

BACnet gateway kit

*The communication solution for CMS/BMS
using the BACnet protocol*



Installation and operating instructions



Description:

- Communication with **1 machine** as Modbus RTU (or 5 machines when using precision air handling unit – ref. 7419839)
- Conversion of the Modbus RTU protocol to BACnet IP (ref. 7392534, 7392536, 7392538, 7419839) or BACnet MSTP (ref. 7392535, 7392537, 7392539)
- Communication adapted to the Centralised Management Systems
- All "customer" parameters made available

Includes:

- Pre-cabled gateway kit fitted on DIN rail
- Protection and power supply provided
- Customer connection terminal blocks (230VAC, Modbus)

To be carried out by the installer:

- Installation of the gateway kit in the machine or electrics box
- Supply and connection of the Modbus RTU (RS485) bus
- Supply and connection of the BACnet IP network or BACnet MSTP RS485 bus
- Configuration of communication parameters on the controller

To be carried out by the integrator:

- Implementation of the BACnet communication

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1 - LIST OF EQUIPMENT

The BACnet gateway kit is delivered pre-cabled on a DIN rail, and contains the following equipment:

- A 230 VAC connection terminal block
- A 2A circuit breaker
- A 230 VAC/24 VDC power supply
- A communication gateway
- A Modbus RTU terminal block
- A BACnet MSTP terminal block (ref. 7392535, 7392537, 7392539)



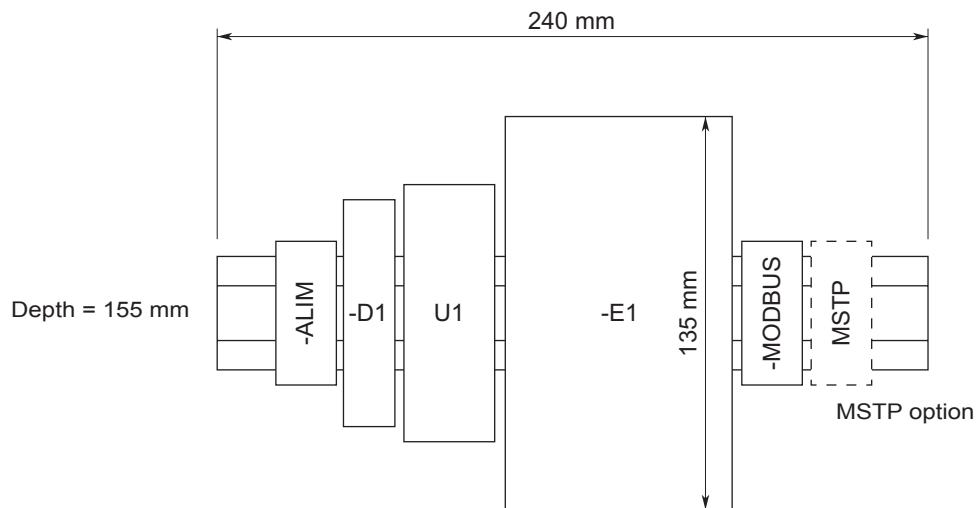
There are 4 **BACnet IP** gateway references for 4 different controllers:

- 7392534 : chiller/PAC controller
- 7392536 : chiller controller
- 7392538 : drycooler controller
- 7419839 : precision air handling unit controller

There are 3 **BACnet MSTP** gateway references for 3 different controllers:

- 7392535 : chiller/PAC controller
- 7392537 : chiller controller
- 7392539 : drycooler controller

2 - DIMENSIONS



3 - TECHNICAL SPECIFICATIONS

General specifications	Supply	230 VAC 50-60 Hz
	Consumption	≤ 1 A
Communication	Modbus RTU	1 (3-wire) - RS485 support
	BACnet:	
	IP version:	1 - IP support
	MSTP version:	1 (3-wire) - RS485 support
Standards	CE conformity	✓
	RoHS conformity	✓
Ambient conditions of use	Temperature	0 to 50°C
	Humidity	80% at 25°C without condensation
	Storage	-30 to 70°C
Miscellaneous	Weight	~ 1 kg

4 - BASIC ARCHITECTURE



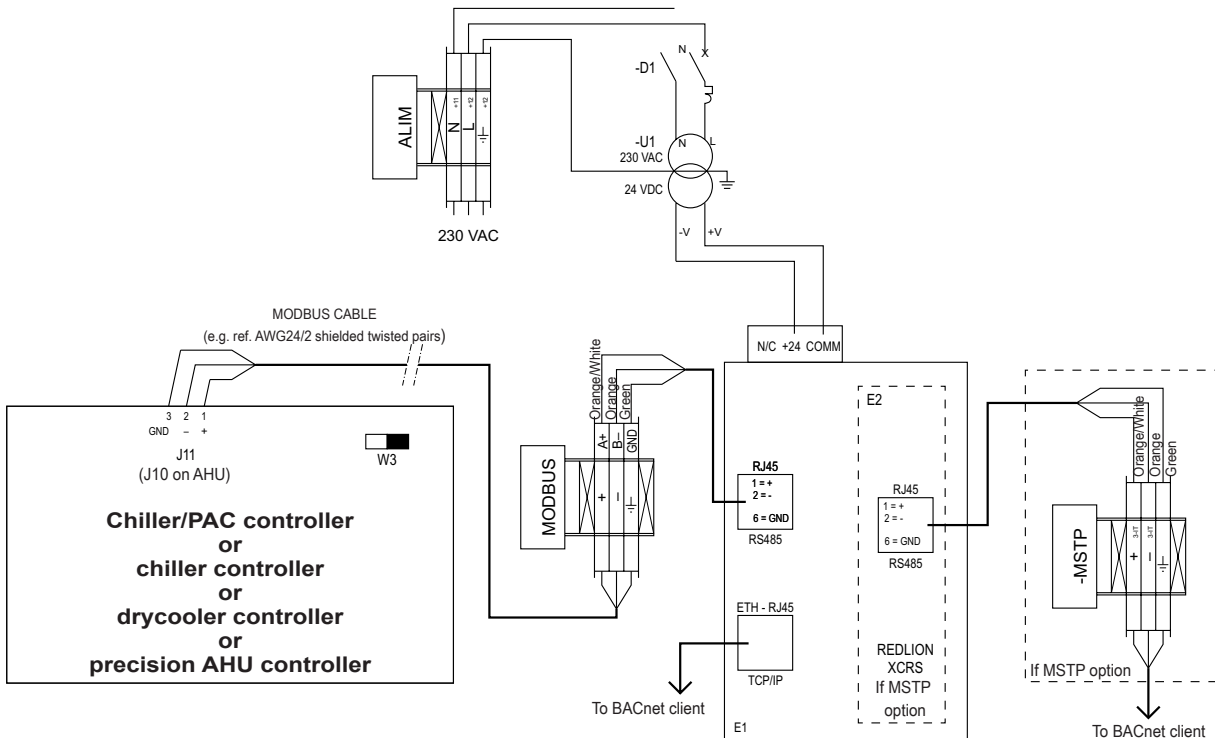
5 - INSTALLATION AND CONNECTIONS

The BACnet gateway kit is a pre-cabled kit for installation in a refrigerating machine vertical unit or in a remote electrical panel.

The installer must have the following:

- the 230 VAC supply for the gateway kit
- the supply and connection for the Modbus bus
- the supply and connection for the BACnet network

The overall connection diagram is as follows:

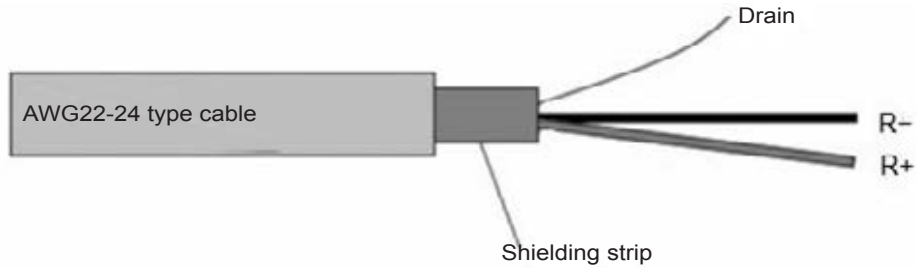


6 - CONNECTION REQUIREMENTS

6.1 Modbus:

- The distance between the gateway and controller must be less than 1000 meters.
- 1 single machine may communicate with the BACnet gateway (or 5 machines when using precision air handling unit – ref. 7419839).
- The communication cable to be used must be: AWG24 - 22 type (1 shielded twisted pair)
- Please note that beyond a certain distance, and depending on the cabling carried out, it may be necessary to use additional equipment (not provided - e.g. polarisation device, etc.). It is strongly recommended that the distance between the gateway and controller is limited.

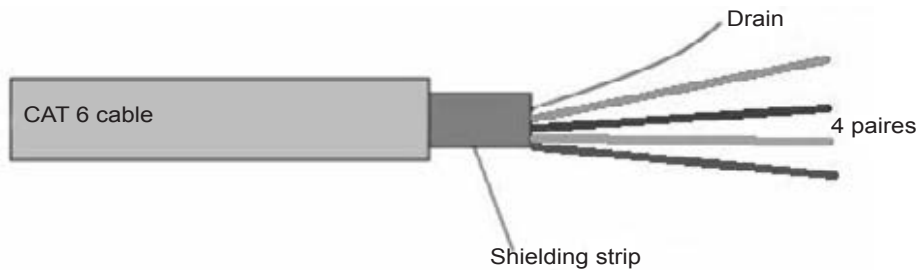
Example of cable



6.2 BACnet IP :

- The distances must observe the specifications recommended in the Ethernet IP networks
- The communication cable to be used must be a minimum of CAT 6. We recommend using a paired shielded cable (type S/FTP)
- The network cable must be a "straight through" type cable

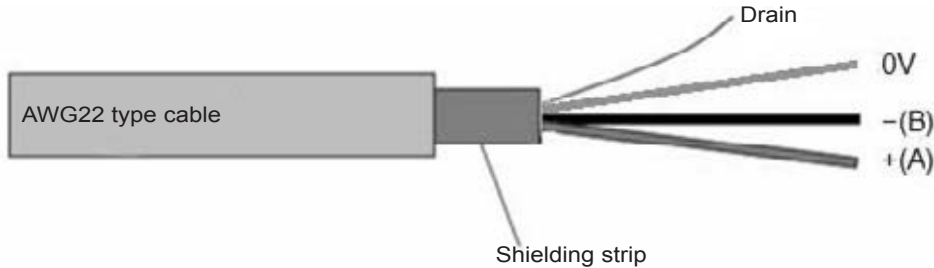
Example of cable



6.3 BACnet MSTP:

- The communication cable to be used must be: AWG22 type (3 twisted shielded wires). A cable with 2 pairs can also be used (1 pair for communication and 1 of the 2 wires from the other pair for shared use)
- The maximum length of a section is 1500 metres (at 38,400 bauds and with an AWG22 cable)
- The connections on the BACnet MSTP side must observe the restrictions imposed by the BACnet association (continuity of shielding, end of line terminating resistors, etc.).

Example of cable



7 - INFORMATION FOR THE INTEGRATOR

7.1 Modbus:

Modbus RTU communication is preconfigured on the gateway kit. To guarantee communication with the controller, it is necessary to configure the following parameters on the machine:

Chiller/PAC, Chiller and precision air handling unit controllers:

- **P700** = Modbus
- **P701** = 9600 bauds (speed)
- **P702** = without (parity)
- **P703** = 1 (stop bit)
- **P704** = no (not swapped)
- **P705** = 1 (Bus no.)
- **P706** = remote

Drycooler controller:

- **A103** = remote
- **A105** = 1 (Bus no.)
- **A116** = no (link with chiller)

Note:

Versions compatible with the gateway:

- Chiller/PAC: from **version V17**
- Chiller: from **version V06**
- Drycooler: from **version V07**
- Precision air handling unit: from **version V15**

For earlier versions, service technician must update the machine controller, otherwise communication errors may occur.

7.2 BACnet IP:

BACnet communication must be implemented using a BACnet integrator.

The BACnet IP gateway kit is configured to the following specifications:

- Protocol: **BACnet IP UDP/IP slave**. The CMS must be a "client" (or "master") type system.
- Device ID: the default device ID is **1000 for chiller/PAC controller, 1001 for chiller controller, 1002 for drycooler controller and 1003 for precision air handling unit**.
If there is a duplication on the network (another item of equipment with this ID or if several gateway kits are in use on the same installation), **it will be necessary to ask the service technician** to modify this parameter.
- Name of the equipment: the name published on the BACnet network is **Chiller/PAC, Chiller, Drycooler or Precision air handling unit** depending on the gateway reference.
- Communication port: standard port **47808**
- Publication of objects: the names of the objects published use mnemonics. It is necessary to use the table at the end of the document to find the meaning.
- Segmentation: segmentation is not supported by the BACnet kit. It is recommended to explore the equipment object by object (deactivation of read all).

7.3 BACnet MSTP:

BACnet communication must be implemented using a BACnet integrator.

The BACnet MSTP gateway kit is configured to the following specifications:

- Protocol: **BACnet MSTP Slave**. The CMS must be a "client" (or "master") type system.
- Support: RS485 2-wire (+ shared)
- Device ID: the default device ID is **1000 for chiller/PAC controller, 1001 for chiller controller, 1002 for drycooler controller and 1003 for precision air handling unit**.
If there is a duplication on the network (another item of equipment with this ID or if several gateway kits are in use on the same installation), **it will be necessary to ask the service technician** to modify this parameter.
- Name of the equipment: the name published on the BACnet network is **Chiller/PAC, Chiller, Drycooler or Precision air handling unit** depending on the gateway reference.
- Highest master: the maximum number of "masters" on the bus is 1 (can be modified by the service technician if necessary)
- Publication of objects: the names of the objects published use mnemonics. It is necessary to use the table at the end of the document to find the meaning.
- Communication:
 - Speed: **38400 bauds**
 - Data bits: **8 bits**
 - Stop bits: **1 bit**
 - Parity: **without**
- Segmentation: segmentation is not supported by the BACnet kit. It is recommended to explore the equipment object by object (deactivation of read all).

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8 - WEB SERVER

The BACnet gateway kit has a web server used to display the variables read via Modbus on the machine.

This web server can be used to check:

- The Modbus bus connection (polarity, etc.)
- Communication with the controller (machine communication parameter settings)
- Concordance of BACnet objects and Modbus variables

This web server can be accessed via the IP address allocated to the gateway kit.

DHCP mode is activated by default, which enables automatic allocation of the address via the DHCP server available on the customer's network. DHCP mode is used to guarantee the allocation of an IP address compliant with the customer's network (address range, IP not used, etc.).

The gateway IP address can be found out using the BACnet client which is able to scan the customer's network and identify the gateway kit available on the network.

Note : if necessary, InneaSoft BACnet Explorer type tools, or even Chipkin BACnet Explorer CAS tools in a limited version, may be used to read the gateway's IP address.

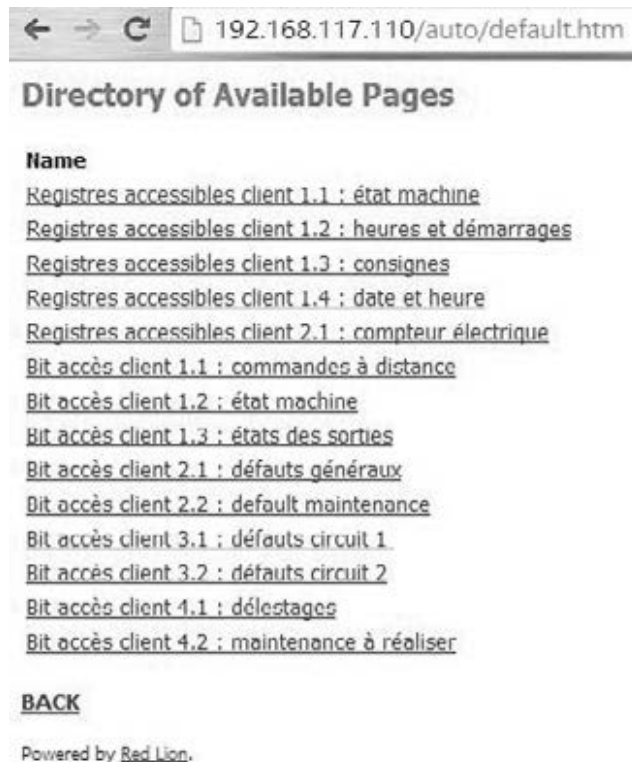
Access to the web server is protected by a user name and associated password:

- User: **client**
- Password: **client**

After logging in, select the "View data" menu:



You can then access the following menu (Chiller/PAC shown in the example):



The different variables read on the controller are classified in sub-menus to facilitate access (see correspondence at the end of the document).

Some menus have variables which are available in write mode:

Name	Value	
Consigne froid n°1	14.00 °C	Edit
Consigne froid n°2	16.00 °C	Edit
Consigne chaud n°1	40.00 °C	Edit
Consigne chaud n°2	37.00 °C	Edit

BACK

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To edit a value, click "Edit" then enter the required value.

Edit Value of Consigne froid n°1

Old Value

New Value

BACK

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9 - REMOTE ACCESS

The BACnet gateway kit may also be accessed remotely (from outside the customer's network), provided that:

- Either access to the customers address followed by a specific port no, is redirected to the LAN IP address for the customer network (e.g.: 86.90.50.45:1234 redirected to 192.168.117.110 on the customer LAN)
- Or a secure VPN account is made available to service technician, enabling the gateway kit IP address only to be accessed
- and the port used for remote access to be opened: 1341

This configuration must be set up with the network administrator.

Remote access may be used to:

- Update the gateway program (to be performed by service technician only)
- Read the information on the machine
- Control the machine

Note: control of the machine is to be used with precaution. It is recommended that interaction with the machine is only carried out locally.

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10 - BACNET OBJECTS

10.1 Chiller/PAC controller:

Registers accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Registers accessible to customer 1.1: machine status						
2	Actual operating mode	ModeFctReel	AV0001	R	bit	0 = Off; 1 = cooling; 2 = heating
3 and 4	Outdoor temperature	OutdoorTemp	AV0050	R	Float	°C
5 and 6	Control setpoint	ActiveSetpt	AV0051	R	Float	°C
7 and 8	Evaporator inlet temperature	EntChwTemp	AV0052	R	Float	°C
9 and 10	Evaporator outlet temperature	LvgChwTemp	AV0053	R	Float	°C
11 and 12	Condenser temperature	TempCondens	AV0054	R	Float	°C
19	Number of stages in operation	NbEtagFct	AV0002	R	bit	
	free	AV0003 to AV0049 and AV0055 to AV0099				
Registers accessible to customer 1.2: times and starts						
32 and 33	Heating mode runtime (in hours)	NbHFctChaud	AV0150	R	Float	h
34 and 35	Cooling mode runtime (in hours)	NbHFctFroid	AV0151	R	Float	h
36 and 37	Pump 1 runtime (in hours)	NbHFctPompe1	AV0152	R	Float	h
38 and 39	Pump 2 runtime (in hours)	NbHFctPompe2	AV0153	R	Float	h
40 and 41	Number of starts, stage 1, circuit 1	NbDemarEta1C1	AV0154	R	Float	
42 and 43	Stage 1, circuit 1 running time	MarcheEta1C1	AV0155	R	Float	h
44 and 45	Number of starts, stage 2, circuit 1	NbDemarEta2C1	AV0156	R	Float	
46 and 47	Stage 2, circuit 1 running time	MarcheEta2C1	AV0157	R	Float	h
48 and 49	Number of starts, stage 1, circuit 2	NbDemarEta1C2	AV0158	R	Float	
50 and 51	Stage 1, circuit 2 running time	MarcheEta1C2	AV0159	R	Float	h
52 and 53	Number of starts, stage 2, circuit 2	NbDemarEta2C2	AV0160	R	Float	
54 and 55	Stage 2, circuit 2 running time	MarcheEta2C2	AV0161	R	float	h
	free	AV0100 to AV0149 and AV0162 to AV0199				
Registers accessible to customer 1.3: setpoints						
257 and 258	Cooling setpoint no. 1	CoolSetpt1	AV0250	R/W	Float	°C
259 and 260	Cooling setpoint no. 2	CoolSetpt1	AV0251	R/W	Float	°C
261 and 262	Heating setpoint no. 1	HeatSetpt1	AV0252	R/W	Float	°C
263 and 264	Heating setpoint no. 2	HeatSetpt2	AV0253	R/W	Float	°C
	free	AV0200 to AV0249 and AV0254 to AV0299				
Registers accessible to customer 1.4: date and time						
512	Year	Annee	AV0350	R/W	bit	0 to 99 years
513	Month	Mois	AV0351	R/W	bit	1 to 12 months
514	Day of the month	JourMois	AV0352	R/W	bit	1 to 31
515	Day of the week	JourSemaine	AV0353	R/W	bit	1 to 7 (1 Monday, 2 Tuesday...)
516	Hour	Heure	AV0354	R/W	bit	0 to 23 h
517	Minute	Minute	AV0355	R/W	bit	0 to 59 min
	free	AV0300 to AV0349 and AV0356 to AV0399				
Registers accessible to customer 2.1: electric meter						
80 and 81	Voltage between phase 1 and 2	TensPh12	AV0450	R	Float	V
82 and 83	Voltage between phase 2 and 3	TensPh23	AV0451	R	Float	V
84 and 85	Voltage between phase 1 and 3	TensPh13	AV0452	R	Float	V
104 and 105	Instantaneous input current	IntAbs	AV0453	R	Float	A
106 and 107	Instantaneous power consumed	PConsoins	AV0454	R	Float	W
108 and 109	Energy consumed	EConso	AV0455	R/W	Float	kWh (write 0 to reset module 1 and 2)
110	Time before sealing test/No. of days before Fgas sealing test	AvantCtrlEtan	AV0400	R	bit	day
111	Time before maintenance / No. of days or hours before maintenance	AvantMaint	AV0401	R	bit	day or h
	free	AV0302 to AV0349 and AV0356 to AV0399				

Bits Accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 1.1: remote controls						
512	On/Off	ChillerEnable	BV0001	R/W	bit	1 = On 0 = Off
513	Control set to setpoint 1 or 2	ChoixConsigne	BV0002	R/W	bit	1 = control on setpoint 2, 0 = control on setpoint 1
514	Heating or cooling operation	ChaudFroid	BV0003	R/W	bit	1 = heating, 0 = cooling
515	Load shedding stop, stage 1, circuit 1	DelestArEt1C1	BV0004	R/W	bit	1 = Load shedding, 0 = Unshed
516	Load shedding stop, stage 2, circuit 1	DelestArEt2C1	BV0005	R/W	bit	1 = Load shedding, 0 = Unshed
517	Load shedding stop, stage 1, circuit 2	DelestArEt1C2	BV0006	R/W	bit	1 = Load shedding, 0 = Unshed
518	Load shedding stop, stage 2, circuit 2	DelestArEt2C2	BV0007	R/W	bit	1 = Load shedding, 0 = Unshed
522	Energy load shedding activation	DelestEnerg	BV0008	R/W	bit	1 = Active, 0 = Inactive
	free					BV0009 to BV0099
Customer access bit 1.2: machine status						
544	On/Off summary	OnOffPasDef	BI0001	R	bit	1 = keyboard on/off = 1 and all automatic operation controls closed and no preheating delay and no fault
545	Cooling operating mode possible	ModeFctFrdPos	BI0002	R	bit	1 = Mode possible
546	Heating operating mode possible	ModeFctChdPos	BI0003	R	bit	1 = Mode possible
547	At least 1 active stage	1Etage Actif-> Etage 1Actif	BI0004	R	bit	1 = 1 stage active, 0 = no stage active
548	Max available power reached	PMaxDispoAtt	BI0005	R	bit	1 = Max available power reached
549	Presence of a critical fault which makes production impossible/Presence of a critical fault	PresDefMajeur	BI0006	R	bit	1 = Present, 0 = Absent
550	Presence of a reinitialisation fault, but production is possible/Presence of a reinitialisation fault	PresDefRearm	BI0007	R	bit	1 = Present, 0 = Absent
551	Existence of a fault which requires intervention to remove it/ Existence of a fault requiring removal	PresDefASup	BI0008	R	bit	1 = Present, 0 = Absent
	free					BI0009 to BI0099
Customer access bit 1.3: output states						
2	Operation summary	OnOff	BI0100	R	bit	1 = On, 0 = Off
3	State of pump 1 output	MarchePompe1	BI0101	R	bit	1 = On, 0 = Off
4	State of pump 2 output	MarchePompe2	BI0102	R	bit	1 = On, 0 = Off
5	Stage 1, circuit 1 output status	Etage1Circuit1	BI0103	R	bit	1 = On, 0 = Off
6	Stage 2, circuit 1 output status	Etage2Circuit1	BI0104	R	bit	1 = On, 0 = Off
7	Stage 1, circuit 2 output status	Etage1Circuit2	BI0105	R	bit	1 = On, 0 = Off
8	Stage 2, circuit 2 output status	Etage2Circuit2	BI0106	R	bit	1 = On, 0 = Off
9	State of auxiliary electric heater 1 or boiler	Appoint1	BI0107	R	bit	1 = On, 0 = Off
10	State of auxiliary electric heater 2	Appoint2	BI0108	R	bit	1 = On, 0 = Off
11	State of auxiliary electric heater 3	Appoint3	BI0109	R	bit	1 = On, 0 = Off
12	State of auxiliary electric heater 4	Appoint4	BI0110	R	bit	1 = On, 0 = Off
	free					BI0111 to BI0199

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Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 2.1: general faults						
16	General fault summary	SyntDefGen	BI0200	R	bit	1 = Active, 0 = Inactive
17	Phase controller fault	DefCtrlPhases	BI0201	R	bit	1 = Active, 0 = Inactive
18	Water flow fault	DefDebitEau	BI0202	R	bit	1 = Active, 0 = Inactive
19	Pump 1 fault	DefPompe1	BI0203	R	bit	1 = Active, 0 = Inactive
20	Pump 2 fault	DefPompe2	BI0204	R	bit	1 = Active, 0 = Inactive
21	Loop pump 1 fault	DefPompe1Bou	BI0205	R	bit	1 = Active, 0 = Inactive
22	Loop pump 2 fault	DefPompe2Bou	BI0206	R	bit	1 = Active, 0 = Inactive
23	Heat exchanger inlet sensor fault	DefSondeEEch	BI0207	R	bit	1 = Active, 0 = Inactive
24	Heat exchanger outlet sensor fault	DefSondeSEch	BI0208	R	bit	1 = Active, 0 = Inactive
25	Outdoor temperature sensor fault	DefSondeText	BI0209	R	bit	1 = Active, 0 = Inactive
26	Condenser sensor fault	DefSondeCond	BI0210	R	bit	1 = Active, 0 = Inactive
27	Manifold outlet sensor fault	DefSondeSColl	BI0211	R	bit	1 = Active, 0 = Inactive
28	Fan fault	DefVentil	BI0212	R	bit	1 = Active, 0 = Inactive
29	EEPROM fault	DefEEPROM	BI0213	R	bit	1 = Active, 0 = Inactive
30	Loop inlet sensor fault (Multiconnect)	DefSondeEBouc	BI0214	R	bit	1 = Active, 0 = Inactive
31	Loop outlet sensor fault (Multiconnect)	DefSondeSBouc	BI0215	R	bit	1 = Active, 0 = Inactive
32	Aeroconnect link fault	DefLiaiAeroCo	BI0216	R	bit	1 = Active, 0 = Inactive
33	Outdoor temperature too high in cooling mode	DefTExtHaute	BI0217	R	bit	1 = Active, 0 = Inactive
34	Change of operating mode fault	DefCgtModeFct	BI0218	R	bit	1 = Active, 0 = Inactive
35	Winter protection	SecuHiver	BI0219	R	bit	1 = Active, 0 = Inactive
36	Exchanger ambient sensor fault	DefSondeAbEch	BI0220	R	bit	1 = Active, 0 = Inactive
37	Extra heater board connection fault	DefCarteAppEl	BI0221	R	bit	1 = Active, 0 = Inactive
47	Hybrid heat pump board connection fault	DefCarteHybri	BI0222	R	bit	1 = Active, 0 = Inactive
48	Gas module output sensor fault/Boiler output sensor fault	DefSondeMoGaz	BI0223	R	bit	1 = Active, 0 = Inactive
94	Expansion board connection board fault for reversible/ expansion board connection board fault	DefCarteAdRev	BI0224	R	bit	1 = Active, 0 = Inactive
95	Tsat discharge fault, Inverter compressor	DefReTComplnv	BI0225	R	bit	1 = Active, 0 = Inactive
96	Mechanical fault, Inverter compressor	DefMecComplnv	BI0226	R	bit	1 = Active, 0 = Inactive
	free					BI0227 to BI0249
Customer access bit 2.2: maintenance fault						
323	Sealing check fault/Fgas maintenance	DefCtrlEtan	BI0250	R	bit	1 = Active, 0 = Inactive
325	Maintenance fault	DefMaint	BI0251	R	bit	1 = Active, 0 = Inactive
	free					BI0252 to BI0299
Customer access bit 3.1: circuit 1 faults						
64	Circuit 1 fault summary	SynDefC1	BI0300	R	bit	1 = Active, 0 = Inactive
65	Stage 1, circuit 1 fault	DefEtag1C1	BI0301	R	bit	1 = Active, 0 = Inactive
66	Stage 2, circuit 1 fault	DefEtag2C1	BI0302	R	bit	1 = Active, 0 = Inactive
67	Circuit 1 manual HP fault	DefHPManuC1	BI0303	R	bit	1 = Active, 0 = Inactive
68	HP fault, circuit 1 pressure sensor	DefHPC1	BI0304	R	bit	1 = Active, 0 = Inactive
69	Circuit 1 LP fault	DefBPC1	BI0305	R	bit	1 = Active, 0 = Inactive
70	Circuit 1 water frosting fault	DefGelEauC1	BI0306	R	bit	1 = Active, 0 = Inactive
71	Circuit 1 refrigerant frosting fault	DefGelFRigC1	BI0307	R	bit	1 = Active, 0 = Inactive
72	Circuit 1 exchanger frosting fault	DefGelEchC1	BI0308	R	bit	1 = Active, 0 = Inactive
73	Stage 1, circuit 1 discharge fault	DefrefEta1C1	BI0309	R	bit	1 = Active, 0 = Inactive
74	Stage 2, circuit 1 discharge fault	DefREfEta2C1	BI0310	R	bit	1 = Active, 0 = Inactive
75	Circuit 1 defrosting fault	DefDegivragC1	BI0311	R	bit	1 = Active, 0 = Inactive
76	Circuit 1 expansion valve fault	DefDetendC1	BI0312	R	bit	1 = Active, 0 = Inactive
77	Circuit 1 expansion valve stepper motor fault	DefMotDetC1	BI0313	R	bit	1 = Active, 0 = Inactive
78	Circuit 1 low superheat fault	DefSurBasC1	BI0314	R	bit	1 = Active, 0 = Inactive
79	Circuit 1 high superheat fault	DefSurHautC1	BI0315	R	bit	1 = Active, 0 = Inactive
80	VCM module fault, expansion valve 1	DefVCMDet1	BI0316	R	bit	1 = Active, 0 = Inactive
81	Circuit 1 exchanger outlet sensor fault	DefSondeSEcC	BI0317	R	bit	1 = Active, 0 = Inactive
82	Circuit 1 exchanger freon sensor fault	DefSondeFEcC	BI0318	R	bit	1 = Active, 0 = Inactive
83	Sensor fault, coil A, circuit 1	DefSondeBAC1	BI0319	R	bit	1 = Active, 0 = Inactive
84	Sensor fault, coil B, circuit 1	DefSondeBBC1	BI0320	R	bit	1 = Active, 0 = Inactive
85	Sensor fault, coil C, circuit 1	DefSondeBCC1	BI0321	R	bit	1 = Active, 0 = Inactive
86	Sensor fault, coil D, circuit 1	DefSondeBDC1	BI0322	R	bit	1 = Active, 0 = Inactive
87	Stage 1, circuit 1 discharge sensor fault	DefSondeRE1C	BI0323	R	bit	1 = Active, 0 = Inactive
88	Stage 2, circuit 1 discharge sensor fault	DefSondeRE2C	BI0324	R	bit	1 = Active, 0 = Inactive
89	Circuit 1 HP sensor fault	DefCapthPC1	BI0325	R	bit	1 = Active, 0 = Inactive

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 3.1: circuit 1 faults (Subsection)						
90	Circuit 1 LP sensor fault	DefCaptBPC1	BI0326	R	bit	1 = Active, 0 = Inactive
91	Circuit 1 suction sensor fault	DefSondeAspC1	BI0327	R	bit	1 = Active, 0 = Inactive
92	Circuit 1 liquid sensor fault	DefSondeLiqC1	BI0328	R	bit	1 = Active, 0 = Inactive
93	Circuit 1 expansion valve board link fault	DefLiaCDC1	BI0329	R	bit	1 = Active, 0 = Inactive
	free					BI0330 to BI0399
Customer access bit 3.2: circuit 2 faults						
256	Circuit 2 fault summary	SyntDefC2	BI0400	R	bit	1 = Active, 0 = Inactive
257	Stage 1, circuit 2 fault	DefEtag1C2	BI0401	R	bit	1 = Active, 0 = Inactive
258	Stage 2, circuit 2 fault	DefEtag2C2	BI0402	R	bit	1 = Active, 0 = Inactive
259	Circuit 2 manual HP fault	DefHPManuC2	BI0403	R	bit	1 = Active, 0 = Inactive
260	HP fault, circuit 2 pressure sensor	DefHPC2	BI0404	R	bit	1 = Active, 0 = Inactive
261	Circuit 2 LP fault	DefBPC2	BI0405	R	bit	1 = Active, 0 = Inactive
262	Circuit 2 water frosting fault	DefGelEauC2	BI0406	R	bit	1 = Active, 0 = Inactive
263	Circuit 2 refrigerant frosting fault	DefGelFFrigC2	BI0407	R	bit	1 = Active, 0 = Inactive
264	Circuit 2 exchanger frosting fault	DefGelEchC2	BI0408	R	bit	1 = Active, 0 = Inactive
265	Stage 1, circuit 2 discharge fault	DefRefEta1C2	BI0409	R	bit	1 = Active, 0 = Inactive
266	Stage 2, circuit 2 discharge fault	DefRefEta2C2	BI0410	R	bit	1 = Active, 0 = Inactive
267	Circuit 2 defrosting fault	DefDegivrC2	BI0411	R	bit	1 = Active, 0 = Inactive
268	Circuit 2 expansion valve fault	DefDetendC2	BI0412	R	bit	1 = Active, 0 = Inactive
269	Circuit 2 expansion valve stepper motor fault	DefMotDetC2	BI0413	R	bit	1 = Active, 0 = Inactive
270	Circuit 2 low superheat fault	DefSurBasC2	BI0414	R	bit	1 = Active, 0 = Inactive
271	Circuit 2 high superheat fault	DefSurHautC2	BI0415	R	bit	1 = Active, 0 = Inactive
272	VCM module fault, expansion valve 2	DefVCMdet2	BI0416	R	bit	1 = Active, 0 = Inactive
273	Circuit 2 exchanger outlet sensor fault	DefSondeSEcC	BI0417	R	bit	1 = Active, 0 = Inactive
274	Circuit 2 exchanger freon sensor fault	DefSondeFEcC	BI0418	R	bit	1 = Active, 0 = Inactive
275	Sensor fault, coil A, circuit 2	DefSondeBaC2	BI0419	R	bit	1 = Active, 0 = Inactive
276	Sensor fault, coil B, circuit 2	DefSondeBBC2	BI0420	R	bit	1 = Active, 0 = Inactive
277	Sensor fault, coil C, circuit 2	DefSondeBCC2	BI0421	R	bit	1 = Active, 0 = Inactive
278	Sensor fault, coil D, circuit 2	DefSondeBDC2	BI0422	R	bit	1 = Active, 0 = Inactive
279	Stage 1, circuit 2 discharge sensor fault	DefSondeRE1C	BI0423	R	bit	1 = Active, 0 = Inactive
280	Stage 2, circuit 2 discharge sensor fault	DefSondeRE2C	BI0424	R	bit	1 = Active, 0 = Inactive
281	Circuit 2 HP sensor fault	DefCaptHPC2	BI0425	R	bit	1 = Active, 0 = Inactive
282	Circuit 2 LP sensor fault	DefCaptBPC2	BI0426	R	bit	1 = Active, 0 = Inactive
283	Circuit 2 suction sensor fault	DefSondeAspC2	BI0427	R	bit	1 = Active, 0 = Inactive
284	Circuit 2 liquid sensor fault	DefSondeLiqC2	BI0428	R	bit	1 = Active, 0 = Inactive
285	Circuit 2 expansion valve board link fault	DefLiaCDC2	BI0429	R	bit	1 = Active, 0 = Inactive
	free					BI0430 to BI0499
Customer access bit 4.1: load shedding						
128	Load shedding, stage 1, circuit 1	DelestEt1C1	BI0500	R	bit	1 = Load shedding, 0 = Unshed
129	Load shedding, stage 2, circuit 1	DelestEt2C1	BI0501	R	bit	1 = Load shedding, 0 = Unshed
320	Load shedding, stage 1, circuit 2	DelestEt1C2	BI0502	R	bit	1 = Load shedding, 0 = Unshed
321	Load shedding, stage 2, circuit 2	DelestEt2C2	BI0503	R	bit	1 = Load shedding, 0 = Unshed
	free					BI0504 to BI0599
Customer access bit 4.2: maintenance due						
322	Sealing/Fgas maintenance due	MaiEtanARea	BI0550	R	bit	1 = Active, 0 = Inactive
324	Maintenance due	MaiARea	BI01551	R	bit	1 = Active, 0 = Inactive
	free					BI0552 to BI0599

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10.2 Chiller controller:

Registers accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Registers accessible to customer 1.1: machine status						
2	Actual operating mode	ModeFctReel	AV0001	R	bit	0 = Off; 1 = cooling; 2 = heating
3 and 4	Outdoor temperature	OutdoorTemp	AV0050	R	Float	°C
5 and 6	Control setpoint	ActiveSetpt	AV0051	R	Float	°C
7 and 8	Evaporator inlet temperature	EntChwTemp	AV0052	R	Float	°C
9 and 10	Evaporator outlet temperature	LvgChwTemp	AV0053	R	Float	°C
11 and 12	Condenser inlet temperature	EntCndWTemp	AV0054	R	Float	°C
13 and 14	Condenser outlet temperature	LvgCndWTemp	AV0055	R	Float	°C
15 and 16	Manifold outlet temperature module 1 module 2	LvgColTmpM1M2	AV0056	R	Float	°C
17 and 18	Manifold outlet temperature master/slave 2 machines	LvgColME2mach	AV0057	R	Float	°C
19	Number of stages in operation	NbEtagFct	AV0002	R	Float	°C
	free		AV0003 to AV0049 and AV0058 to AV0099			
Registers accessible to customer 1.2: times and starts						
32 and 33	P285 Heating mode runtime (in hours)	NbHFctChaud	AV0150	R	Float	h
34 and 35	P286 Cooling mode runtime (in hours)	NbHFctFroid	AV0151	R	Float	h
36 and 37	P287 Pump 1 runtime (in hours)	NbHFctPompe1	AV0152	R	Float	h
38 and 39	P288 Pump 2 runtime (in hours)	NbHFctPompe2	AV0153	R	Float	h
40 and 41	P316 Number of starts, compressor 1	NbDemarComp1	AV0154	R	Float	h
42 and 43	P317 Compressor 1 running time	TpsMarcheCp1	AV0155	R	Float	h
44 and 45	P346 Number of starts, compressor 2	NbDemarComp2	AV0156	R	Bit	
46 and 47	P347 Compressor 2 running time	TpsMarcheCp2	AV0157	R	Float	h
48 and 49	P370 Number of starts, compressor 3	NbDemarComp3	AV0158	R	Bit	
50 and 51	P371 Compressor 3 running time	TpsMarcheCp3	AV0159	R	Float	h
	free		AV0100 to AV0149 and AV0160 to AV0199			
Registers accessible to customer 1.3: setpoints						
257 and 258	P121 Cooling setpoint 1	CoolSetpt1	AV0250	R/W	Float	°C
259 and 260	P122 Cooling setpoint 2	CoolSetpt2	AV0251	R/W	Float	°C
261 and 262	P123 Heating setpoint 1	HeatSetpt1	AV0252	R/W	Float	°C
263 and 264	P124 Heating setpoint 2	HeatSetpt2	AV0253	R/W	Float	°C
	free		AV0254 to AV0299			
Registers accessible to customer 1.4: date and time						
512	Year	Annee	AV0250	R/W	bit	0 to 99 years
513	Month	Mois	AV0300	R/W	bit	1 to 12 months
514	Day of the month	JourMois	AV0301	R/W	bit	1 to 31
515	Day of the week	JourSemaine	AV0302	R/W	bit	1 to 7 (1Monday, 2Tuesday...)
516	Hour	Heure	AV0303	R/W	bit	0 to 23h
517	Minute	Minute	AV0304	R/W	bit	0 to 59 min.
	free		AV0356 to AV0399			
Registers accessible to customer 2.1: electric meter						
80 and 81	Voltage between phases 1 and 2, module 1	TensPh12Mod1	AV0450	R	Float	V
82 and 83	Voltage between phases 2 and 3, module 1	TensPh23Mod1	AV0451	R	Float	V
84 and 85	Voltage between phases 1 and 3, module 1	Tensph13Mod1	AV0452	R	Float	V
86 and 87	Input current module 1	IntAbsMod1	AV0453	R	Float	A
88 and 89	Instant power consumed module 1	PConsolnsMod1	AV0454	R	Float	W
90 and 91	Energy consumed, module 1	EConsoMod1	AV0455	R	Float	kWh (write 0 to reset module 1 and 2)
92 and 93	Voltage between phases 1 and 2, module 2	TensPh12Mod2	AV0456	R	Float	V
94 and 95	Voltage between phases 2 and 3, module 2	TensPh23Mod2	AV0457	R	Float	V
96 and 97	Voltage between phases 1 and 3, module 2	TensPh13Mod2	AV0458	R	Float	V
98 and 99	Input current module 2	IntAbsMod2	AV0459	R	Float	A
100 and 101	Instant power consumed module 2	PConsolnsMod2	AV0460	R	Float	W
102 and 103	Energy consumed, module 2	EConsoMod2	AV0461	R	Float	kWh (write 0 to reset module 1 and 2)
104 and 105	Total input current	IntAbsTot	AV0462	R	Float	A
106 and 107	Total instant power consumed	PConsolnsTot	AV0463	R	Float	W
108 and 109	Total energy consumed	EConsoTot	AV0464	R	Float	kWh (write 0 to reset module 1 and 2)
110	Time before sealing test/No. of days before Fgas sealing test	AvantCtrlEtan	AV0400	R	bit	day
111	Time before maintenance / No. of days or hours before maintenance	AvantMaint	AV0401	R	bit	day or h; depends on P910; (30 to 3013 days if P910 is in months); (200 to 9999 h if P910 is in hours)

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Registers accessible to customer 2.1: electric meter (Subsection)						
277	P900 Fgas sealing check reminder	RapConEtaFgaz	AV0402	R	bit	0 = no, 1 = 3 Months, 2 = 6 Months, 3 = 12 Months
278	P910 Maintenance check reminder	RapConMaint	AV0403	R	bit	0 = No, 1 = Yes in hours, 2 = Yes in months
279	P911 maintenance check frequency	FreqConMaint	AV0404	R	bit	0-99 months
	free		AV0405 to AV0449 and AV0456 to AV04399			

Bits Accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 1.1 : remote controls						
512	On/Off	ChillerEnable	BV0001	R/W	bit	1 = On, 0 = Off
513	Control set to setpoint 1 or 2	ChoixConsigne	BV0002	R/W	bit	1 = control on setpoint 2, 0 = control on setpoint 1
514	Heating or cooling operation	ChaudFroid	BV0003	R/W	bit	1 = heating, 0 = cooling
515	Load shedding stop, compressor 1	DelestArCp1	BV0004	R/W	bit	1 = Active, 0 = Inactive
516	Load shedding, compressor 1 in P min	DelestCp1PMin	BV0005	R/W	bit	1 = Shed, 0 = Unshed
517	Load shedding stop, compressor 2	DelestArCp2	BV0006	R/W	bit	1 = Active, 0 = Inactive
518	Load shedding, compressor 2 in P min	DelestCp2PMin	BV0007	R/W	bit	1 = Shed, 0 = Unshed
519	Load shedding stop, compressor 3	DelestArCp3	BV0008	R/W	bit	1 = Active, 0 = Inactive
520	Load shedding, compressor 3 in P min	DelestCp3PMin	BV0009	R/W	bit	1 = Shed, 0 = Unshed
522	Energy load shedding activation (only if P117 = By bus)	DelestEnerg	BV0010	R/W	bit	1 = Active, 0 = Inactive
	free		BV0011 to BV0099			

Customer access bit 1.2: machine status

544	On/Off summary	OnOffPasDef	BI0001	R	bit	1 = keyboard on/off = 1 and all automatic operation controls closed and no preheating delay and no fault
545	Cooling operating mode possible	ModeFctFrdPos	BI0002	R	bit	1= Mode possible
546	Heating operating mode possible	ModeFctChdPos	BI0003	R	bit	1= Mode possible
547	At least 1 active stage	1EtagActif->Etag1Actif	BI0004	R	bit	1 = Active, 0 = Inactive
548	Max available power reached	PMaxDispoAtt	BI0005	R	bit	1 = ReachedNo, 0 = reached
549	Presence of a critical fault which makes production impossible	PressDefMajeur	BI0006	R	bit	1 = Present, 0 = Absent
550	Presence of a reinitialisation fault, but production is possible	PresDefRearm	BI0007	R	bit	1 = Present, 0 = Absent
551	Existence of a fault which requires intervention to remove it	PresDefASup	BI0008	R	bit	1 = Present, 0 = Absent
	free		BI0009 to BI0099			

Customer access bit 1.3: output states

2	Operation summary	OnOff	BI0100	R	bit	1 = on
3	State of pump 1 output	MarchePompe1	BI0101	R	bit	1 = on
4	State of pump 2 output	MarchePompe1	BI0102	R	bit	1 = on
5	Compressor 1 output state	MarcheComp1	BI0103	R	bit	1 = on
6	Compressor 2 output state	MarcheComp2	BI0104	R	bit	1 = on
7	Compressor 3 output state	MarcheComp3	BI0105	R	bit	1 = on
13	Energy limiter on	LimEnergEncl	BI0106	R	bit	1 = on
	free		BI0107 to BI0199			

Customer access bit 2.1: general faults

16	General fault summary	SyntDefGen	BI0200	R	bit	1 = Active, 0 = Inactive
17	Phase controller fault	DefCtrlPhases	BI0201	R	bit	1 = Active, 0 = Inactive
18	Water flow fault, module 1	DefDebitEeau	BI0201	R	bit	1 = Active, 0 = Inactive
19	Pump 1 fault	DefPompe1	BI0203		bit	1 = Active, 0 = Inactive
20	Pump 2 fault	DefPompe2	BI0204	R	bit	1 = Active, 0 = Inactive
21	Loop pump 1 fault	DefPompe1Bou	BI0205	R	bit	1 = Active, 0 = Inactive

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Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 2.1: general faults (Subsection)						
22	Loop pump 2 fault	DefPompe2Bou	BI0206	R	bit	1 = Active, 0 = Inactive
23	Evaporator inlet sensor fault	DefSondeEEvap	BI0207	R	bit	1 = Active, 0 = Inactive
24	Evaporator outlet sensor fault	DefSondeSEvap	BI0208	R	bit	1 = Active, 0 = Inactive
25	Outdoor temperature sensor fault	DefSondeTExt	BI0209	R	bit	1 = Active, 0 = Inactive
26	Condenser sensor fault	DefSondeCond	BI0210	R	bit	1 = Active, 0 = Inactive
27	Manifold outlet sensor fault for machine with module 500	DefSondeSColl	BI0211	R	bit	1 = Active, 0 = Inactive
28	Fan fault	DefVentil	BI0212	R	bit	1 = Active, 0 = Inactive
29	EEPROM fault	DefEEPROM	BI0213	R	bit	1 = Active, 0 = Inactive
30	Loop inlet sensor fault (Multiconnect)	DefSondeEBouc	BI0214	R	bit	1 = Active, 0 = Inactive
31	Loop outlet sensor fault (Multiconnect)	DefSondeSBouc	BI0215	R	bit	1 = Active, 0 = Inactive
32	Aeroconnect link fault	DefLiaiAeroCo	BI0216	R	bit	1 = Active, 0 = Inactive
33	Outdoor temperature too high in cooling mode	DefTExHaute	BI0217	R	bit	1 = Active, 0 = Inactive
34	Change of operating mode fault	DefCgtModeFct	BI0218	R	bit	1 = Active, 0 = Inactive
35	Winter protection	SecuHiver	BI0219	R	bit	1 = Active, 0 = Inactive
36	Hydraulic module sensor fault	DefSondeAbEch	BI0220	R	bit	1 = Active, 0 = Inactive
37	Condenser outlet sensor fault	DefSondeSCond	BI0221	R	bit	1 = Active, 0 = Inactive
38	Outdoor temperature too high in heating mode	DefTExtHtChd	BI0222	R	bit	1 = Active, 0 = Inactive
39	External fault	DefExt	BI0223	R	bit	1 = Active, 0 = Inactive
40	Emergency stop fault	DefArretUrg	BI0224	R	bit	1 = Active, 0 = Inactive
41	Control sensor fault	DefSondeREGul	BI0225	R	bit	1 = Active, 0 = Inactive
	free					BI0226 to BI0249
Customer access bit 2.2: maintenance						
322	Fgas maintenance due	MaiEtanARea	BI0250	R	bit	1 = Active, 0 = Inactive
323	Sealing check fault	DefCtrlEtan	BI0251	R	bit	1 = Active, 0 = Inactive
324	Maintenance due	MaiArea	BI0252	R	bit	1 = Active, 0 = Inactive
325	Maintenance fault	DefMaint	BI0253	R	bit	1 = Active, 0 = Inactive
	free					BI0254 to BI0299
Customer access bit 3.1: circuit 1 faults						
64	Circuit 1 fault summary	SyntDefC1	BI0300	R	bit	1 = Active, 0 = Inactive
65	Compressor 1 fault	DefComp1	BI0300	R	bit	1 = Active, 0 = Inactive
67	Circuit 1 manual HP fault	DefHPManuC1	BI0302	R	bit	1 = Active, 0 = Inactive
69	Circuit 1 LP fault	DefBPC1	BI0303	R	bit	1 = Active, 0 = Inactive
70	Water freezing fault, circuit 1 and 2	DefGelEauC1C2	BI0304	R	bit	1 = Active, 0 = Inactive
73	Compressor 1 discharge fault	DefRefComp1	BI0305	R	bit	1 = Active, 0 = Inactive
76	Circuit 1 expansion valve fault	DefDetendC1	BI0306	R	bit	1 = Active, 0 = Inactive
78	Circuit 1 low superheat fault	DefSurBasC1	BI0307	R	bit	1 = Active, 0 = Inactive
79	Circuit 1 high superheat fault	DefSurHautC1	BI0308	R	bit	1 = Active, 0 = Inactive
80	Circuit 1 desuperheating fault	DefDesurC1	BI0309	R	bit	1 = Active, 0 = Inactive
81	Circuit 1 lubrication fault	DefLubrifiC1	BI0310	R	bit	1 = Active, 0 = Inactive
87	Compressor 1 discharge sensor fault	DefSondeRefC1	BI0311	R	bit	1 = Active, 0 = Inactive
89	Circuit 1 HP sensor fault	DefCaptHPC1	BI0312	R	bit	1 = Active, 0 = Inactive
90	Circuit 1 LP sensor fault	DefCaptBPC1	BI0313	R	bit	1 = Active, 0 = Inactive
91	Circuit 1 suction sensor fault	DefSondeAspC1	BI0314	R	bit	1 = Active, 0 = Inactive
92	Circuit 1 liquid sensor fault	DefSondeLiqC1	BI0315	R	bit	1 = Active, 0 = Inactive
93	ADD3 board connection fault circuits 1 and 2	DefADD3C1C2	BI0316	R	bit	1 = Active, 0 = Inactive
	free					BI0317 to BI0399
Customer access bit 3.2: circuit 2 faults						
256	Circuit 2 fault summary	SyntDefC2	BI0400	R	bit	1 = Active, 0 = Inactive
257	Compressor 2 fault	DefComp2	BI0401	R	bit	1 = Active, 0 = Inactive
259	Circuit 2 manual HP fault	DefHPManuC2	BI0402	R	bit	1 = Active, 0 = Inactive
261	Circuit 2 LP fault	DefBPC2	BI0403	R	bit	1 = Active, 0 = Inactive
265	Compressor 2 discharge fault	DefRefComp2	BI0404	R	bit	1 = Active, 0 = Inactive
268	Circuit 2 expansion valve fault	DefDetendC2	BI0405	R	bit	1 = Active, 0 = Inactive
270	Circuit 2 low superheat fault	DefSurBasC2	BI0406	R	bit	1 = Active, 0 = Inactive
271	Circuit 2 high superheat fault	DefSurHautC2	BI0407	R	bit	1 = Active, 0 = Inactive
272	Circuit 2 desuperheating fault	DefDesurC2	BI0408	R	bit	1 = Active, 0 = Inactive
273	Circuit 2 lubrication fault	DefLubrifiC2	BI0409	R	bit	1 = Active, 0 = Inactive
279	Compressor 2 discharge sensor fault	DefSondeRefC2	BI0410	R	bit	1 = Active, 0 = Inactive
281	Circuit 2 HP sensor fault	DefCaptHPC2	BI0411	R	bit	1 = Active, 0 = Inactive
282	Circuit 2 LP sensor fault	DefCaptBPC2	BI0412	R	bit	1 = Active, 0 = Inactive

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 3.2: circuit 2 faults (Subsection)						
283	Circuit 2 suction sensor fault	DefSondeAspC2	BI0413	R	bit	1 = Active, 0 = Inactive
284	Circuit 2 liquid sensor fault	DefSondeLiqC2	BI0414	R	bit	1 = Active, 0 = Inactive
	free					BI0415 to BI0499
Customer access bit 3.3: circuit 3 faults						
336	Circuit 3 fault summary	SyntDefC3	BI0500	R	bit	1 = Active, 0 = Inactive
337	Compressor 3 fault	DefComp3	BI0501	R	bit	1 = Active, 0 = Inactive
339	Circuit 3 manual HP fault	DefHPManuC3	BI0502	R	bit	1 = Active, 0 = Inactive
341	Circuit 3 LP fault	DefBPC3	BI0503	R	bit	1 = Active, 0 = Inactive
342	Circuit 3 water frosting fault	DefGelEauC3	BI0504	R	bit	1 = Active, 0 = Inactive
345	Compressor 3 discharge fault	DefRefComp3	BI0505	R	bit	1 = Active, 0 = Inactive
348	Circuit 3 expansion valve fault	DefDetendC3	BI0506	R	bit	1 = Active, 0 = Inactive
350	Circuit 3 low superheat fault	DefSurBasC3	BI0507	R	bit	1 = Active, 0 = Inactive
351	Circuit 3 high superheat fault	DefSurHautC3	BI0508	R	bit	1 = Active, 0 = Inactive
352	Circuit 3 desuperheating fault	DefDesurC3	BI0509	R	bit	1 = Active, 0 = Inactive
353	Circuit 3 lubrication fault	DefLubrifiC3	BI0510	R	bit	1 = Active, 0 = Inactive
359	Compressor 3 discharge sensor fault	DefSondeRefC3	BI0511	R	bit	1 = Active, 0 = Inactive
361	Circuit 3 HP sensor fault	DefCaptHPC3	BI0512	R	bit	1 = Active, 0 = Inactive
362	Circuit 3 LP sensor fault	DefCaptBPC3	BI0513	R	bit	1 = Active, 0 = Inactive
363	Circuit 3 suction sensor fault	DefSondeAspC3	BI0514	R	bit	1 = Active, 0 = Inactive
364	Circuit 3 liquid sensor fault	DefSondeLiqC3	BI0515	R	bit	1 = Active, 0 = Inactive
365	ADD3 board connection fault circuit 3	DefADD3C3	BI0516	R	bit	1 = Active, 0 = Inactive
366	ADD1 board connection fault circuit 3	DefADD1C3	BI0517	R	bit	1 = Active, 0 = Inactive
	free					BI0518 to BI0599
Customer access bit 4.1: load shedding						
128	Load shedding compressor 1	DelestComp1	BI0600	R	bit	1 = Active, 0 = Inactive
320	Load shedding compressor 2	DelestComp2	BI0601	R	bit	1 = Active, 0 = Inactive
384	Load shedding compressor 3	DelestComp3	BI0602	R	bit	1 = Active, 0 = Inactive
	free					BI0603 to BI0699

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10.3 Drycooler controller:

Registers accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Registers accessible to customer 1.1: coil type						
401	A03: Coil 1 type	TypeBat1	AV0012	R/W	word	0 => 1 low-temperature water circuit 1 => 2 low-temperature water circuits 2 => 1 high-temperature water circuit 3 => 2 high-temperature water circuits 4 => 1 refrigerant circuit 5 => 2 refrigerant circuits
403	A05: Coil 2 type	TypeBat2	AV0013	R/W	word	0 => 1 low-temperature water circuit 1 => 2 low-temperature water circuits 2 => 1 high-temperature water circuit 3 => 2 high-temperature water circuits 4 => 1 refrigerant circuit 5 => 2 refrigerant circuits
	free					AI0015 to AI0049
Registers accessible to customer 1.2: machine status						
2	operating status	EtatFonc	AV0014	R	mot	On/off (1 = on and AOC closed)
116 and 117	Outdoor temperature	TempExt	AI0100	R	float	°C
100 and 101	Control setpoint, coil 1, circuit 1	ConsB1C1	AI0101	R	float	°C
102 and 103	Control setpoint, coil 1, circuit 2	ConsB1C2	AI0102	R	float	°C
104 and 105	Control setpoint, coil 2, circuit 1	ConsB2C1	AI0103	R	float	°C
106 and 107	Control setpoint, coil 2, circuit 2	ConsB2C2	AI0104	R	float	°C
108 and 109	Temperature or pressure, coil 1, circuit 1	PressBat1Cir1	AI0105	R	float	°C
110 and 111	Temperature or pressure, coil 1, circuit 2	PressBat1Cir2	AI0106	R	float	°C
112 and 113	Temperature or pressure, coil 2, circuit 1	PressBat2Cir1	AI0107	R	float	°C
114 and 115	Temperature or pressure, coil 2, circuit 2	PressBat2Cir2	AI0108	R	float	°C
	free					AI0109 to AI199
Registers accessible to customer 1.3: fan runtime						
300 and 301	Fan runtime (in hours), stage 1 line 1	NbHVE1L1	AI0200	R	float	h
302 and 303	Fan runtime (in hours), stage 2 line 1	NbHVE2L1	AI0201	R	float	h
304 and 305	Fan runtime (in hours), stage 3 line 1	NbHVE3L1	AI0202	R	float	h
306 and 307	Fan runtime (in hours), stage 4 line 1	NbHVE4L1	AI0203	R	float	h
308 and 309	Fan runtime (in hours), stage 5 line 1	NbHVE5L1	AI0204	R	float	h
310 and 311	Fan runtime (in hours), stage 6 line 1	NbHVE6L1	AI0205	R	float	h
323 and 313	Fan runtime (in hours), stage 1 line 2	NbHVE1L2	AI0206	R	float	h
314 and 315	Fan runtime (in hours), stage 2 line 2	NbHVE2L2	AI0207	R	float	h
316 and 317	Fan runtime (in hours), stage 3 line 2	NbHVE3L2	AI0208	R	float	h
318 and 319	Fan runtime (in hours), stage 4 line 2	NbHVE4L2	AI0209	R	float	h
320 and 321	Fan runtime (in hours), stage 5 line 2	NbHVE5L2	AI0210	R	float	h
322 and 323	Fan runtime (in hours), stage 6 line 2	NbHVE6L2	AI0211	R	float	h
	free					AI0212 to AI0299
Registers accessible to customer 1.4: setpoints						
452 and 453	A121: Setpoint 1, coil 1, circuit 1	Cons1P_Bat1C1	AV0308	R/W	float	°C
454 and 455	A122: Setpoint 2, coil 1, circuit 1	Cons2P_Bat1C1	AV0309	R/W	float	°C
456 and 457	A123: Setpoint 1, coil 1, circuit 2	Cons1P_Bat1C2	AV0310	R/W	float	°C
458 and 459	A124: Setpoint 2, coil 1, circuit 2	Cons2P_Bat1C2	AV0311	R/W	float	°C
460 and 461	A125: Setpoint 1, coil 2, circuit 1	Cons1P_Bat2C2	AV0312	R/W	float	°C
462 and 463	A126: Setpoint 2, coil 2, circuit 1	Cons2P_Bat2C1	AV0313	R/W	float	°C
464 and 465	A127: Setpoint 1, coil 2, circuit 2	Cons1P_Bat2C2	AV0314	R/W	float	°C
466 and 467	A128: Setpoint 2, coil 2, circuit 2	Cons2P_Bat2C2	AV0315	R/W	float	°C
	free					AV0316 to AV0399
Registers accessible to customer 3.1: misting						
561 and 562	A200: misting difference, coil 1, circuit 1	DBrumB1C1	AV0550	R/W	float	°C
563 and 564	A201: misting difference, coil 1, circuit 2	DBrumB1C2	AV0551	R/W	float	°C
565 and 566	A202: misting difference, coil 2, circuit 1	DBrumB2C1	AV0552	R/W	float	°C
567 and 568	A203: misting difference, coil 2, circuit 2	DBrumB2C2	AV0553	R/W	float	°C
569	A113 : Type of misting	TypeBrum	AV0500	R/W	mot	(1 = Fault) (0: water optimisation, 1: electricity optimisation)
	free					AV0501 to AV0549 and AV0554 to AV0599

Bits Accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
Customer access bit 1.1: Remote controls						
31	On/Off (0 = off, 1 = on)	AeroEnable	BV0001	R/W	bit	1 = On, 0 = Off
32	Control set to setpoint 1 or 2	RegulCons1ou2	BV0002	R/W	bit	1 = control on setpoint 2, 0 = control on setpoint 1
	free					BV0003 to BV0099
Customer access bit 1.2: output states						
17	On/Off	OnOff	BI0100	R	bit	1 = On and AOC closed, 0 = Off
18	Misting state	EtatBrum	BI0101	R	bit	1 = On, 0 = Off
19	Free cooling state	EtatFCool	BI0102	R	bit	1 = On, 0 = Off
40	Fan state, stage 1, line 1	MarcheVenE1L1	BI0103	R	bit	1 = On, 0 = Off
41	Fan state, stage 2, line 1	MarcheVenE2L1	BI0104	R	bit	1 = On, 0 = Off
42	Fan state, stage 3, line 1	MarcheVenE3L1	BI0105	R	bit	1 = On, 0 = Off
43	Fan state, stage 4, line 1	MarcheVenE4L1	BI0106	R	bit	1 = On, 0 = Off
44	Fan state, stage 5, line 1	MarcheVenE5L1	BI0107	R	bit	1 = On, 0 = Off
45	Fan state, stage 6, line 1	MarcheVenE6L1	BI0108	R	bit	1 = On, 0 = Off
46	Fan state, stage 1, line 2	MarcheVenE1L2	BI0109	R	bit	1 = On, 0 = Off
47	Fan state, stage 2, line 2	MarcheVenE2L2	BI0110	R	bit	1 = On, 0 = Off
48	Fan state, stage 3, line 2	MarcheVenE3L2	BI0111	R	bit	1 = On, 0 = Off
49	Fan state, stage 4, line 2	MarcheVenE4L2	BI0112	R	bit	1 = On, 0 = Off
50	Fan state, stage 5, line 2	MarcheVenE5L2	BI0113	R	bit	1 = On, 0 = Off
51	Fan state, stage 6, line 2	MarcheVenE6L2	BI0114	R	bit	1 = On, 0 = Off
	free					BI0115 to BI0199
Customer access bit 1.3: Fan and sensor faults						
1	Fan fault, stage 1, line 1	DefVentE1L1	BI0200	R	bit	1 = Active, 0 = Inactive
2	Fan fault, stage 2, line 1	DefVentE2L1	BI0201	R	bit	1 = Active, 0 = Inactive
3	Fan fault, stage 3, line 1	DefVentE3L1	BI0202	R	bit	1 = Active, 0 = Inactive
4	Fan fault, stage 4, line 1	DefVentE4L1	BI0203	R	bit	1 = Active, 0 = Inactive
5	Fan fault, stage 5, line 1	DefVentE5L1	BI0204	R	bit	1 = Active, 0 = Inactive
6	Fan fault, stage 6 line 1 or fan fault stage 7, line 1	DefVentE6L1	BI0205	R	bit	1 = Active, 0 = Inactive
7	Fan fault, stage 1, line 2	DefVentE1L2	BI0206	R	bit	1 = Active, 0 = Inactive
8	Fan fault, stage 2, line 2	DefVentE2L2	BI0207	R	bit	1 = Active, 0 = Inactive
9	Fan fault, stage 3, line 2	DefVentE3L2	BI0208	R	bit	1 = Active, 0 = Inactive
10	Fan fault, stage 4, line 2	DefVentE4L2	BI0209	R	bit	1 = Active, 0 = Inactive
11	Fan fault, stage 5, line 2	DefVentE5L2	BI0210	R	bit	1 = Active, 0 = Inactive
12	Fan fault, stage 6, line 2	DefVentE6L2	BI0211	R	bit	1 = Active, 0 = Inactive
13	Sensor or pressure fault, coil 1, circuit 1	DefSTPB1C1	BI0212	R	bit	1 = Active, 0 = Inactive
14	Sensor or pressure fault, coil 1, circuit 2	DefSTPB1C2	BI0213	R	bit	1 = Active, 0 = Inactive
15	Sensor or pressure fault, coil 2, circuit 1	DefSTPB2C1	BI0214	R	bit	1 = Active, 0 = Inactive
16	Sensor or pressure fault, coil 2, circuit 2	DefSTPB2C2	BI0215	R	bit	1 = Active, 0 = Inactive
	free					BI0216 to BI0299

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10.4 Precision air handling unit controller:

Registers Accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
AHU no1 – AHU_1.mnemonic						
3 and 4	Outdoor temperature (P258)	OutdoorTemp	AV0004	R	Float	°C
5 and 6	Controlled temperature (P255)	TempRegulee	AV0001	R	Float	°C
7 and 8	Controlled humidity (P256)	HygroRegulee	AV0002	R	Float	% RH
13 and 14	Outdoor humidity (P265)	OutdoorHygro	AV0005	R	Float	% RH
257 and 258	Cooling temperature setpoint (P103)	CoolSetpt	AV0025	R/W	Float	°C
259 and 260	Heating temperature setpoint (P106)	HeatSetpt	AV0026	R/W	Float	°C
5382 and 5383	Filter differential pressure (P257)	PresDiffFiltre	AV0006	R	Float	Pa
5384 and 5385	Supply air temperature (P259)	TempSouff	AV0003	R	Float	°C
5428 and 5429	Floor differential pressure (P266)	PresPlancher	AV0007	R	Float	Pa
48	Heating coil percentage (P290)	PourBatChaud	AV0052	R	Word	%
49	Cooling coil percentage (P291)	PourBatFroid	AV0051	R	Word	%
50	Humidifier percentage (P294)	PourHumidif	AV0054	R	Word	%
51	Air flow percentage (P295)	PourDebitAir	AV0050	R	Word	%
52	Fresh air percentage (P296)	PourAirNeuf	AV0055	R	Word	%
53	Electric heater percentage (P297)	PourBatElec	AV0053	R	Word	%
261	Humidity setpoint during dehumidification (P109)	DeshuSetpt	AV0075	R/W	Word	% RH
262	Humidity setpoint during humidification (P115)	HumidSetpt	AV0076	R/W	Word	% RH
4638	Percent rotation speed (P155)	FanSpeedCmd	AV0077	R/W	Word	%
AHU no2 – AHU_2.mnemonic						
3 and 4	Outdoor temperature (P258)	OutdoorTemp	AV0103	R	Float	°C
5 and 6	Controlled temperature (P255)	TempRegulee	AV0100	R	Float	°C
7 and 8	Controlled humidity (P256)	HygroRegulee	AV0101	R	Float	% RH
13 and 14	Outdoor humidity (P265)	OutdoorHygro	AV0104	R	Float	% RH
257 and 258	Cooling temperature setpoint (P103)	CoolSetpt	AV0125	R/W	Float	°C
259 and 260	Heating temperature setpoint (P106)	HeatSetpt	AV0126	R/W	Float	°C
5382 and 5383	Filter differential pressure (P257)	PresDiffFiltre	AV0105	R	Float	Pa
5384 and 5385	Supply air temperature (P259)	TempSouff	AV0102	R	Float	°C
5428 and 5429	Floor differential pressure (P266)	PresPlancher	AV0106	R	Float	Pa
48	Heating coil percentage (P290)	PourBatChaud	AV0152	R	Word	%
49	Cooling coil percentage (P291)	PourBatFroid	AV0151	R	Word	%
50	Humidifier percentage (P294)	PourHumidif	AV0154	R	Word	%
51	Air flow percentage (P295)	PourDebitAir	AV0150	R	Word	%
52	Fresh air percentage (P296)	PourAirNeuf	AV0155	R	Word	%
53	Electric heater percentage (P297)	PourBatElec	AV0153	R	Word	%
261	Humidity setpoint during dehumidification (P109)	DeshuSetpt	AV0175	R/W	Word	% RH
262	Humidity setpoint during humidification (P115)	HumidSetpt	AV0176	R/W	Word	% RH
4638	Percent rotation speed (P155)	FanSpeedCmd	AV0177	R/W	Word	%
AHU no3 – AHU_3.mnemonic						
3 and 4	Outdoor temperature (P258)	OutdoorTemp	AV0203	R	Float	°C
5 and 6	Controlled temperature (P255)	TempRegulee	AV0200	R	Float	°C
7 and 8	Controlled humidity (P256)	HygroRegulee	AV0201	R	Float	% RH
13 and 14	Outdoor humidity (P265)	OutdoorHygro	AV0204	R	Float	% RH
257 and 258	Cooling temperature setpoint (P103)	CoolSetpt	AV0225	R/W	Float	°C
259 and 260	Heating temperature setpoint (P106)	HeatSetpt	AV0226	R/W	Float	°C
5382 and 5383	Filter differential pressure (P257)	PresDiffFiltre	AV0205	R	Float	Pa
5384 and 5385	Supply air temperature (P259)	TempSouff	AV0202	R	Float	°C
5428 and 5429	Floor differential pressure (P266)	PresPlancher	AV0206	R	Float	Pa
48	Heating coil percentage (P290)	PourBatChaud	AV0252	R	Word	%
49	Cooling coil percentage (P291)	PourBatFroid	AV0251	R	Word	%
50	Humidifier percentage (P294)	PourHumidif	AV0254	R	Word	%
51	Air flow percentage (P295)	PourDebitAir	AV0250	R	Word	%
52	Fresh air percentage (P296)	PourAirNeuf	AV0255	R	Word	%
53	Electric heater percentage (P297)	PourBatElec	AV0253	R	Word	%
261	Humidity setpoint during dehumidification (P109)	DeshuSetpt	AV0275	R/W	Word	% RH
262	Humidity setpoint during humidification (P115)	HumidSetpt	AV0276	R/W	Word	% RH
4638	Percent rotation speed (P155)	FanSpeedCmd	AV0277	R/W	Word	%

Register decimal no.	Description	Mnemonic	BACnet object	Read/ Write	Format	Unit/Enumeration
AHU no.5 – AHU_5.mnemonic						
3 and 4	Outdoor temperature (P258)	OutdoorTemp	AV0403	R	Float	°C
5 and 6	Controlled temperature (P255)	TempRegulee	AV0400	R	Float	°C
7 and 8	Controlled humidity (P256)	HygroRegulee	AV0401	R	Float	% RH
13 and 14	Outdoor humidity (P265)	OutdoorHygro	AV0404	R	Float	% RH
257 and 258	Cooling temperature setpoint (P103)	CoolSetpt	AV0425	R/W	Float	°C
259 and 260	Heating temperature setpoint (P106)	HeatSetpt	AV0426	R/W	Float	°C
5382 and 5383	Filter differential pressure (P257)	PresDifFiltre	AV0405	R	Float	Pa
5384 and 5385	Supply air temperature (P259)	TempSouff	AV0402	R	Float	°C
5428 and 5429	Floor differential pressure (P266)	PresPlancher	AV0406	R	Float	Pa
48	Heating coil percentage (P290)	PourBatChaud	AV0452	R	Word	%
49	Cooling coil percentage (P291)	PourBatFroid	AV0451	R	Word	%
50	Humidifier percentage (P294)	PourHumidif	AV0454	R	Word	%
51	Air flow percentage (P295)	PourDebitAir	AV0450	R	Word	%
52	Fresh air percentage (P296)	PourAirNeuf	AV0455	R	Word	%
53	Electric heater percentage (P297)	PourBatElec	AV0453	R	Word	%
261	Humidity setpoint during dehumidification (P109)	DeshuSetpt	AV0475	R/W	Word	% RH
262	Humidity setpoint during humidification (P115)	HumidSetpt	AV0476	R/W	Word	% RH
4638	Percent rotation speed (P155)	FanSpeedCmd	AV0477	R/W	Word	%

Bits Accessible to customer

Register decimal no.	Description	Mnemonic	BACnet object	Read/ Write	Format	Unit/Enumeration
AHU no.1 – AHU_1.mnemonic						
16	Supply air fan operation (P330)	VentilSouf	BV0002	R	Bit	1 = On / 0 = Off
17	Compressor operation 1 - Condensation unit 1 (P300)	GroupCond1	BV0003	R	Bit	1 = On / 0 = Off
18	Compressor operation 2 - Condensation unit 2 (P304)	GroupCond2	BV0004	R	Bit	1 = On / 0 = Off
19	Electric heater 1 operation (P320)	Eta1BatElec	BV0005	R	Bit	1 = On / 0 = Off
20	Electric heater 2 operation (P322)	Eta2BatElec	BV0006	R	Bit	1 = On / 0 = Off
32	Start-up request (P279)	DemMarche	BV0001	R	Bit	1 = On / 0 = Off
48	Critical fault summary (P350)	DefImportant	BV0009	R	Bit	1 = Fault
49	Non-critical fault summary (P352)	DefSimple	BV0008	R	Bit	1 = Fault
50	Supply air fan fault	DefVentilSouf	BV0010	R	Bit	1 = Fault
51	Air flow fault	DefDebitAir	BV0011	R	Bit	1 = Fault
52	Filter fouled fault	DefFiltreEnc	BV0012	R	Bit	1 = Fault
53	Clogged filter fault	DefFiltreBou	BV0013	R	Bit	1 = Fault
55	Electric heater fault	DefBatElec	BV0014	R	Bit	1 = Fault
56	Humidifier fault	DefHumidif	BV0017	R	Bit	1 = Fault
57	Water leak fault	DefFuiteEau	BV0022	R	Bit	1 = Fault
58	Condensation unit 1 fault	DefGroupCon1	BV0015	R	Bit	1 = Fault
59	Condensation unit 2 fault	DefGroupCon2	BV0016	R	Bit	1 = Fault
60	High temperature fault	DefTempHaut	BV0018	R	Bit	1 = Fault
61	Low temperature fault	DefTempBas	BV0019	R	Bit	1 = Fault
62	High humidity fault	DefHygroHaut	BV0020	R	Bit	1 = Fault
63	Low humidity fault	DefHygroBas	BV0021	R	Bit	1 = Fault
512	On/Off	OnOff	BV0050	R/W	Bit	1 = On / 0 = Off
4104	External safety (P278)	SecuExt	BV0007	R	Bit	0 = Open
AHU no.2 – AHU_2.mnemonic						
16	Supply air fan operation (P330)	VentilSouf	BV0101	R	Bit	1 = On / 0 = Off
17	Compressor operation 1 - Condensation unit 1 (P300)	GroupCond1	BV0102	R	Bit	1 = On / 0 = Off
18	Compressor operation 2 - Condensation unit 2 (P304)	GroupCond2	BV0103	R	Bit	1 = On / 0 = Off
19	Electric heater 1 operation (P320)	Eta1BatElec	BV0104	R	Bit	1 = On / 0 = Off
20	Electric heater 2 operation (P322)	Eta2BatElec	BV0105	R	Bit	1 = On / 0 = Off
32	Start-up request (P279)	DemMarche	BV0100	R	Bit	1 = On / 0 = Off
48	Critical fault summary (P350)	DefImportant	BV0108	R	Bit	1 = Fault
49	Non-critical fault summary (P352)	DefSimple	BV0107	R	Bit	1 = Fault
50	Supply air fan fault	DefVentilSouf	BV0109	R	Bit	1 = Fault
51	Air flow fault	DefDebitAir	BV0110	R	Bit	1 = Fault
52	Filter fouled fault	DefFiltreEnc	BV0111	R	Bit	1 = Fault
53	Clogged filter fault	DefFiltreBou	BV0112	R	Bit	1 = Fault
55	Electric heater fault	DefBatElec	BV0113	R	Bit	1 = Fault
56	Humidifier fault	DefHumidif	BV0116	R	Bit	1 = Fault

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Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
AHU no.2 – AHU_2.mnemonic (Subsection)						
57	Water leak fault	DefFuiteEau	BV0121	R	Bit	1 = Fault
58	Condensation unit 1 fault	DefGroupCon1	BV0114	R	Bit	1 = Fault
59	Condensation unit 2 fault	DefGroupCon2	BV0115	R	Bit	1 = Fault
60	High temperature fault	DefTempHaut	BV0117	R	Bit	1 = Fault
61	Low temperature fault	DefTempBas	BV0118	R	Bit	1 = Fault
62	High humidity fault	DefHygroHaut	BV0119	R	Bit	1 = Fault
63	Low humidity fault	DefHygroBas	BV0120	R	Bit	1 = Fault
512	On/Off	OnOff	BV0150	R/W	Bit	1 = On / 0 = Off
4104	External safety (P278)	SecuExt	BV0106	R	Bit	0 = Open
AHU no.3 – AHU_3.mnemonic						
16	Supply air fan operation (P330)	VentilSouf	BV0201	R	Bit	1 = On / 0 = Off
17	Compressor operation 1 - Condensation unit 1 (P300)	GroupCond1	BV0202	R	Bit	1 = On / 0 = Off
18	Compressor operation 2 - Condensation unit 2 (P304)	GroupCond2	BV0203	R	Bit	1 = On / 0 = Off
19	Electric heater 1 operation (P320)	Eta1BatElec	BV0204	R	Bit	1 = On / 0 = Off
20	Electric heater 2 operation (P322)	Eta2BatElec	BV0205	R	Bit	1 = On / 0 = Off
32	Start-up request (P279)	DemMarche	BV0200	R	Bit	1 = On / 0 = Off
48	Critical fault summary(P350)	DefImportant	BV0208	R	Bit	1 = Fault
49	Non-critical fault summary (P352)	DefSimple	BV0207	R	Bit	1 = Fault
50	Supply air fan fault	DefVentilSouf	BV0209	R	Bit	1 = Fault
51	Air flow fault	DefDebitAir	BV0210	R	Bit	1 = Fault
52	Filter fouled fault	DefFiltreEnc	BV0211	R	Bit	1 = Fault
53	Clogged filter fault	DefFiltreBou	BV0212	R	Bit	1 = Fault
55	Electric heater fault	DefBatElec	BV0213	R	Bit	1 = Fault
56	Humidifier fault	DefHumidif	BV0216	R	Bit	1 = Fault
57	Water leak fault	DefFuiteEau	BV0221	R	Bit	1 = Fault
58	Condensation unit 1 fault	DefGroupCon1	BV0214	R	Bit	1 = Fault
59	Condensation unit 2 fault	DefGroupCon2	BV0215	R	Bit	1 = Fault
60	High temperature fault	DefTempHaut	BV0217	R	Bit	1 = Fault
61	Low temperature fault	DefTempBas	BV0218	R	Bit	1 = Fault
62	High humidity fault	DefHygroHaut	BV0219	R	Bit	1 = Fault
63	Low humidity fault	DefHygroBas	BV0220	R	Bit	1 = Fault
512	On/Off	OnOff	BV0250	R/W	Bit	1 = On / 0 = Off
4104	External safety (P278)	SecuExt	BV0206	R	Bit	0 = Open
AHU no.4 – AHU_4.mnemonic						
16	Supply air fan operation (P330)	VentilSouf	BV0301	R	Bit	1 = On / 0 = Off
17	Compressor 1 operation - Condensation unit 1 (P300)	GroupCond1	BV0302	R	Bit	1 = On / 0 = Off
18	Compressor 2 operation - Condensation unit 2 (P304)	GroupCond2	BV0303	R	Bit	1 = On / 0 = Off
19	Electric heater 1 operation (P320)	Eta1BatElec	BV0304	R	Bit	1 = On / 0 = Off
20	Electric heater 2 operation (P322)	Eta2BatElec	BV0305	R	Bit	1 = On / 0 = Off
32	Start-up request (P279)	DemMarche	BV0300	R	Bit	1 = On / 0 = Off
48	Critical fault summary(P350)	DefImportant	BV0308	R	Bit	1 = Fault
49	Non-critical fault summary (P352)	DefSimple	BV0307	R	Bit	1 = Fault
50	Supply air fan fault	DefVentilSouf	BV0309	R	Bit	1 = Fault
51	Air flow fault	DefDebitAir	BV0310	R	Bit	1 = Fault
52	Filter fouled fault	DefFiltreEnc	BV0311	R	Bit	1 = Fault
53	Clogged filter fault	DefFiltreBou	BV0312	R	Bit	1 = Fault
55	Electric heater fault	DefBatElec	BV0313	R	Bit	1 = Fault
56	Humidifier fault	DefHumidif	BV0316	R	Bit	1 = Fault
57	Water leak fault	DefFuiteEau	BV0321	R	Bit	1 = Fault
58	Condensation unit 1 fault	DefGroupCon1	BV0314	R	Bit	1 = Fault
59	Condensation unit 2 fault	DefGroupCon2	BV0315	R	Bit	1 = Fault
60	High temperature fault	DefTempHaut	BV0317	R	Bit	1 = Fault
61	Low temperature fault	DefTempBas	BV0318	R	Bit	1 = Fault
62	High humidity fault	DefHygroHaut	BV0319	R	Bit	1 = Fault
63	Low humidity fault	DefHygroBas	BV0320	R	Bit	1 = Fault
512	On/Off	OnOff	BV0350	R/W	Bit	1 = On / 0 = Off
4104	External safety (P278)	SecuExt	BV0306	R	Bit	0 = Open
AHU no.5 – AHU_5.mnemonic						
16	Supply air fan operation (P330)	VentilSouf	BV0401	R	Bit	1 = On / 0 = Off
17	Compressor operation 1 - Condensation unit 1 (P300)	GroupCond1	BV0402	R	Bit	1 = On / 0 = Off
18	Compressor operation 2 - Condensation unit 2 (P304)	GroupCond2	BV0403	R	Bit	1 = On / 0 = Off
19	Electric heater 1 operation (P320)	Eta1BatElec	BV0404	R	Bit	1 = On / 0 = Off
20	Electric heater 2 operation (P322)	Eta2BatElec	BV0405	R	Bit	1 = On / 0 = Off

Register decimal no.	Description	Mnemonic	BACnet object	Read/Write	Format	Unit/Enumeration
AHU no.5 – AHU_5.mnemonic (Subsection)						
32	Start-up request (P279)	DemMarche	BV0400	R	Bit	1 = On / 0 = Off
48	Critical fault summary(P350)	DefImportant	BV0408	R	Bit	1 = Fault
49	Non-critical fault summary (P352)	DefSimple	BV0407	R	Bit	1 = Fault
50	Supply air fan fault	DefVentilSouf	BV0409	R	Bit	1 = Fault
51	Air flow fault	DefDebitAir	BV0410	R	Bit	1 = Fault
52	Filter fouled fault	DefFiltreEnc	BV0411	R	Bit	1 = Fault
53	Clogged filter fault	DefFiltreBou	BV0412	R	Bit	1 = Fault
55	Electric heater fault	DefBatElec	BV0413	R	Bit	1 = Fault
56	Humidifier fault	DefHumidif	BV0416	R	Bit	1 = Fault
57	Water leak fault	DefFuiteEau	BV0421	R	Bit	1 = Fault
58	Condensation unit 1 fault	DefGroupCon1	BV0414	R	Bit	1 = Fault
59	Condensation unit 2 fault	DefGroupCon2	BV0415	R	Bit	1 = Fault
60	High temperature fault	DefTempHaut	BV0417	R	Bit	1 = Fault
61	Low temperature fault	DefTempBas	BV0418	R	Bit	1 = Fault
62	High humidity fault	DefHygroHaut	BV0419	R	Bit	1 = Fault
63	Low humidity fault	DefHygroBas	BV0420	R	Bit	1 = Fault
512	On/Off	OnOff	BV0450	R/W	Bit	1 = On / 0 = Off
4104	External safety (P278)	SecuExt	BV0406	R	Bit	0 = Open

