temperature in summer	R/W
122	Start_Ext_Temp_Win	Start point of winter compensation	R/W
123	End_Ext_Temp_Win	End point of winter compensation	R/W
124	Max_Comp_Temp_Win	Max compensation temperature in winter	R/W
125	DAMPERS.Delta_Temp	Dampers temperature Delta activation	R/W
126	DAMPERS.Diff_Enth	Dampers enthalpy differential	R/W
127	FANS.Supply_Min_Speed	Supply inverter min power	R/W
128	FANS.Supply_Max_Speed	Supply inverter max power	R/W
129	FANS.Return_Min_Speed	Return inverter min power	R/W
130	FANS.Return_Max_Speed	Return inverter max power	R/W
131	PREHEATING.Setp_PreH_Temp	PreHeat battery setpoint	R/W

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
132	PREHEATING.Diff_PreH_Temp	PreHeat battery differential	R/W
133	COOL_HEAT_COIL.Setp_PreH_Temp	PreHeat battery setpoint	R/W
134	COOL_HEAT_COIL.Diff_PreH_Temp	PreHeat battery differential	R/W
135	REHEATING.Setp_PostH_Temp_Comp	Compensation setpoint when dehumidifying	R/W
136	REHEATING.Diff_PostH_Temp_Comp	Compensation differential when dehumidifying	R/W
137	Recovery.Delta_Act_Recovery	Recovery activation (delta)	R/W
138	Recovery.Diff_Act_Recovery	Recovery activation (differential)	R/W
139	Recovery.Diff_Enth	Recovery enth. differential	R/W
140	Recovery.Defrost_Setp	Recovery defrost threshold	R/W
141	Recovery.Defrost_Diff	Recovery defrost differential	R/W
142	Recovery.Defrost_Heater_Offset	Recovery defrost heater offset	R/W
143	FROST.Setp_Freeze_Temp	Frost temperature threshold	R/W
144	FROST.Diff_Freeze_Temp	Frost temperature differential	R/W
145	SCHEDULER.Set_Protection	Room frost protection threshold	R/W
146	HUMIDIFIER.Limit_Setp_Low_Temp	Low temperature threshold when adiabatic humidifying	R/W
147	HUMIDIFIER.Limit_Diff_Low_Temp	Low temperature differential when adiabatic humidifying	R/W
148	Reg_Loop_1.Gen_Setpoint	Setpoint of generic regulation loop 1	R/W
149	Reg_Loop_1.Gen_Differential	Differential for generic regulation 1	R/W
150	Reg_Loop_2.Gen_Setpoint	Setpoint for generic regulation loop 2	R/W
151	Reg_Loop_2.Gen_Differential	Differential for generic regulation loop 2	R/W
152	Reg_Loop_3.Gen_Setpoint	Setpoint for generic regulation loop 3	R/W
153	Reg_Loop_3.Gen_Differential	Differential for generic regulation loop 3	R/W
154	Reg_Loop_4.Gen_Setpoint	Setpoint for generic regulation loop 4	R/W
155	Reg_Loop_4.Gen_Differential	Differential for generic regulation loop 4	R/W
156	SCHEDULER.S_Thr_Temp_Auto	Summer change threshold	R/W
157	SCHEDULER.W_Thr_Temp_Auto	Winter change threshold	R/W
158	Active_Devices	Status of devices (Bitfield)	R
159	Devices_Cfg_1	Devices_Cfg_2 (Bitfield)	R
160	Devices_Cfg_2	Devices_Cfg_2 (Bitfield)	R

Entire Variables

Carel ADDR.	Commissioning Tool variable name	Complete description	Read / Write
1	Supply_Press	Supply pressure	R
2	Return_Press	Return pressure	R
3	Air_Quality_CO2	CO2 air quality	R
4	Supply_VFD_1.Temp_Dissip	Supply temperature dissipation	R
5	Supply_VFD_1.DC_Voltage	Supply DC Voltage	R
6	Supply_Speed_rpm	Supply speed (rpm)	R
7	Return_VFD_1.Temp_Dissip	Return temperature dissipation	R
8	Return_VFD_1.DC_Voltage	Return DC Voltage	R
9	Return_Speed_rpm	Return speed (rpm)	R
10	BMS_Sw_Ver	Software version	R
11	BMS_Sw_Date	Software date	R
12	SCHEDULER.OnOff_Status	OnOff Selection	R/W
13	Set_Humidity	Actual humidity setpoint	R
14	SCHEDULER.Set_Humid_Comp_S	Comfort humidity setpoint (Summer)	R/W
15	SCHEDULER.Set_Humid_Comp_W	Comfort humidity setpoint (Winter)	R/W
16	SCHEDULER.Set_Humid_PreComp_S	Pre-Comfort humidity setpoint (Summer)	R/W
17	SCHEDULER.Set_Humid_PreComp_W	Pre-Comfort humidity setpoint (Winter)	R/W
18	SCHEDULER.Set_Humid_Econ_S	Economy humidity setpoint (Summer)	R/W

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read/Write
19	SCHEDULER.Set_Humid_Econ_W	Economy humidity setpoint (Winter)	R/W
20	pCO_Hour	pCO hour	R/W
21	pCO_Minute	pCO minute	R/W
22	pCO_Day	pCO day	R/W
23	pCO_Month	pCO month	R/W
24	pCO_Year	pCO year	R/W
25	SCHEDULER.Day_Scheduler_Setting	Day scheduler selection	R/W
26	SCHEDULER.F1_Start_Hour	F1 Start hour	R/W
27	SCHEDULER.F1_Start_Minute	F1 Start minute	R/W
28	SCHEDULER.F1_Set_Type	F1 Set type	R/W
29	SCHEDULER.F2_Start_Hour	F2 Start hour	R/W
30	SCHEDULER.F2_Start_Minute	F2 Start minute	R/W
31	SCHEDULER.F2_Set_Type	F2 Set type	R/W
32	SCHEDULER.F3_Start_Hour	F3 Start Hour	R/W
33	SCHEDULER.F3_Start_Minute	F3 Start minute	R/W
34	SCHEDULER.F3_Set_Type	F3 Set type	R/W
35	SCHEDULER.F4_Start_Hour	F4 Start hour	R/W
36	SCHEDULER.F4_Start_Minute	F4 Start minute	R/W
37	SCHEDULER.F4_Set_Type	F4 Set Type	R/W
38	SCHEDULER.P1_Start_Day	Period 1 start day	R/W
39	SCHEDULER.P1_Start_Month	Period 1 start month	R/W
40	SCHEDULER.P1_Stop_Day	Period 1 stop day	R/W
41	SCHEDULER.P1_Stop_Month	Period 1 stop month	R/W
42	SCHEDULER.P1_Set_Type	Period 1 set type	R/W
43	SCHEDULER.P2_Start_Day	Period 2 start day	R/W
44	SCHEDULER.P2_Start_Month	Period 2 start month	R/W
45	SCHEDULER.P2_Stop_Day	Period 2 stop day	R/W
46	SCHEDULER.P2_Stop_Month	Period 2 start month	R/W
47	SCHEDULER.P2_Set_Type	Period 2 set type	R/W
48	SCHEDULER.P3_Start_Day	Period 3 start day	R/W
49	SCHEDULER.P3_Start_Month	Period 3 start month	R/W
50	SCHEDULER.P3_Stop_Day	Period 3 stop day	R/W
51	SCHEDULER.P3_Stop_Month	Period 3 stop month	R/W
52	SCHEDULER.P3_Set_Type	Period 3 set type	R/W
53	SCHEDULER.SD1_Day	Special day 1 day	R/W
54	SCHEDULER.SD1_Month	Special day 1 month	R/W
55	SCHEDULER.SD1_Set_Type	Special day 1 type	R/W
56	SCHEDULER.SD2_Day	Special day 2 day	R/W
57	SCHEDULER.SD2_Month	Special day 2 month	R/W
58	SCHEDULER.SD2_Set_Type	Special day 2 set type	R/W
59	SCHEDULER.SD3_Day	Special day 3 day	R/W
60	SCHEDULER.SD3_Month	Special day 3 month	R/W
61	SCHEDULER.SD3_Set_Type	Special day 3 set type	R/W
62	SCHEDULER.SD4_Day	Special day 4 day	R/W
63	SCHEDULER.SD4_Month	Special day 4 month	R/W
64	SCHEDULER.SD4_Set_Type	Special day 4 set type	R/W
65	SCHEDULER.SD5_Day	Special day 5 day	R/W
66	SCHEDULER.SD5_Month	Special day 5 month	R/W
67	SCHEDULER.SD5_Set_Type	Special day 5 set type	R/W
68	SCHEDULER.SD6_Day	Special day 6 day	R/W
69	SCHEDULER.SD6_Month	Special day 6 month	R/W
70	SCHEDULER.SD6_Set_Type	Special day 6 set type	R/W
71	SCHEDULER.Set_H_Lim_Low_S	Low humidity setpoint limit (Summer)	R/W
72	SCHEDULER.Set_H_Lim_Hi_S	high humidity setpoint limit (Summer)	R/W
73	SCHEDULER.Set_H_Lim_Low_W	Low humidity setpoint limit (Winter)	R/W
74	SCHEDULER.Set_H_Lim_Hi_W	High humidity setpoint limit (Winter)	R/W
75	TEMP_REG.Regulation_Type	Regulation type (P-PI-PID)	R/W
76	TEMP_REG.Limit_Type	Supply temp limit type	R/W

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read/Write
77	TEMP_REG.Int_Time_Cool	Cooling integral time	R/W
78	TEMP_REG.Der_Time_Cool	Cooling derivative time	R/W
79	TEMP_REG.Int_Time_Heat	Heating integral time	R/W
80	TEMP_REG.Der_Time_Heat	Heating derivative time	R/W
81	TEMP_REG.Int_Limit_Time	Integral time for supply limits	R/W
82	Comp_Sum_Type	Summer compensation type	R/W
83	Comp_Win_Type	Winter compensation type	R/W
84	HUMID_REG.Regulation_Type	Regulation humidity type	R/W
85	HUMID_REG.Limit_Type	Supply humid limit type	R/W
86	HUMID_REG.Diff_Reg_DeHum	Dehumidification differential	R/W
87	HUMID_REG.NZ_Reg_DeHum	Dehumidification neutral zone	R/W
88	HUMID_REG.Int_Time_DeHum	Dehumidification integration time	R/W
89	HUMID_REG.Der_Time_DeHum	Dehumidification derivative time	R/W
90	HUMID_REG.Diff_Reg_Humid	Humidification differential	R/W
91	HUMID_REG.NZ_Reg_Humid	Humidification neutral zone	R/W
92	HUMID_REG.Int_Time_Humid	Humidification integration time	R/W
93	HUMID_REG.Der_Time_Humid	Humidification derivative time	R/W
94	HUMID_REG.Setp_L_Lim	Supply low limit threshold	R/W
95	HUMID_REG.Setp_H_Lim	Supply high limit threshold	R/W
96	HUMID_REG.Diff_Lim	Supply limit differential	R/W
97	HUMID_REG.Int_Limit_Time	Integral time for supply limits	R/W
98	P_Atm	Enthalpy atmospheric pressure (mbar)	R/W
99	FANS.Setp_Press_Sup	Supply pressure alarm threshold	R/W
100	FANS.Diff_Press_Sup	Supply pressure differential	R/W
101	FANS.Supply_Int_Time	Supply fan integration time	R/W
102	FANS.Supply_Der_Time	Supply fan derivation time	R/W
103	FANS.Setp_Press_Ret	Return pressure alarm threshold	R/W
104	FANS.Diff_Press_Ret	Return pressure differential	R/W
105	FANS.Return_Int_Time	Return fan integration time	R/W
106	FANS.Return_Der_Time	Return fan derivation time	R/W
107	Cascade.Thr_End_FreeC_Cool	End point of freecooling regulation	R/W
108	Cascade.Thr_Start_FreeC_Cool	Start point of cooling coil regulation	R/W
109	Cascade.Thr_End_Rec_Cool	End point of recovery regulation on cooling	R/W
110	Cascade.Thr_Start_Rec_Cool	Start point of cooling coil regulation	R/W
111	Cascade.Thr_End_FreeC_Heat	End point of freeheating regulation	R/W
112	Cascade.Thr_Start_FreeC_Heat	Start point of freeheating regulation	R/W
113	Cascade.Thr_End_Heat_PostHeat	End point of heating coil regulation	R/W
114	Cascade.Thr_End_Rec_Heat	End point of recovery regulation on heating	R/W
115	Cascade.Thr_Start_Rec_Heat	Start point of heating coil regulation	R/W
116	Cascade.Thr_Start_Heat_PostHeat	Start point of re-heating coil regulation	R/W
117	COOLING.CutOff_Cool	Cut-off on cooling	R/W
118	COOLING.CutOff_DeHum	Cut-off on dehumidification	R/W
119	PREHEATING.CutOff_PreH	Cut-off on heating	R/W
120	REHEATING.CutOff_PostH	CutOff for heating	R/W
121	COOL_HEAT_COIL.CutOff_Cool	Cut-off on cooling	R/W
122	COOL_HEAT_COIL.CutOff_DeHum	Cut-off on dehumidification	R/W
123	COOL_HEAT_COIL.CutOff_Heat	Cut-off on heating	R/W
124	AIR_QUALITY.Setp_Reg_CO2	CO2 regulation setpoint	R/W
125	AIR_QUALITY.Setp_Reg_VOC	VOC regulation setpoint	R/W
126	AIR_QUALITY.Diff_Reg_CO2	CO2 regulation differential	R/W
127	AIR_QUALITY.Diff_Reg_VOC	VOC regulation differential	R/W
128	Recovery.Defrost_Speed	Recovery defrost speed	R/W
129	Reg_Loop_1.Gen_Reg_Int_Time	Integral time of generic regulation 1	R/W
130	Reg_Loop_2.Gen_Reg_Int_Time	Integral time of generic regulation 2	R/W
131	Reg_Loop_3.Gen_Reg_Int_Time	Integral time of generic regulation 3	R/W
132	Reg_Loop_4.Gen_Reg_Int_Time	Integral time of generic regulation 4	R/W

Preliminary Documentation

Carel ADDR.	Commissioning Tool variable name	Complete description	Read/Write
133	SCHEDULER.Season_Sel_From	Season selection type BMS/DIN	R/W
134	SCHEDULER.S_Start_Day	Summer day start	R/W
135	SCHEDULER.S_Start_Month	Summer month start	R/W
136	SCHEDULER.W_Start_Day	Winter day start	R/W
137	SCHEDULER.W_Start_Month	Winter month start	R/W
138	SCHEDULER.S_W_Delay_Auto_Change	Delay between summer/winter change	R/W
139	Force_Supply_Fan	Force supply fan (0=Auto, 1=000%...101=100%)	R/W
140	Force_Return_Fan	Force return fan (0=Auto, 1=000%...101=100%)	R/W
141	Force_Cooling	Force cooling coil(0=Auto, 1=000%...101=100%)	R/W
142	Force_PreHeating	Force pre-heating coil (0=Auto, 1=000%...101=100%)	R/W
143	Force_PostHeating	Force re-heating coil (0=Auto, 1=000%...101=100%)	R/W
144	Force_Heat_Cool	Force cool/heat coil (0=Auto, 1=000%...101=100%)	R/W
145	Force_Humidifier	Force humidifier (0=Auto, 1=000%...101=100%)	R/W
146	Hour_Supply_Fan_1	Supply fan 1 working hours (X1000)	R
147	Hour_L_Supply_Fan_1	Supply fan 1 working hours	R
148	Hour_Supply_Fan_2	Supply fan 2 working hours (X1000)	R
149	Hour_L_Supply_Fan_2	Supply fan 2 working hours	R
150	Hour_Return_Fan_1	Return fan 1 working hours (X1000)	R
151	Hour_L_Return_Fan_1	Return fan 1 working hours	R
152	Hour_Return_Fan_2	Return fan 2 working hours (X1000)	R
153	Hour_L_Return_Fan_2	Return fan 2 working hours	R
154	Hour_Humidifier	Humidifier working hours (X1000)	R
155	Hour_L_Humidifier	Humidifier working hours	R
156	Hour_Rotary_Recovery	Rotary recovery working hours (X1000)	R
157	Hour_L_Rotary_Recovery	Rotary recovery working hours	R
158	Hour_Cool_Pump_1	Cooling pump 1 working hours (X1000)	R
159	Hour_L_Cool_Pump_1	Cooling pump 1 working hours	R
160	Hour_Cool_Pump_2	Cooling pump 2 working hours (X1000)	R
161	Hour_L_Cool_Pump_2	Cooling pump 2 working hours	R
162	Hour_PreH_Pump_1	Pre-heating pump 1 working hours (X1000)	R
163	Hour_L_PreH_Pump_1	Pre-heating pump 1 working hours	R
164	Hour_PreH_Pump_2	Pre-heating pump 2 working hours (X1000)	R
165	Hour_L_PreH_Pump_2	Pre-heating pump 2 working hours	R
166	Hour_PostH_Pump_1	Re-heating pump 1 working hours (X1000)	R
167	Hour_L_PostH_Pump_1	Re-heating pump 1 working hours	R
168	Hour_PostH_Pump_2	Re-heating pump 2 working hours (X1000)	R
169	Hour_L_PostH_Pump_2	Re-heating pump 2 working hours	R
170	Hour_Heaters_Pre_1	Pre-heating heater 1 working hours (X1000)	R
171	Hour_L_Heaters_Pre_1	Pre-heating heater 1 working hours	R
172	Hour_Heaters_Pre_2	Pre-heating heater 2 working hours (X1000)	R
173	Hour_L_Heaters_Pre_2	Pre-heating heater 2 working hours	R
174	Hour_Heaters_Pre_3	Pre-heating heater 3 working hours (X1000)	R
175	Hour_L_Heaters_Pre_3	Pre-heating heater 3 working hours	R
176	Hour_Heaters_Pre_4	Pre-heating heater 4 working hours (X1000)	R

Preliminary Documentation

CareL ADDR.	Commissioning Tool variable name	Complete description	Read/Write
177	Hour_L Heaters_Pre_4	Pre-heating heater 4 working hours	R
178	Hour_Heaters_Post_1	Re-heating heater 1 working hours (X1000)	R
179	Hour_L Heaters_Post_1	Re-heating heater 1 working hours	R
180	Hour_Heaters_Post_2	Re-heating heater 2 working hours (X1000)	R
181	Hour_L Heaters_Post_2	Re-heating heater 2 working hours	R
182	Hour_Heaters_Post_3	Re-heating heater 3 working hours (X1000)	R
183	Hour_L Heaters_Post_3	Re-heating heater 3 working hours	R
184	Hour_Heaters_Post_4	Re-heating heater 4 working hours (X1000)	R
185	Hour_L Heaters_Post_4	Re-heating heater 4 working hours	R
186	Unit_Status	Status of unit	R

Preliminary Documentation