

# SIEMENS



## Configuration of Desigo DXR Single Zone VAV Rooftop Unit



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# Before You Begin



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## Knowledge and Training Prerequisites

The reader / user of this document must be trained, knowledgeable, and familiar with using ABT Site to configure DXR automation stations.

See ABT Site Help for additional information as needed.

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## ABT Site & Hardware Requirements

The specific application configuration in this document was developed using:

- ABT Site 3.1.1 (with patch 3); Metaset 1153
- Custom developed .s1ca file provided by Siemens Chicago SWH
- DXR2.M18 must be used – no other DXR versions are supported

## Scope and Purpose

This document provides configuration steps for engineering a Single Zone VAV RTU using a Desigo DXR2.M18 automation device. It is intended as a guide for those tasked with configuring and engineering Single Zone VAV RTU based projects.

## Document conventions

Triangle bullet (▷) indicates prerequisite step(s) at the start of a section or procedure. For example, "▷ In ABT Site, the desired project is open" means the user has already created the necessary ABT Site project required for the procedure.

## Configuration of Desigo DXR Single Zone VAV Rooftop Unit

### Supported RTU Configurations

The application function software modules (for example FanVarSpd11, DmpOa14 etc.) are selected during application configuration using ABT Site. There are sixteen (16) Single Zone VAV RTU configurations (see table).

RTU configurations	DmpOa (0-10V)	Fan (0-10V)	Cooling coil	Heating coil
1	-	FanVarSpd11	CclDx11	-
2	-	FanVarSpd11	CclDx11	HclGas11
3	-	FanVarSpd13	CclDx13	-
4	DmpOa14	FanVarSpd13	CclDx13	HclGas12
5	DmpOa14	FanVarSpd13	CclDx13	HclGas12
6	DmpOa14	FanVarSpd13	CclDx14	HclGas12
7	DmpOa14	FanVarSpd13	CclDx15	HclGas12
8	DmpOa14	FanVarSpd11	CclDx11	-
9	DmpOa14	FanVarSpd11	CclDx13	-
10	DmpOa14	FanVarSpd13	CclDx13	HclGas12
11	DmpOa14	FanVarSpd13	CclDx13	HclGas12
12	DmpOa14	FanVarSpd13	CclDx14	HclGas12
13	DmpOa14	FanVarSpd13	CclDx16	HclGas12
14	DmpOa14	FanVarSpd13	CclDx17	HclGas12
15	DmpOa14	FanVarSpd13	CclDx17	HclGas14
16	DmpOa14	FanVarSpd13	CclDx17	HclGas14



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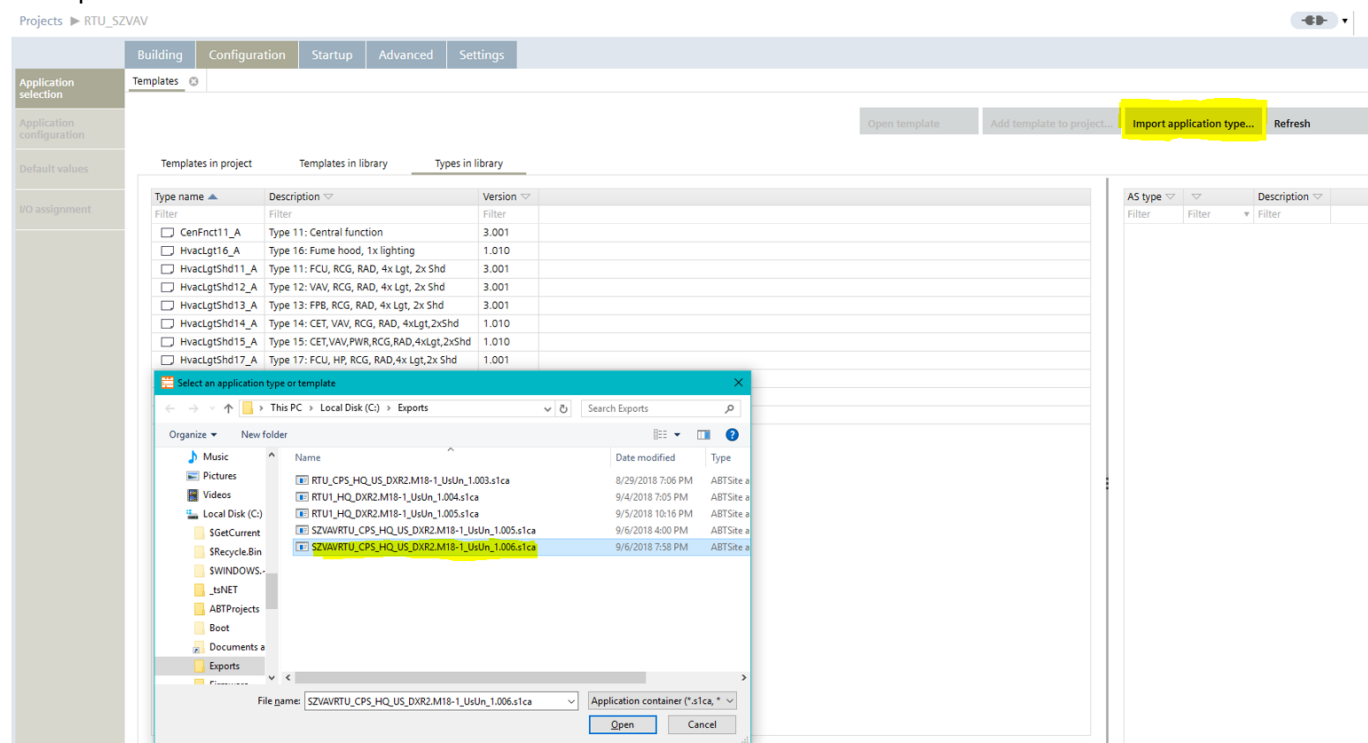
**The Single Zone VAV RTU application type DOES NOT support the following:**

- Economizer fault detection & diagnostics (required by ASHRAE 90.1-2016; Texas energy code IECC-2015)
  - RTU fault detection & diagnostics
-

## Step 1 – Import Application Type into ABT Site

- ▷ In ABT Site, the desired project is open and the **Add application template** workflow is started
  - ▷ **Configuration component** and **Application selection task** are active
1. Click **Import application type** and browse to location of the **s1ca** file for **Single zone VAV RTU** application type and click Open (see example; file names and locations may vary).
  2. With the **Types in library** tab active, select the newly imported application type (left side) and select the associated DXR2.M18 MSTP hardware (right side).
  3. Click **Add template to project..** (provide template name, etc) and click OK. (Once the type template loads, the **Application configuration** task displays.)
  4. Click **Template properties** and click the Unlock button to unlock the template; provide number and description as needed and click OK.

Example:



## Step 2 – Select and Configure Inputs & Outputs

▷ **Configuration component** and **Application configuration task** are active

Use the following tables to guide your selections for on-board outputs.

RTU config	DmpOa (0-10V)	Fan (0-10V)	Cooling coil	Heating coil
1	-	FanVarSpd11	CclDx11	-
2	-	FanVarSpd11	CclDx11	HclGas11
3	-	FanVarSpd13	CclDx13	-
4	DmpOa14	FanVarSpd13	CclDx13	HclGas12
5	DmpOa14	FanVarSpd13	CclDx13	HclGas12
6	DmpOa14	FanVarSpd13	CclDx14	HclGas12
7	DmpOa14	FanVarSpd13	CclDx15	HclGas12
8	DmpOa14	FanVarSpd11	CclDx11	-
9	DmpOa14	FanVarSpd11	CclDx13	-
10	DmpOa14	FanVarSpd13	CclDx13	HclGas12
11	DmpOa14	FanVarSpd13	CclDx13	HclGas12
12	DmpOa14	FanVarSpd13	CclDx14	HclGas12
13	DmpOa14	FanVarSpd13	CclDx16	HclGas12
14	DmpOa14	FanVarSpd13	CclDx17	HclGas12
15	DmpOa14	FanVarSpd13	CclDx17	HclGas14
16	DmpOa14	FanVarSpd13	CclDx17	HclGas14

Output Point	RTU 1	RTU 2	RTU 3	RTU 4	RTU 5	RTU 6	RTU 7	RTU 8	RTU 9	RTU 10	RTU 11	RTU 12	RTU 13	RTU 14	RTU 15	RTU 16
DmpOaPos OA DMP POS				x	x	x	x	x	x	x	x	x	x	x	x	x
FanVarSpd FAN VAR SD	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
EnFanSpd FAN ENABLE	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
EnCclDx EN DX	x	x	x	x	x		x	x	x	x	x					
CclDxSpd CLG DX SPD			x	x	x	x	x		x	x	x	x				
CclDxSpd1 CLG DX SPD1													x	x	x	x
CclDxSpd2 CLG DX SPD2													x	x	x	x
EnCclDx1 EN DX1						x						x	x	x	x	x
EnCclDx2 EN DX2						x						x	x	x	x	x
HclGasCmd HTG GAS CMD		x	x													
HclGasCmd1St HTG GAS 1ST			x	x	x	x	x			x	x	x	x	x	x	x
HclGasCmd2St HTG GAS 2ND			x	x	x	x	x			x	x	x	x	x	x	x
HclGasCmd3St HTG GAS 3RD															x	x
HclGasCmd4St HTG GAS 4TH															x	x
EnCclDxReHcl* DX HGAS EN							x							x	x	x

\* EnCclDxReHcl is hot gas reheat coil for dehumidification control



Output Point	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y10	Y20	Y30	Y40
DmpOaPos OA DMP POS									x	x	x	x
FanVarSpd FAN VAR SD									x			
EnFanSpd FAN ENABLE	x											
CclDxSpd CLG DX SPD										x		
CclDxSpd1 CLG DX SPD1										x		
CclDxSpd2 CLG DX SPD2											x	
EnCclDx EN DX			x		x							
EnCclDx1 EN DX1			x		x		x					
EnCclDx2 EN DX2				x		x		x				
HclGasCmd1St HTG GAS 1ST			x		x							
HclGasCmd2St HTG GAS 2ND				x		x						
HclGasCmd3St HTG GAS 3RD					x		x					
HclGasCmd4St HTG GAS 4TH						x		x				
EnCclDxReHcl DX HGAS EN		x						x				

## OUTPUTS

### Outside Air Damper

As a general rule, 0-10Vdc actuators do not require further configuration.

Outside air damper position	None
Fan speed	None
Enable fan speed	Y1, Y2; 3-position
Cooling coil valve position	Y3, Y4; 3-position
Heating coil valve position	Y5, Y6; 3-position
Radiator valve position 1	Y7, Y8; 3-position
Enable radiator electric position 1	Y10; 0...10 V
Radiator valve position 2	Y20; 0...10 V
Enable radiator electric position 2	Y30; 0...10 V
	Y40; 0...10 V

Parameter adjustable values are located in **Default values**:

Application configuration	Fcu_BydDmp (65535)					
Default values	Template name: Fcu_BydDmp (65535)					
	Show/hide parameter... Template properties...					
I/O assignment	Avail. on AS	Object description	Parameter description	Value	Unit	Object
	Filter	Filter	Filter	Filter	Filter	Filter
		Infrastructure				
		On-board output				
<input type="checkbox"/>		Outside air damper position	Signal type	0...10 V DC, for I/O		OA DMP POS 5
<input type="checkbox"/>		Outside air damper position	Process value 1	0	%	OA DMP POS 5
<input type="checkbox"/>		Outside air damper position	Signal value 1	0	---	OA DMP POS 5
<input type="checkbox"/>		Outside air damper position	Process value 2	100	%	OA DMP POS 5
<input type="checkbox"/>		Outside air damper position	Signal value 2	10	---	OA DMP POS 5

Note: If you select a 3-position (floating) actuator you will need to check the run-time to ensure the that the defined Rise and Fall times (default 150 secs) match the physical actuator. Rise and Fall time values are scaled to 1/10s; this means 150 seconds is represented as 1500.

### Additional parameters

Additional parameters if desired can be added via the Show/hide parameter button. For example, to add additional parameter(s) for the OA damper object,

click **Show/hide parameter...**, expand **%RSegm%**, then scroll to **OA DMP POS** and expand.

Select a desired parameter then click the Add button **Add** and **OK**.

Procedure can be repeated for any BACnet object.

## Fan Speed

Fan speed does not require further configuration.

Fan speed	None
Enable fan speed	None
Cooling coil valve position	1-stage; Y1; Normally open
Heating coil valve position	2-stage; Y1, Y2; Normally open
Radiator valve position 1	Variable speed; Y10; 0...10 V

Additional parameters can be added via  
Select %RSegm% > FAN VAR SPD

Show/hide parameter...

## Enable Fan Speed

Enable fan speed does not require further configuration.

Enable fan speed	None
Cooling coil valve position	None
Heating coil valve position	Y1; Normally open

Additional parameters can be added via  
Select %RSegm% > FAN ENABLE

Show/hide parameter...

## DX Cooling Coil

Choices available for DX coils (see table) do not require further configuration.

Cooling coil valve position	None
Heating coil valve position	None
Radiator valve position 1	Water; Y3, Y4; 3-position
Enable radiator electric position 1	Water; Y3; Pulse width modulation thermal
Radiator valve position 2	Water; Y3; Pulse width modulation spring return
Enable radiator electric position 2	Water; Y20; 0...10 V
	DX; Y3; Normally open
	DxY5NrmlOpn
	DX; Y3, Y4; Normally open
	DxY3Y20NrmlOpn
	DxY5Y20NrmlOpn
	DxY200to10VY3Y4NrmlOpn
	DxY5Y6Y20NrmlOpn
	DxY7Y8Y20NrmlOpn

DX Coil Selection	AF	I/O Choices	Object Name
DX evap. coil, 1-Stage (1BO)	CclDx11	Y3 Normally Open (NO) Y5 NO	EN DX
DX evap. coil, 2-Stage (2BO)	CclDx12	Y3, Y4 NO	EN DX1 EN DX2
DX evap. coil, variable speed & enable (1BO, 1AO)	CclDx13	Y3, Y20 NO Y5, Y20 NO <b>Note: EN DX is on Y3 or Y5 CLG DX SPD is on Y20</b> pattern repeats for remainder of table	EN DX CLG DX SPD
DX evap. cooling coil, variable speed, enable & hotgas reheat (2BO, 1AO)	CclDx14	Y3, Y20, Y8 NO Y5, Y20, Y8 NO Y7, Y20, Y8 NO	EN DX (Y3, Y5, or Y7) CLG DX SPD (Y20) DX HGAS EN (Y8)
DX evap. coil, variable speed, & fixed speed (2BO, 1AO)	CclDx15	Y3, Y4, Y20 NO Y5, Y6, Y20 NO Y7, Y8, Y20 NO	EN DX1 EN DX2 CLG DX SPD
DX evap. coil, 2 variable speed compressors (2BO, 2AO)	CclDx16	Y3, Y4, Y20, Y30 NO Y7, Y8, Y20, Y30 NO	EN DX1 EN DX2 CLG DX SPD1 CLG DX SPD2
DX evap. coil, 2 variable speed compressors w/ hotgas reheat (3BO, 2AO)	CclDx17	Y3, Y4, Y20, Y30, Y2 NO Y7, Y8, Y20, Y30, Y2 NO	EN DX1 EN DX2 CLG DX SPD1 CLG DX SPD2 DX HGAS EN

Additional parameters for DX can be added via

Show/hide parameter...

Select %RSegm% > EN DX  
 Select %RSegm% > EN DX1  
 Select %RSegm% > EN DX2  
 Select %RSegm% > etc...

## Heating coil

Choices available for heating coils (see table) do not require further configuration.

Heating coil valve position  
 Radiator valve position 1  
 Enable radiator electric position 1  
 Radiator valve position 2  
 Enable radiator electric position 2

None  
 None  
 Water; Y5, Y6; 3-position  
 Water; Y5; Pulse width modulation thermal  
 Water; Y5; Pulse width modulation spring return  
 Water; Y30; 0...10 V  
 HclGasY3NrmlOpn  
 HclGasY3Y4NrmlOpn  
 HclGasY3Y4Y5NrmlOpn  
**HclGasY5Y6Y7NrmlOpn**  
 HclGasY3Y4Y5Y6NrmlOpn  
 HclGasY5Y6Y7Y8NrmlOpn

Gas Heating Coil Selection	AF	I/O Choices	Object Name
Gas Heating coil, 1-Stage (1BO)	HclGas11	HclGas Y3 NO	HTG GAS 1ST
Gas Heating coil, 2-Stage (2BO)	HclGas12	HclGas Y3, Y4 NO HclGas Y5, Y6 NO	HTG GAS 1ST HTG GAS 2ST
Gas Heating coil, 3-Stage (3BO)	HclGas13	HclGas Y3, Y4, Y5 NO HclGas Y5, Y6, Y7 NO	HTG GAS 1ST HTG GAS 2ST HTG GAS 3ST
Gas Heating coil, 4-Stage (4BO)	HclGas14	HclGas Y3, Y4, Y5, Y6 NO HclGas Y5, Y6, Y7, Y8 NO	HTG GAS 1ST HTG GAS 2ST HTG GAS 3ST HTG GAS 4ST

Additional parameters for heating coils can be added via

Show/hide parameter...

Select %RSegm% > HTG GAS 1ST

Select %RSegm% > HTG GAS 2ST

Select %RSegm% > HTG GAS 3ST

Select %RSegm% > HTG GAS 4ST

<input checked="" type="checkbox"/>	Heating coil gas command first stage	Present value	Off	HTG GAS 1ST
<input checked="" type="checkbox"/>	Heating coil gas command second stage	Present value	Off	HTG GAS 2ND

## INPUTS

Use the following tables to guide your selections for on-board inputs.

RTU config	DmpOa (0-10V)	Fan (0-10V)	Cooling coil	Heating coil
1	-	FanVarSpd11	CclDx11	-
2	-	FanVarSpd11	CclDx11	HclGas11
3	-	FanVarSpd13	CclDx13	-
4	DmpOa14	FanVarSpd13	CclDx13	HclGas12
5	DmpOa14	FanVarSpd13	CclDx13	HclGas12
6	DmpOa14	FanVarSpd13	CclDx14	HclGas12
7	DmpOa14	FanVarSpd13	CclDx15	HclGas12
8	DmpOa14	FanVarSpd11	CclDx11	-
9	DmpOa14	FanVarSpd11	CclDx13	-
10	DmpOa14	FanVarSpd13	CclDx13	HclGas12
11	DmpOa14	FanVarSpd13	CclDx13	HclGas12
12	DmpOa14	FanVarSpd13	CclDx14	HclGas12
13	DmpOa14	FanVarSpd13	CclDx16	HclGas12
14	DmpOa14	FanVarSpd13	CclDx17	HclGas12
15	DmpOa14	FanVarSpd13	CclDx17	HclGas14
16	DmpOa14	FanVarSpd13	CclDx17	HclGas14

Input Point	RTU 1	RTU 2	RTU 3	RTU 4	RTU 5	RTU 6	RTU 7	RTU 8	RTU 9	RTU 10	RTU 11	RTU 12	RTU 13	RTU 14	RTU 15	RTU 16
FanSpdFb FAN SPD FB			x	x	x	x	x				x	x	x	x	x	x
TSu SPLY TEMP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PRf1 REF SUC PRS1			x	x	x	x	x		x	x	x	x	x	x	x	x
PRf2 REF SUC PRS1													x	x	x	x
PhsAlm1 PHS ALM1					x	x										
PhsAlm2 PHS ALM2					x	x										
FanSta FAN STATUS								x	x	x						x
Vfd Fault VFD FLT			x	x	x	x	x				x	x	x	x	x	x

Input Point	D1	D2	X1	X2	X3	X4
FanSpdFb FAN SPD FB			x	x	x	x
TSu SPLY TEMP				x		
PRf1 REF SUC PRS1			x	x	x	x
PRf2 REF SUC PRS2			x	x	x	x
PhsAlm1 PHS ALM1	x	x				
PhsAlm2 PHS ALM2	x	x				
FanSta FAN STATUS	x	x	x	x	x	x
VfdFault VLD FLT	x	x	x	x	x	x

Input Point	D1	D2	X1	X2	X3	X4
PscDet (1) OCC SENSOR 1	x					
PscDet (2) OCC SENSOR 2		x				
CclDxFIt DX FAULT 1	x	x	x	x	x	x
HclOvrTDet HI H TEMP	x	x	x	x	x	x
CclCdnMon COND LEVL	x	x	x	x	x	x
FrPrtMon FROST MON	x	x	x	x	x	x
TEx EX TEMP			x	x	x	x
TMx MIXED TEMP			x	x	x	x

## Variable Speed Fan Feedback

Select the variable speed fan feedback.

Variable speed fan feedback

Room temperature

Supply air temperature

Trend for supply air temperature

Room air quality

Relative humidity for room

X3; 0...10 V

None

X1; 0...10 V

X2; 0...10 V

X3; 0...10 V

X4; 0...10 V (default)

Additional parameters can be added via

Show/hide parameter...

Select %RSegm% > VFD SPD FB

<input type="checkbox"/>	Fan speed feedback	Present value	0	%	FAN SPD FB
<input type="checkbox"/>	Fan speed feedback	Correction offset	0	---	FAN SPD FB

## Supply Air Temperature

Select the supply air temperature sensor.

If unsure of what sensor is used, review the wiring diagrams to identify the type of sensor.

Supply air temperature	None
Trend for supply air temperature	None
Room air quality	X2; LG-Ni1000
Relative humidity for room	X2; 0...10 V
Extract air temperature	X2; NTC 100k
Mixed air temperature	X2; NTC 10k
Refrigerant suction pressure 1	X2; T1 (PTC)
Refrigerant suction pressure 2	X2; Pt1000 (EU)
Setpoint shift input value	X2; Pt1000 (NA)

Additional parameters can be added via  
Select %RSegm% > SPLY TEMP 1

Show/hide parameter...

<input checked="" type="checkbox"/>	Supply air temperature	Present value	0	°F	SPLY TEMP 4
<input checked="" type="checkbox"/>	Supply air temperature	Correction offset	0	---	SPLY TEMP 4

## Refrigerant suction pressure 1

Select the refrigerant suction pressure 1.

Refrigerant suction pressure 1	None
Refrigerant suction pressure 2	None
Setpoint shift input value	X1; 0...10 V
Brightness	X2; 0...10 V
Presence detector 1	X3; 0...10 V
Presence detector 2	X4; 0...10 V

Additional parameters can be added via  
Select %RSegm% > REF SUC PRS 1

Show/hide parameter...

<input checked="" type="checkbox"/>	Refrigerant suction pressure 1	Present value	0	%	REF SUC PRS1
<input checked="" type="checkbox"/>	Refrigerant suction pressure 1	Correction offset	0	---	REF SUC PRS1



## Refrigerant suction pressure 2

Select the refrigerant suction pressure 2.

Refrigerant suction pressure 2

Setpoint shift input value

Brightness

Presence detector 1

Presence detector 2

Window contact

None
None
X1; 0...10 V
X2; 0...10 V
X3; 0...10 V
X4; 0...10 V

Additional parameters can be added via  
Select %RSegm% > REF SUC PRS 2

Show/hide parameter...

## Phase Alarm 1

Select the phase alarm 1.

Phase Alarm 1

Phase alarm 2

Fan state

VFD Fault

D1; Normally open
None
D1; Normally open
D2; Normally open

Additional parameters can be added via  
Select %RSegm% > PHS ALM 1

Show/hide parameter...

✓	Phase alarm 1	Present value	No	PHS ALM 1
---	---------------	---------------	----	-----------

## Phase Alarm 2

Select the phase alarm 2.

Phase alarm 2

Fan state

VFD Fault

Fault DX evaporator cooling coil

None
None
D1; Normally open
D2; Normally open

Additional parameters can be added via [Show/hide parameter...](#)  
Select %RSegm% > PHS ALM 2

Fan State

Select the fan state.

Fan state

VFD Fault

Fault DX evaporator cooling coil

Heating coil overtemperature detector

Radiator overtemperature detector

Condensate level monitor

Frost protection monitor

Blinds collision detector 1

None

None

D1; Normally open

D2; Normally open

X1; Normally open

X2; Normally open

X3; Normally open

X4; Normally open

Additional parameters can be added via [Show/hide parameter...](#)  
Select %RSegm% > FAN STATUS 2

<input checked="" type="checkbox"/>	Fan state	Present value	Off	FAN STATUS 2
-------------------------------------	-----------	---------------	-----	--------------

VFD Fault

Select the VFD fault.

VFD Fault

Fault DX evaporator cooling coil

Heating coil overtemperature detector

Radiator overtemperature detector

Condensate level monitor

Frost protection monitor

None

None

X1; Normally open

X2; Normally open

X3; Normally open

X4; Normally open

Additional parameters can be added via [Show/hide parameter...](#)  
Select %RSegm% > VFD FAULT

<input checked="" type="checkbox"/>	VFD Fault	Present value	No	VFD FLT
-------------------------------------	-----------	---------------	----	---------

## Fault DX Evaporator Coil

Select the fault DX evaporator cooling coil.

Fault DX evaporator cooling coil

Heating coil overtemperature detector

Radiator overtemperature detector

Condensate level monitor

Frost protection monitor

Blinds collision detector 1

Blinds collision detector 2

None ▼

None

D1; Normally closed

D2; Normally closed

X1; Normally closed

X2; Normally closed

X3; Normally closed

X4; Normally closed

Additional parameters can be added via  
Select %RSegm% > DX FAULT 1

Show/hide parameter...

## Heating Coil Over Temperature Detector

Select the heating coil overtemperature detector.

Heating coil overtemperature detector

Radiator overtemperature detector

Condensate level monitor

Frost protection monitor

Blinds collision detector 1

Blinds collision detector 2

None ▼

None

D1; Normally closed

D2; Normally closed

X1; Normally closed

X2; Normally closed

X3; Normally closed

X4; Normally closed

Additional parameters can be added via  
Select %RSegm% > HI H TMP

Show/hide parameter...

## Condensate Level Monitor

Select the condensate level monitor.

Condensate level monitor

Frost protection monitor

Blinds collision detector 1

Blinds collision detector 2

None

None

D1; Normally closed

D2; Normally closed

X1; Normally closed

X2; Normally closed

X3; Normally closed

X4; Normally closed

'CclDxHdn5Hdw' contains an error and will be ignored:

Additional parameters can be added via Show/hide parameter...  
Select %RSegm% > COND LEVEL

## Frost Protection Monitor

Select the frost protection monitor.

Frost protection monitor

Blinds collision detector 1

Blinds collision detector 2

None

None

D1; Normally closed

D2; Normally closed

X1; Normally closed

X2; Normally closed

X3; Normally closed

X4; Normally closed

'CclDxHdn5Hdw' contains an error and will be ignored:

Additional parameters can be added via Show/hide parameter...  
Select %RSegm% > FROST MON 1

## Step 3 – Select and Configure KNX PL-Link Device

▷ **Configuration component** and **Application configuration task** are active

The wall-mounted QMX3.P34 room sensor provides: room temperature sensor. Select the Room operator unit elements for display.

The QMX3.P34 will display the selected information based on the figure below.

Function of the display elements and keys	Key	Key
	1	5
	2	6
	3	7
	4	8
	• An arrow indicates that an element can be operated	
	• Temperature display in °C or °F / humidity in % r.H. / air quality in text, symbol, or ppm of CO <sub>2</sub>	
	• Toggling (key 1) between indoor and outdoor measurement (temperature, humidity, CO <sub>2</sub> )	
	• Indication that a window is open (connected window switch is active)	
	• Display of the plant state (Heating or Cooling / inactive) Note: No manual switchover! Key 5 is used for Green Leaf	
	• Green Leaf function: Pressing key 5 activates the RoomOptiControl function.	
	• Display of the relative or absolute setpoint for temperature • Adjusting the setpoint using keys 2 and 6	
	• Display of the present fan speed (when automatic) • Adjusting the fan speed using key 3 (or keys 3 and 7 if operation of room operating mode is disabled)	
	• Display of the room operating mode (when automatic) • Adjusting the room operating mode using key 7	
	• Navigation: toggle the display / setpoint setting between temperature / humidity / CO <sub>2</sub> , using key 4. The black bar points to the displayed information.	
	• Operation of the occupancy state (presence switch, Comfort prolongation) • Activate the Comfort prolongation using key 8 (only available if enabled)	
	• Indicates that the room operator unit is locked by the system. – Operation is disabled – The display in line 1 shows the temperature from bus	

## Default values for KNX PL-Link Devices (assumed to be QMX3.P74)

	KNX PL-Link device				
<input checked="" type="checkbox"/>	Room operator unit 1	Room unit, display temperature	Display room temperature		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Room unit, display humidity	Display room humidity		RM UNIT ST17
<input type="checkbox"/>	Room operator unit 1	Room unit, display windows status	No		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Room unit, display air quality	Display room air quality		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Room unit, air quality display	Symbolic		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Room unit, display heat/cool. status	Yes		RM UNIT ST17
<input type="checkbox"/>	Room operator unit 1	Enable operation: room temp. setpoint	No		RM UNIT ST17
<input type="checkbox"/>	Room operator unit 1	Room unit, room temp. setpoint display	Absolute temperature setpoint		RM UNIT ST17
<input type="checkbox"/>	Room operator unit 1	Enable operation: fan speed setpoint	No		RM UNIT ST17
<input type="checkbox"/>	Room operator unit 1	Enable operation: presence button	No		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Enable operation: temporary comfort	Yes		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Enable operation: room op.mode	Yes		RM UNIT ST17
<input checked="" type="checkbox"/>	Room operator unit 1	Enable operation: green leaf	Yes		RM UNIT ST17
<input checked="" type="checkbox"/>	Setpoint shift input value	Present maximum value	5.4	°F	%RSegm%ROpUnDev(1)'SpShftIn
<input checked="" type="checkbox"/>	Setpoint shift input value	Present minimum value	-5.4	°F	%RSegm%ROpUnDev(1)'SpShftIn

## Step 4 – Room Segment, HVAC Configuration

Add additional parameters via Show/hide parameters.

Select '%RSegm%'RHvac'.

<input checked="" type="checkbox"/>	Heating/cooling demand	Present value	Neither		HC DEMAND
<input checked="" type="checkbox"/>	Relative outside humidity	Present value	0	%RH	%RSegm%'HVAC'HuRe/Oa
<input checked="" type="checkbox"/>	Outside air enthalpy	Present value	0	Btu/lb	OA ENTHALPY

	Additional parameters				
<input checked="" type="checkbox"/>	Fan device mode	Present value	Off		FAN MODE
<input checked="" type="checkbox"/>	Fan cooling request	Present value	0	%	FAN CLG REQ
<input checked="" type="checkbox"/>	Fan heating request	Present value	0	%	FAN HTG REQ
<input checked="" type="checkbox"/>	Fan ventilation request	Present value	0	%	FAN VENT REQ
<input type="checkbox"/>	Fan available for cooling	Present value	No		%RSegm%'HVAC'Fan'FanAvIC
<input type="checkbox"/>	Fan available for heating	Present value	No		%RSegm%'HVAC'Fan'FanAvIH
<input type="checkbox"/>	Fan available for ventilation	Present value	No		%RSegm%'HVAC'Fan'FanAvIVnt
<input checked="" type="checkbox"/>	Enable state input	Present value	No		%RSegm%'HVAC'Fan'EnStaln
<input checked="" type="checkbox"/>	Switch-on point for air vol.flow state	Present value	4	%	%RSegm%'HVAC'Fan'SwiOnAirFISta
<input checked="" type="checkbox"/>	Hysteresis for air volume flow state	Present value	2	%	%RSegm%'HVAC'Fan'HysAirFISta
<input checked="" type="checkbox"/>	Switch-on delay for air vol.flow state	Present value	30	s	%RSegm%'HVAC'Fan'DlyOnAirFISta

## Outside air damper, ventilation &amp; supply temp. 14

Default values for the outside air damper identify the settings for the Supply temperature controller for the outside air damper.

<input checked="" type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Gain	27.8	%/°F	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input checked="" type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Rise time from 0 to 100%	600	1/10s	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input checked="" type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Fall time from 100 to 0%	600	1/10s	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Hysteresis switch-off	0.9	°F	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Hysteresis switch-on	0.9	°F	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Neutral zone	0.4	°F	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input checked="" type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Integral action time Tn	900	s	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input checked="" type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Controller type	PID controller		%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Controller output maximum	100	%	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Controller output minimum	0	%	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Controller output for offset	0	%	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Number of stages	1	---	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Switch delay	05:00	mm:ss	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC
<input type="checkbox"/>	Supply temp.ctr.cool.for outs.air damper	Derivative action-time Tv	0	s	%RSegm%'HVAC'DmpOa'DmpOaTSuCtrC

Add additional parameters via Show/hide parameters.

Select % RSegm%'HVAC'DmpOa.

<input checked="" type="checkbox"/>	Outside air damper device mode	Present value	Off		OADMPR MODE
<input checked="" type="checkbox"/>	Outside air damper economizer state	Present value	Off		ECON STATUS
<input checked="" type="checkbox"/>	Outside air damper cooling request	Present value	0	%	OADMPR C REQ
<input checked="" type="checkbox"/>	Outside air damper ventilation request	Present value	0	%	OA VENT REQ
<input checked="" type="checkbox"/>	Outside air damper available for cooling	Present value	No		%RSegm%'HVAC'DmpOa'DmpOaAv/C
<input checked="" type="checkbox"/>	Outside air damper available for vent.	Present value	No		%RSegm%'HVAC'DmpOa'DmpOaAv/Vnt
<input checked="" type="checkbox"/>	Supply air temp. setpoint for outs.damper cooling	Present value	0	°F	SAT DMP STPT
<input checked="" type="checkbox"/>	Switch-onpoint for outside air damper lockout	Present value	20	°F	OADMPR LOCK
<input checked="" type="checkbox"/>	Hysteresis for outside air damper lockout	Present value	2	K	%RSegm%'HVAC'DmpOa'HysDmpOaLck
<input checked="" type="checkbox"/>	Enable Outside air damper lockout	Present value	No		%RSegm%'HVAC'DmpOa'EnDmpOaLck
<input checked="" type="checkbox"/>	Outp.limit.charact.for outs.air temp.X1	Present value	20	°F	MIN LMT OAT
<input checked="" type="checkbox"/>	Output limit.charact.for damper pos.Y1	Present value	0	%	MNLMT OADMPR
<input checked="" type="checkbox"/>	Outp.limit.charact.for outs.air temp.X2	Present value	55	°F	MAX LMT OAT
<input checked="" type="checkbox"/>	Output limit.charact.for damper pos.Y2	Present value	100	%	MXLMT OADMPR
<input checked="" type="checkbox"/>	Switch-onpoint for outside air enthalpy economizer	Present value	25	Btu/lb	ENTHALPY LMT
<input checked="" type="checkbox"/>	Switch-on point for ramp-up function	Present value	20	°F	OADMPR RMPUP
<input checked="" type="checkbox"/>	Ramp-up time for outside air damper	Present value	120	s	OADMPR RMPTI

Some of the objects were changed to process values so that they can be commanded externally without using ABT Site.

Description	Name	Abbreviated Name	Type	Default value
Switch-on point for outside air damper lockout <input type="checkbox"/> When the outside air temperature falls below the switch-on point, outside air damper shall close.	SwiOnDmpOaLck	SWION OADLCK	APrcVal	20° F
Hysteresis for outside air damper lockout	HysDmpOaLck	HYS OAD LCK	APrcVal	2° F
Enable outside air damper lockout <input type="checkbox"/> Enable outside air damper lockout 0: No 1: Yes	EnDmpOaLck		BCnfVal	1: No
Switch-on point of outside air enthalpy economizer <input type="checkbox"/> When the outside air economizer rises above the switch-on point, the economizer shall turn off.	SwiOnEnEcm	SWI OA ECM	APrcVal	25 Btu/lb
Hysteresis for outside air enthalpy economizer	HyOaEnEcm	HYS OA ECM	APrcVal	1 Btu/lb

## Fan, Variable speed fan 13

Default values for the Fan variable speed fan identify the settings for the fan.

	▼ Fan				
<input checked="" type="checkbox"/>	Maximum fan speed for cooling	Present value	100	%	FAN CLG MAX
<input checked="" type="checkbox"/>	Minimum fan speed for cooling	Present value	50	%	FAN CLG MIN
<input checked="" type="checkbox"/>	Maximum fan speed for heating	Present value	100	%	FAN HTG MAX
<input checked="" type="checkbox"/>	Maximum fan speed for ventilation	Present value	100	%	FAN VENT MAX
<input checked="" type="checkbox"/>	Minimum fan speed for ventilation	Present value	10	%	FAN VENT MIN
<input checked="" type="checkbox"/>	Fan speed for dehumidification	Present value	50	%	FN SPD DEHUM
<input type="checkbox"/>	VAV end air volume flow	Present value	58.9	ft3/min	VAV FLOW END
<input type="checkbox"/>	Fan start speed by fan-powered box	Present value	50	%	FAN SPD STRT
<input type="checkbox"/>	Fan end speed by fan-powered box	Present value	100	%	FAN END SPD

Add additional parameters via Show/hide parameters.

Select % RSegm%'HVAC'Fan.

**DX evap. cooling coil 11, 1-binary output**

Configure per standard template requirement(s).

**DX evap. cooling coil 12, 2-binary output**

Configure per standard template requirement(s).

**DX evap. cooling coil 13, variable speed (1AO, 1BO)**

Default values for the Cooling coil identify the settings for the Supply temperature controller for the cooling coil.

<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller type	PID controller		%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output maximum	100	%	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output minimum	0	%	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output for offset	0	%	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Gain	10	%/K	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Rise time from 0 to 100%	600	1/10s	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Fall time from 100 to 0%	600	1/10s	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Number of stages	1	---	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Switch delay	05:00	mm:ss	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-off	0.5	K	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-on	0.5	K	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Neutral zone	0.5	K	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Integral action time Tn	120	s	%RSegm%'HVAC'CcIDx'CdITSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Derivative action-time Tv	0	s	%RSegm%'HVAC'CcIDx'CdITSuCtrC

Add additional parameters via Show/hide parameters.

Select % RSegm%' HVAC'CcIDx.

<input checked="" type="checkbox"/>	Cooling coil device mode	Present value	Off		CLG DEV MODE
<input checked="" type="checkbox"/>	Cooling coil cooling request	Present value	0	%	CLG COIL REQ
<input checked="" type="checkbox"/>	Cooling coil available for cooling	Present value	No		%RSegm%'HVAC'CcIDx'CclAvIC
<input checked="" type="checkbox"/>	Minimum cooling coil DX evap. position	Present value	0	%	MNPOS DXCPR1
<input checked="" type="checkbox"/>	Maximum cooling coil DX evap. position	Present value	100	%	MXPOS DXCPR1
<input checked="" type="checkbox"/>	Enable fault input	Present value	No		%RSegm%'HVAC'CcIDx'EnFltIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold cool.	Present value	4	%	%RSegm%'HVAC'CcIDx'SwiOnAirFIHldC
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow cool.	Present value	0	s	%RSegm%'HVAC'CcIDx'DlyOffAfIHldC
<input checked="" type="checkbox"/>	Switch-on point for air flow cool.req	Present value	4	%	%RSegm%'HVAC'CcIDx'SwiOnAirFICReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow cool.req	Present value	2	%	%RSegm%'HVAC'CcIDx'HysAirFICReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow cool.req	Present value	0	s	%RSegm%'HVAC'CcIDx'DlyOnAirFICReq
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor	Present value	180	s	MNTIOFF CPR1
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor	Present value	180	s	MNTION CPR1
<input checked="" type="checkbox"/>	Enable lockout DX evap.at low outs.temp.	Present value	No		%RSegm%'HVAC'CcIDx'EnLockDxTOaLo
<input checked="" type="checkbox"/>	Lockout DX evap.at low outs.air temp.	Present value	45	°F	LCKDX OATLO
<input checked="" type="checkbox"/>	Outs.air temp.hys.for lockout DX evap.	Present value	4	°F	%RSegm%'HVAC'CcIDx'HysTOaLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low supply air temp.	Present value	45	°F	LOCK SATLO
<input checked="" type="checkbox"/>	Supply air temp.hys.for lockout DX evap.	Present value	2	°F	%RSegm%'HVAC'CcIDx'HysTSuLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low refrigerant temp.	Present value	25	°F	LOCK TRF LO
<input checked="" type="checkbox"/>	Enable relative humidity mode	Present value	No		%RSegm%'HVAC'CcIDx'EnHuRelMod
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Present value	45	%RH	MN RMHU STPT
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Present value	65	%RH	MX RMHU STPT
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Default command	55	°F	SAT CLG STPT
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Present value	0	°F	SAT CLG STPT
<input checked="" type="checkbox"/>	Minimum supply air temp. setpoint for cooling	Present value	55	°F	SAT MNC STPT
<input checked="" type="checkbox"/>	Maximum supply air temp. setpoint for cooling	Present value	65	°F	SAT MXC STPT
<input checked="" type="checkbox"/>	Switch-on point for DX evap.cooling coil	Present value	33	%	SWION DXCPR1
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure	Present value	0	lb/in2	%RSegm%'HVAC'CcIDx'RefSuctPresMin
<input checked="" type="checkbox"/>	Min. refrigerant suction temp	Present value	0	°F	%RSegm%'HVAC'CcIDx'RefSuctTempMin
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature	Present value	100	°F	%RSegm%'HVAC'CcIDx'RefSuctTempMax
<input checked="" type="checkbox"/>	Refrigerant suction pressure	Present value	0	lb/in2	REF SUC PRS
<input checked="" type="checkbox"/>	Refrigerant temp. DX cooling coil	Present value	0	---	REF SUC TEMP
<input checked="" type="checkbox"/>	Cooling coil dehumidification request	Present value	0	%	DEHUM REQ



## DX evap. cooling coil 14, 2 compressors (Fixed & variable) (1AO, 2BO)

Default values for the Cooling coil identify the settings for the Supply temperature controller for the cooling coil.

	▼ Cooling coil				
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Integral action time Tn	0	s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller type	PID controller		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output maximum	100	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output minimum	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output for offset	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Gain	10	%/K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Rise time from 0 to 100%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Fall time from 100 to 0%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Number of stages	1	---	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Switch delay	05:00	mm:ss	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-off	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-on	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Neutral zone	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Derivative action-time Tv	0	s	%RSegm%'HVAC'CclDx'CclTSuCtrC

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'CclDx.

<input checked="" type="checkbox"/>	Refrigerant temperature Dx.evap.cooling coil	Present value	0	°F	REF SUC TEMP
<input checked="" type="checkbox"/>	Cooling coil device mode	Present value	Off		CLG DEV MODE
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller output	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller state	Controller switched-off		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller mode	Continuous		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Setpoint	20	°C	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Cooling coil cooling request	Present value	0	%	CLG COIL REQ
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Default command	55	°F	SAT SPT CLG
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Present value	0	°F	SAT SPT CLG
<input checked="" type="checkbox"/>	Cooling coil available for cooling	Present value	No		%RSegm%'HVAC'CclDx'CclAvlC
<input checked="" type="checkbox"/>	Supply air temp lockout low limit	Present value	45	°F	LOCK SATLO
<input checked="" type="checkbox"/>	Refrigerant temperature low limit lockou	Present value	25	°F	LOCK TRF LO
<input checked="" type="checkbox"/>	Lockout DX evap.at low outs.air temp.	Present value	45	°F	LCKDX OATLO
<input checked="" type="checkbox"/>	Enable lockout DX evap.at low outs.temp.	Present value	No		%RSegm%'HVAC'CclDx'EnLockDxTOaLo
<input checked="" type="checkbox"/>	Enable fault input	Present value	No		%RSegm%'HVAC'CclDx'EnFltIn
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor 1	Present value	180	s	MNTIOFF CPR1
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor 1	Present value	180	s	MNTION CPR1
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor 2	Present value	180	s	MNTION CPR2
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor 2	Present value	180	s	MNTIOFF CPR2
<input checked="" type="checkbox"/>	Switch-on delay for air flow cool.req.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOnAirFlCReq
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow cool.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOffAfHldC
<input checked="" type="checkbox"/>	Min.supply air temp.setpoint for cooling	Present value	0	°F	SAT SPT MINC
<input checked="" type="checkbox"/>	Max.supply air temp.setpoint for cooling	Default command	65	°F	SAT SPT MXC
<input checked="" type="checkbox"/>	Max.supply air temp.setpoint for cooling	Present value	0	°F	SAT SPT MXC
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Default command	45	%RH	RM HUM MIN
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Present value	0	%RH	RM HUM MIN
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Default command	65	%RH	RM HUM MAX
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Present value	0	%RH	RM HUM MAX
<input checked="" type="checkbox"/>	Minimum variable speed for cooling coil	Present value	10	%	MNPOS DXCPR1
<input checked="" type="checkbox"/>	Maximum variable speed for cooling coil	Present value	100	%	MXPOS DXCPR1
<input checked="" type="checkbox"/>	Time interstage delay for compressor 2	Present value	180	s	%RSegm%'HVAC'CclDx'TiStDlyCmp2
<input checked="" type="checkbox"/>	Enable relative humidity mode	Present value	Off		EN HUM MOD
<input checked="" type="checkbox"/>	Switch-on point for Compressor Y1	Present value	4	%	%RSegm%'HVAC'CclDx'Y1SwOnPt
<input checked="" type="checkbox"/>	Hysteresis switch-on Compressor Y1	Present value	0	---	%RSegm%'HVAC'CclDx'Y1Hys
<input checked="" type="checkbox"/>	Cooling coil dehumidification request	Present value	0	%	DEHUM REQ

<input checked="" type="checkbox"/>	Min. refrigerant suction pressure	Present value	0	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMin
<input checked="" type="checkbox"/>	Min. refrigerant suction temp	Present value	0	°F	%RSegm%'HVAC'CclDx'RefSuctTempMin
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure	Present value	500	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMax
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature	Present value	100	°F	%RSegm%'HVAC'CclDx'RefSuctTempMax
<input checked="" type="checkbox"/>	Switch-on point for air flow hold cool.	Present value	4	%	%RSegm%'HVAC'CclDx'SwiOnAirFIHldC
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow hold cooling	Present value	2	%	%RSegm%'HVAC'CclDx'HysAirFIHldC
<input checked="" type="checkbox"/>	Rise time Dx evap.cooling variable speed	Present value	60	s	DX SPD TIUP
<input checked="" type="checkbox"/>	Dx evap.cooling variable speed down time	Present value	60	s	DX SPD TIDN

## DX evap. cooling coil 15, 1 variable speed compressor w/ hotgas reheat (2BO, 1AO)

Default values for the Cooling coil identify the settings for the Supply temperature controller for the cooling coil.

	▼ Cooling coil				
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Integral action time Tn	0	s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller type	PID controller		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output maximum	100	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output minimum	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output for offset	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Gain	10	%/K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Rise time from 0 to 100%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Fall time from 100 to 0%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Number of stages	1	---	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Switch delay	05:00	mm:ss	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-off	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-on	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Neutral zone	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Derivative action-time Tv	0	s	%RSegm%'HVAC'CclDx'CclTSuCtrC

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'CclDx.

<input checked="" type="checkbox"/>	Refrigerant suction pressure	Present value	0	lb/in2	REF SUC PRS1
<input checked="" type="checkbox"/>	Refrigerant temp. DX cooling coil	Present value	0	---	REF SUC TEMP
<input checked="" type="checkbox"/>	Cooling coil device mode	Present value	Off		CLG DEV MODE
<input checked="" type="checkbox"/>	Cooling coil cooling request	Present value	0	%	CLG COIL REQ
<input checked="" type="checkbox"/>	Cooling coil dehumidification request	Present value	0	%	DEHUM REQ
<input checked="" type="checkbox"/>	Cooling coil available for cooling	Present value	No		%RSegm%HVAC'CclDx'CclAvIC
<input checked="" type="checkbox"/>	Cooling coil available for dehumidification	Present value	No		%RSegm%HVAC'CclDx'CclAvIDhu
<input checked="" type="checkbox"/>	Minimum cooling coil DX evap. position	Present value	0	%	MNPOS DXCPR1
<input checked="" type="checkbox"/>	Maximum cooling coil DX evap. position	Present value	100	%	MXPOS DXCPR1
<input checked="" type="checkbox"/>	Enable fault input	Present value	No		%RSegm%HVAC'CclDx'EnFitIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold cool.	Present value	4	%	%RSegm%HVAC'CclDx'SwiOnAirFhldC
<input type="checkbox"/>	Hysteresis for air vol. flow hold cooling	Present value	2	%	%RSegm%HVAC'CclDx'HysAirFhldC
<input checked="" type="checkbox"/>	Switch-off delay t.hold f.air flow cool.	Present value	0	s	%RSegm%HVAC'CclDx'DlyOffAFhldC
<input checked="" type="checkbox"/>	Switch-on point for air flow cool.req	Present value	4	%	%RSegm%HVAC'CclDx'SwiOnAirFICReq
<input type="checkbox"/>	Hysteresis for air vol. flow cool.req	Present value	2	%	%RSegm%HVAC'CclDx'HysAirFICReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow cool.req	Present value	0	s	%RSegm%HVAC'CclDx'DlyOnAirFICReq
<input checked="" type="checkbox"/>	Switch-on point for airflow dehumidification request	Present value	33	%	%RSegm%HVAC'CclDx'SwiOnAirFIDhuReq
<input checked="" type="checkbox"/>	Hysteresis for air vol. flow dehumidification request	Present value	16	%	%RSegm%HVAC'CclDx'HysAirFIDhuReq
<input checked="" type="checkbox"/>	Min. on time for airflow dehumidification request	Present value	0	s	%RSegm%HVAC'CclDx'DlyOnAirFIDhuReq
<input checked="" type="checkbox"/>	Min. off-time for airflow dehumidification request	Present value	0	s	%RSegm%HVAC'CclDx'DlyOffAirFIDhuReq
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor	Present value	180	s	MNTIOFF CPR1
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor	Present value	180	s	MNTION CPR1
<input checked="" type="checkbox"/>	Enable lockout DX evap.at low outs.temp.	Present value	No		%RSegm%HVAC'CclDx'EnLockDXT0aLo
<input checked="" type="checkbox"/>	Lockout DX evap.at low outs.air temp.	Present value	45	°F	LCKDX OATLO
<input checked="" type="checkbox"/>	Outs. air temp.hys.for lockout DX evap.	Present value	4	°F	%RSegm%HVAC'CclDx'HysT0aLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low supply air temp.	Present value	45	°F	LOCK SATLO
<input checked="" type="checkbox"/>	Supply air temp.hys.for lockout DX evap.	Present value	2	°F	%RSegm%HVAC'CclDx'HysT0aLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low refrigerant temp.	Present value	25	°F	LOCK TRF LO
<input checked="" type="checkbox"/>	Refrigerant temp.hys for lockout DX evap.	Present value	2	°F	%RSegm%HVAC'CclDx'HysTRfLockDx
<input checked="" type="checkbox"/>	Enable relative humidity mode	Present value	No		%RSegm%HVAC'CclDx'EnHuRelMod
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Present value	45	%RH	MN RMHU STPT
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Present value	65	%RH	MX RMHU STPT
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Default command	55	°F	SAT CLG STPT
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Present value	0	°F	SAT CLG STPT
<input checked="" type="checkbox"/>	Minimum supply air temp. setpoint for cooling	Present value	55	°F	SAT MNC STPT
<input checked="" type="checkbox"/>	Maximum supply air temp. setpoint for cooling	Present value	65	°F	SAT MXC STPT
<input checked="" type="checkbox"/>	Switch-on point for DX evap.cooling coil	Present value	33	%	SWION DXCPR1
<input checked="" type="checkbox"/>	Hysteresis cooling coil DX evap.	Present value	16	%	%RSegm%HVAC'CclDx'HysCclDx
<input checked="" type="checkbox"/>	Switch-on point for dehumidification	Present value	33	%	SWION DEHUM
<input checked="" type="checkbox"/>	Hysteresis for dehumidification	Present value	16	%	HYS DEHUM
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure	Present value	0	lb/in2	%RSegm%HVAC'CclDx'RefSuctPresMin
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure	Present value	500	lb/in2	%RSegm%HVAC'CclDx'RefSuctPresMax
<input checked="" type="checkbox"/>	Min. refrigerant suction temp	Present value	0	°F	%RSegm%HVAC'CclDx'RefSuctTempMin
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature	Present value	100	°F	%RSegm%HVAC'CclDx'RefSuctTempMax
<input checked="" type="checkbox"/>	Switch-on point for DX evap. cool hotgas reheat	Present value	33	%	SWION HGAS
<input checked="" type="checkbox"/>	Hysteresis for DX evap. cool hotgas reheat	Present value	16	%	HYS HGAS
<input checked="" type="checkbox"/>	Minimum-off delay for hotgas reheat	Present value	0	s	MNOFFTI HGAS
<input checked="" type="checkbox"/>	Minimum delay on-time for hotgas reheat	Present value	0	s	MNONTI HGAS

## DX evap. cooling coil 16, 2 variable speed compressors (2BO,2AO)

Default values for the Cooling coil identify the settings for the Supply temperature controller for the cooling coil.

	▼ Cooling coil				
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller type	PID controller		%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output maximum	100	%	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output minimum	0	%	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output for offset	0	%	%RSegm%HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Gain	10	%/K	%RSegm%HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Rise time from 0 to 100%	600	1/10s	%RSegm%HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Fall time from 100 to 0%	600	1/10s	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Number of stages	1	---	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Switch delay	05:00	mm:ss	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-off	0.5	K	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-on	0.5	K	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Neutral zone	0.5	K	%RSegm%HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Integral action time Tn	120	s	%RSegm%HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Derivative action-time Tv	0	s	%RSegm%HVAC'CclDx'CclTSuCtrC

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'CclDx.

<input checked="" type="checkbox"/>	Refrigerant temperature for Dx evap. cooling 1	Present value	0	°F	REF SUCTEMP1
<input checked="" type="checkbox"/>	Refrigerant temperature for DX evap. cooling 2	Present value	0	°F	REF SUCTEMP2
<input checked="" type="checkbox"/>	Cooling coil device mode	Present value	Off		CLG DEV MODE
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller output	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller state	Controller switched-off		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller mode	Continuous		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Setpoint	20	°C	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Cooling coil cooling request	Present value	0	%	CLG COIL REQ
<input checked="" type="checkbox"/>	Cooling coil dehumidification request	Present value	0	%	DEHUM REQ
<input checked="" type="checkbox"/>	Cooling coil available for cooling	Present value	No		%RSegm%'HVAC'CclDx'CclAvlC
<input checked="" type="checkbox"/>	Cooling coil available for dehumidification	Present value	No		%RSegm%'HVAC'CclDx'CclAvlDhu
<input checked="" type="checkbox"/>	Minimum cooling coil DX evap. position	Present value	0	%	MNPOS DXCPR1
<input checked="" type="checkbox"/>	Maximum cooling coil DX evap. position	Present value	100	%	MXPOS DXCPR1
<input checked="" type="checkbox"/>	Enable fault input	Present value	No		%RSegm%'HVAC'CclDx'EnFltIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold cool.	Present value	4	%	%RSegm%'HVAC'CclDx'SwiOnAirFIHdC
<input checked="" type="checkbox"/>	Hysteresis for air vol. flow hold cooling	Present value	2	%	%RSegm%'HVAC'CclDx'HysAirFIHdC
<input checked="" type="checkbox"/>	Switch-off delay f. hold f. air flow cool.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOffAflHdC
<input checked="" type="checkbox"/>	Switch-on point for air flow cool. req.	Present value	4	%	%RSegm%'HVAC'CclDx'SwiOnAirFICReq
<input checked="" type="checkbox"/>	Hysteresis for air vol. flow cool. req.	Present value	2	%	%RSegm%'HVAC'CclDx'HysAirFICReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow cool. req.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOnAirFICReq
<input checked="" type="checkbox"/>	Switch-on point for airflow dehumidification request	Present value	33	%	%RSegm%'HVAC'CclDx'SwiOnAirFIDhuReq
<input checked="" type="checkbox"/>	Hysteresis for air vol. flow dehumidification req.	Present value	16	%	%RSegm%'HVAC'CclDx'HysAirFIDhuReq
<input checked="" type="checkbox"/>	Min. on time for airflow dehumidification request	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOnAirFIDhuReq
<input checked="" type="checkbox"/>	Min. off-time for airflow dehumidification request	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOffAirFIDhuReq
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor	Present value	180	s	MNTIOFF CPR1
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor	Present value	180	s	MNTION CPR1
<input checked="" type="checkbox"/>	Enable lockout DX evap. at low outs. temp.	Present value	No		%RSegm%'HVAC'CclDx'EnLockDxTOaLo
<input checked="" type="checkbox"/>	Lockout DX evap. at low outs. air temp.	Present value	45	°F	LCKDX OATLO
<input checked="" type="checkbox"/>	Outs. air temp. hys. for lockout DX evap.	Present value	4	°F	%RSegm%'HVAC'CclDx'HysToaLockDx
<input checked="" type="checkbox"/>	Lockout DX evap. at low supply air temp.	Present value	45	°F	LOCK SATLO
<input checked="" type="checkbox"/>	Supply air temp. hys. for lockout DX evap.	Present value	2	°F	%RSegm%'HVAC'CclDx'HysTSuLockDx
<input checked="" type="checkbox"/>	Lockout DX evap. at low refrigerant temp.	Present value	25	°F	LOCK TRF LO
<input checked="" type="checkbox"/>	Refrigerant temp. hys. for lockout DX evap.	Present value	2	°F	%RSegm%'HVAC'CclDx'HysTRFLockDx
<input checked="" type="checkbox"/>	Enable relative humidity mode	Present value	No		%RSegm%'HVAC'CclDx'EnHuRelMod
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Present value	45	%RH	MN RMHU STPT
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Present value	65	%RH	MX RMHU STPT
<input checked="" type="checkbox"/>	Supply air temp. setp. cool.	Present value	0	°F	SAT CLG STPT
<input checked="" type="checkbox"/>	Minimum supply air temp. setpoint for cooling	Present value	55	°F	SAT MNC STPT
<input checked="" type="checkbox"/>	Maximum supply air temp. setpoint for cooling	Present value	65	°F	SAT MXC STPT
<input checked="" type="checkbox"/>	Switch-on point for DX evap. cooling coil	Present value	33	%	SWION DXCPR1
<input checked="" type="checkbox"/>	Hysteresis cooling coil DX evap.	Present value	16	%	HYS CLGDX
<input checked="" type="checkbox"/>	Switch-on point for dehumidification	Present value	33	%	SWION DEHUM
<input checked="" type="checkbox"/>	Hysteresis for dehumidification	Present value	16	%	HYS DEHUM
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure 1	Present value	0	lbin2	%RSegm%'HVAC'CclDx'RefSuctPresMin1
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure 1	Present value	500	lbin2	%RSegm%'HVAC'CclDx'RefSuctPresMax1
<input checked="" type="checkbox"/>	Min. refrigerant suction temperature 1	Present value	0	°F	%RSegm%'HVAC'CclDx'RefSuctTempMin1
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature 1	Present value	120	°F	%RSegm%'HVAC'CclDx'RefSuctTempMax1
<input checked="" type="checkbox"/>	Dx evap. cool 1, supply air temp. ctrl output1 X1	Present value	0	%	CLG OUT1 X1
<input checked="" type="checkbox"/>	Min. Dx evap. cool 1 Y1	Present value	0	%	MNDX SPD1 Y1
<input checked="" type="checkbox"/>	Dx evap. cool 1, supply air temp. ctrl output 1 X2	Present value	50	%	CLG OUT1 X2
<input checked="" type="checkbox"/>	Max. Dx evap. cool 1 Y2	Present value	100	%	MNDX SPD1 Y2
<input checked="" type="checkbox"/>	Switch-on point for Dx evap. cool 2	Present value	98	%	SWION DXCPR2
<input checked="" type="checkbox"/>	Hysteresis for Dx evap. cool 2	Present value	16	%	HYS CPR2
<input checked="" type="checkbox"/>	Minimum switch-on time for Dx evap. cool 2	Present value	60	s	MNTION CPR2
<input checked="" type="checkbox"/>	Minimum switch-off time for Dx evap. cool 2	Present value	60	s	MNTIOFF CPR2
<input checked="" type="checkbox"/>	Dx evap. cool 2, supply air temp. ctrl output2 X1	Present value	50	%	CLG OUT2 X1
<input checked="" type="checkbox"/>	Min. Dx evap. cool 2 Y1	Present value	0	%	MNDX SPD2 Y1
<input checked="" type="checkbox"/>	Dx evap. cool 2, supply air temp. ctrl output 2 X2	Present value	100	%	CLG OUT2 X2
<input checked="" type="checkbox"/>	Max. Dx evap. cool 2 Y2	Present value	100	%	MNDX SPD2 Y2
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure 2	Present value	0	lbin2	%RSegm%'HVAC'CclDx'RefSuctPresMin2
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure 2	Present value	0	°F	%RSegm%'HVAC'CclDx'RefSuctTempMin2
<input checked="" type="checkbox"/>	Min. refrigerant suction temperature 2	Present value	120	°F	%RSegm%'HVAC'CclDx'RefSuctTempMax2
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature 2	Present value	500	lbin2	%RSegm%'HVAC'CclDx'RefSuctPresMax2
<input checked="" type="checkbox"/>	Ramp up for Dx evap. cooling coil 1	Present value	60	s	%RSegm%'HVAC'CclDx'TiUp1
<input checked="" type="checkbox"/>	Ramp down for Dx evap. cooling coil 1	Present value	60	s	%RSegm%'HVAC'CclDx'TiDn1
<input checked="" type="checkbox"/>	Ramp up for Dx evap. cooling coil 2	Present value	60	s	%RSegm%'HVAC'CclDx'TiUp2
<input checked="" type="checkbox"/>	Ramp down for Dx evap. cooling coil 2	Present value	60	s	%RSegm%'HVAC'CclDx'TiDn2

## DX evap. cooling coil 17, 2 variable speed compressors w/ hotgas reheat (3BO, 2AO)

	▼ Cooling coil				
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Controller type	PID controller		%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output maximum	100	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output minimum	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Controller output for offset	0	%	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Gain	10	%/K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Rise time from 0 to 100%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Fall time from 100 to 0%	600	1/10s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Number of stages	1	---	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Switch delay	05:00	mm:ss	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-off	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Hysteresis switch-on	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Neutral zone	0.5	K	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input checked="" type="checkbox"/>	Supply air Temperature controller for cooling	Integral action time Tn	120	s	%RSegm%'HVAC'CclDx'CclTSuCtrC
<input type="checkbox"/>	Supply air Temperature controller for cooling	Derivative action-time Tv	0	s	%RSegm%'HVAC'CclDx'CclTSuCtrC

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'CclDx.

<input checked="" type="checkbox"/>	Refrigerant temperature for Dx evap.cooling 1	Present value	0	°F	REF SUCTEMP1
<input checked="" type="checkbox"/>	Refrigerant temperature for Dx evap.cooling 2	Present value	0	°F	REF SUCTEMP2
<input checked="" type="checkbox"/>	Cooling coil device mode	Present value	Off		CLG DEV MODE
<input checked="" type="checkbox"/>	Cooling coil cooling request	Present value	0	%	CLG COIL REQ
<input checked="" type="checkbox"/>	Cooling coil dehumidification request	Present value	0	%	DEHUM REQ
<input checked="" type="checkbox"/>	Cooling coil available for cooling	Present value	No		%RSegm%'HVAC'CclDx'CclAvIC
<input checked="" type="checkbox"/>	Cooling coil available for dehumid.	Present value	No		%RSegm%'HVAC'CclDx'CclAvIDhu
<input checked="" type="checkbox"/>	Minimum cooling coil DX evap. position	Present value	0	%	MNPOS DXCPR1
<input checked="" type="checkbox"/>	Maximum cooling coil DX evap. position	Present value	100	%	MXPOS DXCPR1
<input checked="" type="checkbox"/>	Enable fault input	Present value	No		%RSegm%'HVAC'CclDx'EnFitIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold cool.	Present value	4	%	%RSegm%'HVAC'CclDx'SwiOnAirFIHldC
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow hold cooling	Present value	2	%	%RSegm%'HVAC'CclDx'HysAirFIHldC
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow cool.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOffAFIHldC
<input checked="" type="checkbox"/>	Switch-on point for air flow cool.req	Present value	4	%	%RSegm%'HVAC'CclDx'SwiOnAirFICReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow cool.req.	Present value	2	%	%RSegm%'HVAC'CclDx'HysAirFICReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow cool.req.	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOnAirFICReq
<input checked="" type="checkbox"/>	Switch-on point for airflow dehumidification request	Present value	33	%	%RSegm%'HVAC'CclDx'SwiOnAirFIDhuReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow dehumid.req.	Present value	16	%	%RSegm%'HVAC'CclDx'HysAirFIDhuReq
<input checked="" type="checkbox"/>	Min. on time for airflow dehumidification request	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOnAirFIDhuReq
<input checked="" type="checkbox"/>	Min. off-time for airflow dehumidification request	Present value	0	s	%RSegm%'HVAC'CclDx'DlyOffAirFIDhuReq
<input checked="" type="checkbox"/>	Minimum switch-off time for compressor	Present value	180	s	MNTOFF CPR1
<input checked="" type="checkbox"/>	Minimum switch-on time for compressor	Present value	180	s	MNTION CPR1
<input checked="" type="checkbox"/>	Enable lockout DX evap.at low outs.temp.	Present value	No		%RSegm%'HVAC'CclDx'EnLockDxTOaLo
<input checked="" type="checkbox"/>	Lockout DX evap.at low outs.air temp.	Present value	45	°F	LCKDX OATLO
<input checked="" type="checkbox"/>	Outs.air temp.hys.for lockout DX evap.	Present value	4	°F	%RSegm%'HVAC'CclDx'HysTOaLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low supply air temp.	Present value	45	°F	LOCK SATLO
<input checked="" type="checkbox"/>	Supply air temp.hys.for lockout DX evap.	Present value	2	°F	%RSegm%'HVAC'CclDx'HysTSuLockDx
<input checked="" type="checkbox"/>	Lockout DX evap.at low refrigerant temp.	Present value	25	°F	LOCK TRF LO
<input checked="" type="checkbox"/>	Refrigerant temp.hys for lockout DX evap.	Present value	2	°F	%RSegm%'HVAC'CclDx'HysTRFLockDx
<input checked="" type="checkbox"/>	Enable relative humidity mode	Present value	No		%RSegm%'HVAC'CclDx'EnHuRelMod
<input checked="" type="checkbox"/>	Minimum relative humidity for room	Present value	45	%RH	MN RMHU STPT
<input checked="" type="checkbox"/>	Maximum relative humidity for room	Present value	65	%RH	MX RMHU STPT
<input checked="" type="checkbox"/>	Supply air temp.setp.cool.	Present value	0	°F	SAT CLG STPT

<input checked="" type="checkbox"/>	Minimum supply air temp. setpoint for cooling	Present value	55	°F	SAT MNC STPT
<input checked="" type="checkbox"/>	Maximum supply air temp. setpoint for cooling	Present value	65	°F	SAT MXC STPT
<input checked="" type="checkbox"/>	Switch-on point for DX evap. cooling coil	Present value	33	%	SWION DXCPR1
<input checked="" type="checkbox"/>	Hysteresis cooling coil DX evap.	Present value	16	%	%RSegm%'HVAC'CclDx'HysCclDx
<input checked="" type="checkbox"/>	Switch-on point for dehumidification	Present value	33	%	SWION DEHUM
<input checked="" type="checkbox"/>	Hysteresis for dehumidification	Present value	16	%	HYS DEHUM
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure 1	Present value	0	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMin1
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure 1	Present value	500	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMax1
<input checked="" type="checkbox"/>	Min. refrigerant suction temperature 1	Present value	0	°F	%RSegm%'HVAC'CclDx'RefSuctTempMin1
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature 1	Present value	120	°F	%RSegm%'HVAC'CclDx'RefSuctTempMax1
<input checked="" type="checkbox"/>	Dx evap. cool 1, supply air temp.ctl output1 X1	Present value	0	%	CLG OUT1 X1
<input checked="" type="checkbox"/>	Min. Dx evap. cool 1 Y1	Present value	0	%	MNDX SPD1 Y1
<input checked="" type="checkbox"/>	Dx evap. cool 1, supply air temp.ctl output 1 X2	Present value	50	%	CLG OUT1 X2
<input checked="" type="checkbox"/>	Max. Dx evap. cool 1 Y2	Present value	100	%	MNDX SPD1 Y2
<input checked="" type="checkbox"/>	Switch-on point for Dx evap. cool 2	Present value	98	%	SWION DXCPR2
<input checked="" type="checkbox"/>	Hysteresis for Ex evap. cool 2	Present value	16	%	HYS CPR2
<input checked="" type="checkbox"/>	Minimum switch-on time for Dx evap. cool 2	Present value	60	s	MINTION CPR2
<input checked="" type="checkbox"/>	Minimum switch-off time for Dx evap. cool 2	Present value	60	s	MINTIOF CPR2
<input checked="" type="checkbox"/>	Dx evap. cool 2, supply air temp.ctl output2 X1	Present value	50	%	CLG OUT2 X1
<input checked="" type="checkbox"/>	Min. Dx evap. cool 2 Y1	Present value	0	%	MNDX SPD2 Y1
<input checked="" type="checkbox"/>	Dx evap. cool 2, supply air temp.ctl output 2 X2	Present value	100	%	CLG OUT2 X2
<input checked="" type="checkbox"/>	Max. Dx evap. cool 2 Y2	Present value	100	%	MNDX SPD2 Y2
<input checked="" type="checkbox"/>	Min. refrigerant suction pressure 2	Present value	0	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMin2
<input checked="" type="checkbox"/>	Min. refrigerant suction temperature 2	Present value	0	°F	%RSegm%'HVAC'CclDx'RefSuctTempMin2
<input checked="" type="checkbox"/>	Max. refrigerant suction temperature 2	Present value	120	°F	%RSegm%'HVAC'CclDx'RefSuctTempMax2
<input checked="" type="checkbox"/>	Max. refrigerant suction pressure 2	Present value	500	lb/in2	%RSegm%'HVAC'CclDx'RefSuctPresMax2
<input checked="" type="checkbox"/>	Minimum delay on-time for hotgas reheat	Present value	60	s	MNONTI HGAS
<input checked="" type="checkbox"/>	Minimum delay off- time for hotgas reheat	Present value	60	s	MNOFFTI HGAS
<input checked="" type="checkbox"/>	Switch-on point for Dx evap. cool hotgas reheat	Present value	33	%	SWION HGAS
<input checked="" type="checkbox"/>	Hysteresis for Dx evap. cool hotgas reheat	Present value	16	%	HYS HGAS
<input checked="" type="checkbox"/>	Ramp up time for Dx.evap.cooling coil 1	Present value	60	s	%RSegm%'HVAC'CclDx'TiUp1
<input checked="" type="checkbox"/>	Ramp down time for Ex.evap.cooling coil 1	Present value	60	s	%RSegm%'HVAC'CclDx'TiDn1
<input checked="" type="checkbox"/>	Ramp up time for Dx.evap.cooling coil 2	Present value	60	s	%RSegm%'HVAC'CclDx'TiUp2
<input checked="" type="checkbox"/>	Ramp down time for Dx.evap.cooling coil 2	Present value	60	s	%RSegm%'HVAC'CclDx'TiDn2

## Heating coil, gas heat 1-stage

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'HclGas.

<input checked="" type="checkbox"/>	Heating coil device mode	Present value	Off		HTG DEV MODE
<input checked="" type="checkbox"/>	Heating coil heating request	Present value	0	%	HTG COIL REQ
<input checked="" type="checkbox"/>	Heating coil available for heating	Present value	No		%RSegm%'HVAC'HclGas'HclAvIH
<input checked="" type="checkbox"/>	Enable overtemperature detector input	Present value	No		%RSegm%'HVAC'HclGas'EnOvrTDetIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold heat.	Present value	66	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHldH
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow hold heating	Present value	33	%	%RSegm%'HVAC'HclGas'HysAirFIHldH
<input checked="" type="checkbox"/>	Switch-off delay f. hold f.air flow heat.	Present value	30	s	%RSegm%'HVAC'HclGas'DlyOffAfIHldH
<input checked="" type="checkbox"/>	Switch-on point for air flow heat.req	Present value	66	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow heat.req.	Present value	33	%	%RSegm%'HVAC'HclGas'HysAirFIHReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow heat.req.	Present value	0	s	%RSegm%'HVAC'HclGas'DlyOnAirFIHReq
<input checked="" type="checkbox"/>	Ena.lockout heat.coil at high outs.temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHclTOaHi
<input checked="" type="checkbox"/>	Lockout heat.coil at high outs.air temp.	Present value	70	°F	LCKHT OAT HI
<input checked="" type="checkbox"/>	Outs.air temp.hys.f.lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysTOaLockHcl
<input checked="" type="checkbox"/>	Ena. lockout heat coil at high supply air temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHTSuHi
<input checked="" type="checkbox"/>	Lockout heating coil at high supply temp.	Present value	120	°F	LOCK SAT HI
<input checked="" type="checkbox"/>	Supply temp hys. for lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysTSuLockHcl
<input checked="" type="checkbox"/>	Minimum Off-delay for heating coil	Present value	30	s	MNTIOF HCL
<input checked="" type="checkbox"/>	Minimum on-delay for heating coil	Present value	30	s	MNTION HCL
<input checked="" type="checkbox"/>	Min.air flow switch-off time bef.start	Present value	30	s	MNTIOF AFL



## Heating coil, gas heat 2-stage

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'HclGas.

<input checked="" type="checkbox"/>	Heating coil device mode	Present value	Off		HTG DEV MODE
<input checked="" type="checkbox"/>	Heating coil heating request	Present value	0	%	HTG COIL REQ
<input checked="" type="checkbox"/>	Heating coil available for heating	Present value	No		%RSegm%'HVAC'HclGas'HclAvIH
<input checked="" type="checkbox"/>	Enable overtemperature detector input	Present value	No		%RSegm%'HVAC'HclGas'EnOvrTDetIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold heat.	Present value	33	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHldH
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow heat.	Present value	30	s	%RSegm%'HVAC'HclGas'DlyOffAFIHldH
<input checked="" type="checkbox"/>	Switch-on point for air flow heat.req	Present value	33	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow heat.req.	Present value	0	s	%RSegm%'HVAC'HclGas'DlyOnAirFIHReq
<input checked="" type="checkbox"/>	Ena.lockout heat.coil at high outs.temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHclToaHi
<input checked="" type="checkbox"/>	Lockout heat.coil at high outs.air temp.	Present value	70	°F	LCKHT OAT HI
<input checked="" type="checkbox"/>	Outs.air temp.hys.f.lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysToaLockHcl
<input checked="" type="checkbox"/>	Ena. lockout heat coil at high supply air temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHTSuHi
<input checked="" type="checkbox"/>	Lockout for heating coil at high supply temp	Present value	120	°F	LOCK SAT HI
<input checked="" type="checkbox"/>	Supply air temp. hys. for heating coil lockout	Present value	2	°F	%RSegm%'HVAC'HclGas'HysTSuLockHcl
<input checked="" type="checkbox"/>	Minimum Off-delay for heating coil	Present value	30	s	MNTIOFF HCL1
<input checked="" type="checkbox"/>	Minimum on-delay for heating coil	Present value	30	s	MNTION HCL1
<input checked="" type="checkbox"/>	Min.air flow switch-off time bef.start	Present value	30	s	MNTIOFF AFL

## Heating coil, gas heat 3-stage

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'HclGas.

<input checked="" type="checkbox"/>	Heating coil device mode	Present value	Off		HTG DEV MODE
<input checked="" type="checkbox"/>	Heating coil heating request	Present value	0	%	HTG COIL REQ
<input checked="" type="checkbox"/>	Heating coil available for heating	Present value	No		%RSegm%'HVAC'HclGas'HclAvIH
<input checked="" type="checkbox"/>	Enable overtemperature detector input	Present value	No		%RSegm%'HVAC'HclGas'EnOvrTDetIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold heat.	Present value	22	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHldH
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow hold heating	Present value	11	%	%RSegm%'HVAC'HclGas'HysAirFIHldH
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow heat.	Present value	30	s	%RSegm%'HVAC'HclGas'DlyOffAFIHldH
<input checked="" type="checkbox"/>	Switch-on point for air flow heat.req	Present value	22	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow heat.req.	Present value	11	%	%RSegm%'HVAC'HclGas'HysAirFIHReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow heat.req.	Present value	0	s	%RSegm%'HVAC'HclGas'DlyOnAirFIHReq
<input checked="" type="checkbox"/>	Ena.lockout heat.coil at high outs.temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHclToaHi
<input checked="" type="checkbox"/>	Lockout heat.coil at high outs.air temp.	Present value	70	°F	LCKHT OAT HI
<input checked="" type="checkbox"/>	Outs.air temp.hys.f.lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysToaLockHcl
<input checked="" type="checkbox"/>	Ena. lockout heat coil at high supply air temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHTSuHi
<input checked="" type="checkbox"/>	Supply temp lockout for gas heat	Present value	120	°F	LOCK SAT HI
<input checked="" type="checkbox"/>	Minimum Off-delay for heating coil	Present value	30	s	MNTIOFF HCL
<input checked="" type="checkbox"/>	Minimum on-delay for heating coil	Present value	30	s	MNTION HCL
<input checked="" type="checkbox"/>	Min.air flow switch-off time bef.start	Present value	30	s	MNTIOFF AFL
<input checked="" type="checkbox"/>	Heating/cooling demand	Present value	Neither		HC DEMAND

## Heating coil, gas heat 4-stage

Add additional parameters via Show/hide parameters.

Select %RSegm%'HVAC'HclGas.

<input checked="" type="checkbox"/>	Heating coil device mode	Present value	Off		HTG DEV MODE
<input checked="" type="checkbox"/>	Heating coil heating request	Present value	0	%	HTG COIL REQ
<input checked="" type="checkbox"/>	Heating coil available for heating	Present value	No		%RSegm%'HVAC'HclGas'HclAvIH
<input checked="" type="checkbox"/>	Enable overtemperature detector input	Present value	No		%RSegm%'HVAC'HclGas'EnOvrTDetIn
<input checked="" type="checkbox"/>	Switch-on point for air flow hold heat.	Present value	17	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHIdH
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow hold heating	Present value	8	%	%RSegm%'HVAC'HclGas'HysAirFIHIdH
<input checked="" type="checkbox"/>	Switch-off delay f.hold f.air flow heat.	Present value	30	s	%RSegm%'HVAC'HclGas'DlyOffAFIHIdH
<input checked="" type="checkbox"/>	Switch-on point for air flow heat.req	Present value	17	%	%RSegm%'HVAC'HclGas'SwiOnAirFIHReq
<input checked="" type="checkbox"/>	Hysteresis for air vol.flow heat.req.	Present value	8	%	%RSegm%'HVAC'HclGas'HysAirFIHReq
<input checked="" type="checkbox"/>	Switch-on delay for air flow heat.req.	Present value	0	s	%RSegm%'HVAC'HclGas'DlyOnAirFIHReq
<input checked="" type="checkbox"/>	Ena.lockout heat.coil at high outs.temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHclTOaHi
<input checked="" type="checkbox"/>	Lockout heat.coil at high outs.air temp.	Present value	70	°F	LCKHT OAT HI
<input checked="" type="checkbox"/>	Outs.air temp.hys.f.lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysTOaLockHcl
<input checked="" type="checkbox"/>	Ena.lockout heat.coil at high supply air temp.	Present value	No		%RSegm%'HVAC'HclGas'EnLockHTSuHi
<input checked="" type="checkbox"/>	Lockout heating coil at high supply air temp	Present value	120	°F	LOCK SAT HI
<input checked="" type="checkbox"/>	Supply air temp. hys. for lockout heating coil	Present value	2	°F	%RSegm%'HVAC'HclGas'HysTSuLockHcl
<input checked="" type="checkbox"/>	Minimum Off-delay for heating coil	Present value	30	s	MNTIOFF HCL
<input checked="" type="checkbox"/>	Minimum on-delay for heating coil	Present value	30	s	MNTION HCL
<input checked="" type="checkbox"/>	Min.air flow switch-off time bef.start	Present value	30	s	MNTIOFF AFL
<input checked="" type="checkbox"/>	Heating coil gas command first stage	Present value	Off		HTG GAS 1ST
<input checked="" type="checkbox"/>	Heating coil gas command second stage	Present value	Off		HTG GAS 2ND
<input checked="" type="checkbox"/>	Heating coil gas command third stage	Present value	Off		HTG GAS 3RD
<input checked="" type="checkbox"/>	Heating coil gas command fourth stage	Present value	Off		HTG GAS 4TH

## Additional Parameters

Supply Temperature can be found in %RSegm%

Room Temperature can be found in %RSegm%'ROpUnDev(1)

<input checked="" type="checkbox"/>	Supply air temperature	Present value	0	°F	SPLY TEMP 1
<input checked="" type="checkbox"/>	Supply air temperature	Correction offset	0	---	SPLY TEMP 1
<input checked="" type="checkbox"/>	Room temperature	Present value	0	°F	ROOM TEMP 17
<input checked="" type="checkbox"/>	Room temperature	Correction offset	0	---	ROOM TEMP 17



## Step 5 – Room HVAC Coordination

Room segment	Room HVAC coordination	Active
On-board output	Trend for room temperature	None
On-board input	Trend for room air quality	None
KNX PL-Link device	Trend for relative humidity room	None
HVAC	Plant operating mode determination	Active
Lighting	Presence mode determination	None
Shading	Fan operation	None
Preassigned applications	Room temperature setpoint determination	Active
Room	Temperature control for cooling	Fan coil room temp.control cooling 11
Room HVAC coordination	Trend for present cooling setpoint	None
Room lighting coordination	Temperature control for heating	Fan coil room temp.control heating 11
Room shading coordination	Trend for present heating setpoint	None
Room coordination	Heating/cooling state determination	Active
Preassigned applications	Ventilation control	Active
	Dehumidification control	None
	Green leaf	Active

## Room Operating Mode Determination

Set default values for Room operating mode determination

	Room operating mode determination				
<input checked="" type="checkbox"/>	Room operating mode determination	Time for comfort button	120:00:000	mm:ss:ms	%R%/ROpModDtr
<input checked="" type="checkbox"/>	Room operating mode determination	Comfort button inactive configuration	Auto		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Op.command for energy effic.at automatic	Auto		%R%/ROpModDtr
<input checked="" type="checkbox"/>	Room operating mode determination	Manual operation lock configuration	ProtEcon		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Comfort/Pre-Comf./Economy to Protection	EnrEfCon		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Comfort/Pre-Comfort to Economy	EnrEfCon		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Comfort to Pre-Comfort	EnrEfCon		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Protection/Economy/Pre-Comf.to Comfort	ComfCon		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Protection/Economy to Pre-Comfort	None		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Protection to Economy	None		%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Repetition time energy efficiency trig.	60:00:000	mm:ss:ms	%R%/ROpModDtr
<input type="checkbox"/>	Room operating mode determination	Repetition number energy effc.trigger	0	---	%R%/ROpModDtr
<input checked="" type="checkbox"/>	Room operating mode determination	Source for present operating mode	PltOpMod		%R%/ROpModDtr

- **Manual operation lock configuration:** Locks the manual operation of the room unit during centrally scheduled room operating modes, so that comfort cannot be increased and energy efficiency is maintained. Configure to support the appropriate room operating modes: 1:None, 2:Protection, 3:Protection/Economy, 4:Protection/Economy/Pre-Comfort.
- **Source for present operating mode:** Considers the impact of window contact, presence detector, manual fan operation inputs on the room operating mode. [default = PltOpMod]

In addition, two points pertaining to the comfort button have been added. One is a delay time for the button that controls how long it takes the room operating mode to switch back after the comfort button is activated – this point replaces the "Time for comfort button" parameter. The second point is a timer which shows how long it has been since the comfort button was pressed. This point is a calculated value and can't be written to. See table.

Description	Name	Abbreviated Name	Type	Default	Min/Max value
Comfort button delay time <input type="checkbox"/> Replaces the config value that functioned the same.	CmfBtnDlyTi	CMF BTN TIME	APrcVal	7200 s	0-15000 s
Comfort button elapsed time	CmfBtnEldTi	CMFBTN ELDTI	ACalcVal	0	0-15000s

A 5 minute [Default] switch delay exists for switching plant operating mode states when a person is present/absent from the room.

<input checked="" type="checkbox"/>	Plant operating mode determination	Switch delay when present	05:00:000	mm:ss.ms	%R%'RHvacCoo'PltModDtr
<input checked="" type="checkbox"/>	Plant operating mode determination	Switch delay when absent	05:00:000	mm:ss.ms	%R%'RHvacCoo'PltModDtr

## Room Temperature Setpoint Determination

<input type="checkbox"/>	Room temperature setpoint determination	Op.command for energy effc.at automatic	Auto		%R%'RHvacCoo'SpTRDtr
<input type="checkbox"/>	Room temperature setpoint determination	Op.command for energy effc.at manual	None		%R%'RHvacCoo'SpTRDtr
<input checked="" type="checkbox"/>	Room temperature setpoint determination	Display absolute room temp.setpoint	PrVal		%R%'RHvacCoo'SpTRDtr

## Presence Mode Determination (Optional)

<input checked="" type="checkbox"/>	Presence mode determination	Presence mode for comfort	ConsPres		%R%'RHvacCoo'PscModDtr
<input type="checkbox"/>	Presence mode determination	Presence mode for pre-comfort	ConsPrAb		%R%'RHvacCoo'PscModDtr
<input type="checkbox"/>	Presence mode determination	Presence mode for economy	None		%R%'RHvacCoo'PscModDtr
<input type="checkbox"/>	Presence mode determination	Presence mode for protection	None		%R%'RHvacCoo'PscModDtr

## Heating/cooling state determination

<input type="checkbox"/>	Heating/cooling state determination	Shift of switch-on point for cool.state	0	°F	%R%'RHvacCoo'HCStaDtr
<input type="checkbox"/>	Heating/cooling state determination	Shift of switch-on point for heat.state	0	°F	%R%'RHvacCoo'HCStaDtr
<input checked="" type="checkbox"/>	Heating/cooling state determination	Switch-on delay for heat/cool.changeover	02:00:000	mm:ss.ms	%R%'RHvacCoo'HCStaDtr

## Temperature Control for Cooling

<input checked="" type="checkbox"/>	Temperature control for cooling	Fan operation	Parallel		%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Offset for fan start	0	°F	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Coil valve start pos.by parall.operation	10	%	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Coil valve end pos.by parallel operation	100	%	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Fan end speed by parallel operation	50	%	%R%'RHvacCoo'TCtIC

## Order Sequencing for Cooling Devices

The order sequencing for the cooling devices have default settings. They can be modified as required by room temperature cooling control sequence. If a cooling device is not selected as an output device, it will not be used during the cooling sequence.

Cooling devices for RTU have been configured in the following order (from less to more cooling):

1. Outside air damper cooling sequence (Selected)
2. Radiant ceiling cooling sequence (NOT USED)
3. Heating/Cooling coil cooling sequence (NOT USED)
4. Cooling coil cooling sequence (Selected)
5. Fan cooling sequence (Selected)

<input checked="" type="checkbox"/>	Temperature control for cooling	Outside air damper cooling sequence	1	---	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Radiant ceiling cooling sequence	2	---	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Heating/cooling coil cooling sequence	3	---	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Cooling coil cooling sequence	4	---	%R%'RHvacCoo'TCtIC
<input checked="" type="checkbox"/>	Temperature control for cooling	Fan cooling sequence	5	---	%R%'RHvacCoo'TCtIC

## Room operating mode configuration for cooling devices

Each room operating mode can be configured to support one of the following heating device configurations: None, Radiant & air treatment devices (RadATrDv), Radiant devices (RadDev), Air treatment devices (ATreaDev). *Typically, no changes are required for this section.*

<input type="checkbox"/>	Temperature control for cooling	Comfort configuration	RadATrDv		%R%'RHvacCoo'TCtIC
<input type="checkbox"/>	Temperature control for cooling	Pre-Comfort configuration	RadATrDv		%R%'RHvacCoo'TCtIC
<input type="checkbox"/>	Temperature control for cooling	Economy configuration	RadATrDv		%R%'RHvacCoo'TCtIC
<input type="checkbox"/>	Temperature control for cooling	Protection configuration	RadATrDv		%R%'RHvacCoo'TCtIC
<input type="checkbox"/>	Temperature control for cooling	Cool down configuration	RadATrDv		%R%'RHvacCoo'TCtIC
<input type="checkbox"/>	Temperature control for cooling	Free cooling configuration	RadATrDv		%R%'RHvacCoo'TCtIC

## Controller mode by room operating mode

The operation of the cooling coil or radiant devices can be configured to operate in either Continuous (modulating) or 2-Position for each room operating mode. This allows radiant devices to easily be configured for cool-down mode. *Typically, no changes are required to this section.*

Additional parameters can be added via  
Select %R%'RHvacCoo'TCtIC'ByPHSeq.

Show/hide parameter...

<input type="checkbox"/>	Temperature control for cooling	Coil: controller mode by comfort	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Coil: controller mode by pre-comfort	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Coil: controller mode by economy	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Coil: controller mode by protection	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Coil: controller mode by cool down	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Radiant devices: ctr.mode by comfort	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Radiant devices: ctr.mode by pre-comfort	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Radiant devices: ctr.mode by economy	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Radiant devices: ctr.mode by protection	Cont	%R%RHvacCooTctlC
<input type="checkbox"/>	Temperature control for cooling	Radiant devices: ctr.mode by cool down	Cont	%R%RHvacCooTctlC

## Cooling setpoints for room operating mode

The cooling setpoints for each operating mode can be configured to meet job site specifications. Default values are set based on ASHRAE 90.1-2016 recommendations.

<input checked="" type="checkbox"/>	Cooling setpoint for comfort	Default command	75	°F	CMF CLG STPT
<input checked="" type="checkbox"/>	Delta cooling setpoint for pre-comfort	Present value	2	°F	STBY C DELTA
<input checked="" type="checkbox"/>	Cooling setpoint for economy	Present value	85	°F	ECO CLG STPT
<input checked="" type="checkbox"/>	Cooling setpoint for protection	Present value	95	°F	PROT CLGSTPT

## Room temperature cooling controller for damper

<input checked="" type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Gain	27.8	%/°F	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Hysteresis switch-off	0.9	°F	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Hysteresis switch-on	0.9	°F	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Neutral zone	0	°F	%R%RHvacCooTctlC'DmpOaTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Integral action time Tn	1800	s	%R%RHvacCooTctlC'DmpOaTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Controller type	PID controller		%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Controller output maximum	100	%	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Controller output minimum	0	%	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Controller output for offset	0	%	%R%RHvacCooTctlC'DmpOaTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooTctlC'DmpOaTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Number of stages	1	---	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Switch delay	05:00	mm:ss	%R%RHvacCooTctlC'DmpOaTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for outs.air damp.	Derivative action-time Tv	0	s	%R%RHvacCooTctlC'DmpOaTRCtrC

## Room temperature cooling controller for cooling coil

<input checked="" type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Gain	27.8	%/°F	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Hysteresis switch-off	0.9	°F	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Hysteresis switch-on	0.9	°F	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Neutral zone	0	°F	%R%RHvacCooTctlC'CclTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Integral action time Tn	1800	s	%R%RHvacCooTctlC'CclTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Controller type	PID controller		%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Controller output maximum	100	%	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Controller output minimum	0	%	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Controller output for offset	0	%	%R%RHvacCooTctlC'CclTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooTctlC'CclTRCtrC
<input checked="" type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Number of stages	1	---	%R%RHvacCooTctlC'CclTRCtrC
<input type="checkbox"/>	Room temp.ctr.cooling for cooling coil	Switch delay	05:00	mm:ss	%R%RHvacCooTctlC'CclTRCtrC

### Note

Two points have been added that replace the Hysteresis switch-on/off parameters above. They are process values and can be set / commanded externally without using ABT Site. See table:

Description	BACnet Name	Abbreviated Name	Type	Default	Min/Max value
Cooling coil room temp.ctr. hysteresis switch-off	CclTRCSwiOff	RMTC SWIOFF	APrcVal	1°F	0 – 10 °F
Cooling coil room temp.ctr. hysteresis switch-on	CclTRCSwiOn	RMTC SWION	APrcVal	1°F	0 – 10 °F

## Room temperature cooling controller for fan

<input checked="" type="checkbox"/>	Room temp.controller cooling for fan	Gain	27.8	%/°F	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Hysteresis switch-off	0	°F	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Hysteresis switch-on	0.9	°F	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Neutral zone	0	°F	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input checked="" type="checkbox"/>	Room temp.controller cooling for fan	Integral action time Tn	1800	s	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input checked="" type="checkbox"/>	Room temp.controller cooling for fan	Controller type	PID controller		%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Controller output maximum	100	%	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Controller output minimum	0	%	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Controller output for offset	0	%	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input checked="" type="checkbox"/>	Room temp.controller cooling for fan	Rise time from 0 to 100%	600	1/10s	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input checked="" type="checkbox"/>	Room temp.controller cooling for fan	Fall time from 100 to 0%	600	1/10s	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Number of stages	1	---	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Switch delay	05:00	mm:ss	%R%'RHvacCoo'TCtl'CFanTRCtrC
<input type="checkbox"/>	Room temp.controller cooling for fan	Derivative action-time Tv	0	s	%R%'RHvacCoo'TCtl'CFanTRCtrC

## Temperature Control for Heating

<input checked="" type="checkbox"/>	Temperature control for heating	Fan operation	Parallel		%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Coil valve start pos.by parall.operation	0	%	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Fan end speed by parallel operation	100	%	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Offset for fan start	0	°F	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Coil valve end pos.by parallel operation	100	%	%R%'RHvacCoo'TCtl'H

## Order Sequencing for Heating Devices

<input checked="" type="checkbox"/>	Temperature control for heating	Radiator heating sequence	1	---	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Radiant ceiling heating sequence	2	---	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Heating/cooling coil heating sequence	3	---	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Heating coil heating sequence	4	---	%R%'RHvacCoo'TCtl'H
<input checked="" type="checkbox"/>	Temperature control for heating	Fan heating sequence	5	---	%R%'RHvacCoo'TCtl'H

## Room operating mode configuration for heating devices

Each room operating mode can be configured to support one of the following heating device configurations: None, Radiant & air treatment devices (RadATrDv), Radiant devices (RadDev), Air treatment devices (ATreaDev). *Typically, no changes are required to this section.*

<input type="checkbox"/>	Temperature control for heating	Comfort configuration	RadATrDv		%R%'RHvacCoo'TCtl'H
<input type="checkbox"/>	Temperature control for heating	Pre-Comfort configuration	RadATrDv		%R%'RHvacCoo'TCtl'H
<input type="checkbox"/>	Temperature control for heating	Economy configuration	RadATrDv		%R%'RHvacCoo'TCtl'H
<input type="checkbox"/>	Temperature control for heating	Protection configuration	RadATrDv		%R%'RHvacCoo'TCtl'H
<input type="checkbox"/>	Temperature control for heating	Warm-up configuration	RadATrDv		%R%'RHvacCoo'TCtl'H

## Controller mode by room operating mode

The operation of the heating coil or radiant devices can be configured to operate either in: Continuous (modulating) or 2-Position for each room operating mode. This allows radiant devices to easily be configured for warm-up mode. *Typically, no changes are required to this section*

<input type="checkbox"/>	Temperature control for heating	Coil: controller mode by comfort	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Coil: controller mode by pre-comfort	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Coil: controller mode by economy	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Coil: controller mode by protection	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Coil: controller mode by warm-up	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Radiant devices: ctr.mode by comfort	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Radiant devices: ctr.mode by pre-comfort	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Radiant devices: ctr.mode by economy	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Radiant devices: ctr.mode by protection	Cont	%R%'RHvacCoo'TCtlH
<input type="checkbox"/>	Temperature control for heating	Radiant devices: ctr. mode by warm-up	Cont	%R%'RHvacCoo'TCtlH

## Heating setpoints for room operating mode

The heating setpoints for each operating mode can be configured to meet job site specifications. Default values are set based on ASHRAE 90.1-2016 recommendations.

<input checked="" type="checkbox"/>	Heating setpoint for comfort	Default command	70	°F	CMF HTG STPT
<input checked="" type="checkbox"/>	Delta heating setpoint for pre-comfort	Present value	2	°F	STBY H DELTA
<input checked="" type="checkbox"/>	Heating setpoint for economy	Present value	65	°F	ECO HTG STPT
<input checked="" type="checkbox"/>	Heating setpoint for protection	Present value	55	°F	PROT HTG SP

## Room temperature heating controller for heating coil

When Controller type is set to **Stage controller** for staged electric heat, configure the following as needed:

- Hysteresis switch-off
- Hysteresis switch-on
- Number of stages (e.g., number of stages found in heating coil)
- Switch delay

<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Gain	27.8	%°F	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Hysteresis switch-off	0.9	°F	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Hysteresis switch-on	0.9	°F	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Neutral zone	0	°F	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Integral action time Tn	1800	s	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Controller type	Stage controller		%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Controller output maximum	100	%	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Controller output minimum	0	%	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input type="checkbox"/>	Room temp.ctr.heating for heating coil	Controller output for offset	0	%	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Rise time from 0 to 100%	600	1/10s	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Fall time from 100 to 0%	600	1/10s	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Number of stages	1	---	%R%'RHvacCoo'TCtlH'HclTRCtrH
<input checked="" type="checkbox"/>	Room temp.ctr.heating for heating coil	Switch delay	08:00	mm:ss	%R%'RHvacCoo'TCtlH'HclTRCtrH

### Note

Three points have been added that replace the Hysteresis switch-on/off parameters and the Switch delay parameter above. They are process values and can be set / commanded externally without using ABT Site. See table:

Description	BACnet Name	Abbreviated Name	Type	Default	Min/Max value
Heating coil room temp.ctr. hysteresis switch-off	HclTRHSwiOff	RMTH SWIOFF	APrcVal	1°F	0 – 10 °F
Heating coil room temp.ctr. hysteresis switch-on	HclTRHSwiOn	RMTH SWION	APrcVal	1°F	0 – 10 °F
Heating coil room temp.ctr hysteresis switch delay	HclTRHSwiDly	RMTH SWIDLY	APrcVal	40 s	0 – 1000 s

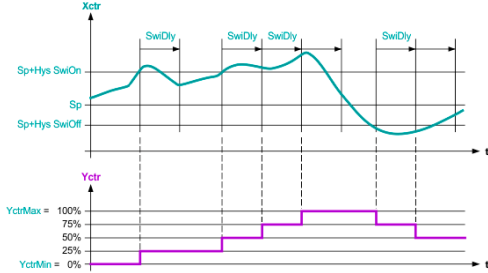


#### Staged control

When the absolute control error  $|[Sp]-[Xctr]|$  is greater than the switch hysteresis, then the controller increments/decrements the output – except if the last stage switching occurred more recent than the switch delay  $[SwiDly]$ . No stage switching will be executed as long as the last stage switch action is more recent than the switch delay, see figure below. There is no minimal time duration criterion for the absolute control error in order to execute a stage switch.

For staged control, the control output  $[Yctr]$  will be set in stages of the size  $100\%/[NumSts]$  (there is no stage output in the integer format).

**Example:** If  $[YctrMin] = 0\%$  and  $[YctrMax] = 100\%$  and  $[NumSts] = 4$ , the control output  $[Yctr]$  will be one of 0%, 25% 50% 75% or 100%, see example in the figure below.



The control output limits  $[YctrMin]$  and  $[YctrMax]$  can be used to limit the minimum and maximum stage. If the provided values do not correspond exactly to a stage value in percent, the function does round to the nearest stage.

**Example:** If  $[NumSts] = 4$  and  $[YctrMin] = 20\%$ ,  $[YctrMin]$  will be rounded to 25% and the minimal stage used is 1.

The controller offset  $[YctrOfs]$  is not used to initialize the staged controller. Also the tracking input  $Track$  is not processed by the staged controller.

<input checked="" type="checkbox"/>	Room temp.controller heating for fan	Gain	27.8	%/°F	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Hysteresis switch-off	0.9	°F	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Hysteresis switch-on	0.9	°F	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Neutral zone	0	°F	%R%RHvacCooTctlHFanTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heating for fan	Integral action time Tn	1800	s	%R%RHvacCooTctlHFanTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heating for fan	Controller type	PID controller		%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Controller output maximum	100	%	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Controller output minimum	0	%	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Controller output for offset	0	%	%R%RHvacCooTctlHFanTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heating for fan	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooTctlHFanTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heating for fan	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Number of stages	1	---	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Switch delay	05:00	mm:ss	%R%RHvacCooTctlHFanTRCtrH
<input type="checkbox"/>	Room temp.controller heating for fan	Derivative action-time Tv	0	s	%R%RHvacCooTctlHFanTRCtrH

## Room temperature heating controller for radiator

<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Gain	27.8	%/°F	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Hysteresis switch-off	0.9	°F	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Hysteresis switch-on	0.9	°F	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Neutral zone	0	°F	%R%RHvacCooTctlHRadTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Integral action time Tn	3600	s	%R%RHvacCooTctlHRadTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Controller type	PID controller		%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Controller output maximum	100	%	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Controller output minimum	0	%	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Controller output for offset	0	%	%R%RHvacCooTctlHRadTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooTctlHRadTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Number of stages	1	---	%R%RHvacCooTctlHRadTRCtrH
<input checked="" type="checkbox"/>	Room temp.controller heat.for radiator	Switch delay	05:00	mm:ss	%R%RHvacCooTctlHRadTRCtrH
<input type="checkbox"/>	Room temp.controller heat.for radiator	Derivative action-time Tv	0	s	%R%RHvacCooTctlHRadTRCtrH

## Ventilation Control

Each room operating mode is configurable for how ventilation control is handled. The available multistate object choices for each room operating mode are:

- 1:Off (no ventilation)
- 2:MinVnt (Minimum ventilation)
- 3:DCV (Demand control ventilation)\*
- 4:MinVnt & DCV (Minimum ventilation & Demand control ventilation)\*

\*DCV requires a QMX3.74 (or equivalent) room operator unit – includes CO<sub>2</sub> sensor.

Room mode default settings:

- Comfort = 4:MinVnt & DCV
- Pre-Comfort = 3:DCV
- Economy = 1:Off
- Protection = 1:Off

### Demand Control Ventilation

In this application, ventilation control has been modified to provide a customized form of DCV. When DCV is active:

- When the CO<sub>2</sub> level in the room is below the setpoint of **1100 ppm** (configurable), the outside air damper position will equal either the room mode min vent setting or the value of MIN DCV POS, whichever is larger (see Configuration).
- Upon a rise above CO<sub>2</sub> 1100 ppm the outside air damper will modulate to follow a linear progression of damper position relative to CO<sub>2</sub> level.
- CO<sub>2</sub> **1190 ppm** (configurable) corresponds to maximum damper position of 100% (configurable).

Note, OA damper never opens more than design maximum for the respective mode.

### Fan Ventilation Inactive During Deadband

To enable “Fan ventilation inactive during deadband”, the Boolean parameter EnFanCyc must be set to 1:Yes (default = 0:No). The supply fan will cycle off when the room operating mode (ROpMod) is Comfort and heating/cooling demand (HCDmd) is set to “Neither” (room is in deadband).

A minimum-off time for the fan protects equipment against short cycling. When the minimum-off time delay is active, the fan ventilation request will be set to zero (0%).

The parameters must be added via [Show/hide parameter...](#). Select %R%'RHvac'VntCtl'.

<input checked="" type="checkbox"/>	Enable fan cycle	Present value	No	%R%'RHvac'VntCtl'EnFanCyc
<input checked="" type="checkbox"/>	Fan cycle minimum-off time delay	Present value	0	s %R%'RHvac'VntCtl'FanCycMinOffDly

Enable fan cycle (EnFanCyc) <input type="checkbox"/> Boolean parameter: If set to 1:Yes, the fan will cycle off when room operating mode is Comfort and heating/cooling demand (HCDmd) = Neither. 0: No 1: Yes	1:No (default)
Fan cycle minimum-off time delay (FanCycMinOffDly) <input type="checkbox"/> Minimum off time for the fan before it can turn on again.	30 secs (default)



## Configuration

Consult job specification requirements for the actual CO2 setpoints to be used.

In order to make the operating mode configuration values commandable, ventilation parameters have been replaced with process value objects that can be set externally without using ABT Site. Set the values to meet job specific requirements.

Object description	Name	Abbreviated name	Type	Default
Maximum outside air damper position (the current actual max position of damper)	DmpOaPosMax	OADMP MAXPOS	APrcVal	na
Ventilation configuration for <b>Comfort</b>	VntCmfCnf	VNT CNF OCC	MPrcVal	4:MinVnt & DCV
Ventilation configuration for <b>Pre-Comfort</b>	VntPcfCnf	VNT CNF STBY	MPrcVal	3:DCV
Ventilation configuration for <b>Economy</b>	VntEcoCnf	VNT CNF UNOC	MPrcVal	1:Off
Ventilation configuration for <b>Protection</b>	VntPrtCnf	VNT CNF PRT	MPrcVal	1:Off
Ventilation min OA damper <b>Comfort</b>	VntDmpMinOaCmf	OADMP MN OCC	APrcVal	50%
Ventilation min OA damper <b>Pre-comfort</b>	VntDmpMinOaPcf	OADMP MN PCF	APrcVal	20%
Ventilation min OA damper <b>Economy</b>	VntDmpMinOaEco	OADMP MN UNO	APrcVal	0%
Ventilation min OA damper <b>Protection</b>	VntDmpMinOaPrt	OADMP MN PRT	APrcVal	0%

### DCV configuration

Minimum damper position for DCV	DmpDCVMinPos	MIN DCV POS	ACnfVal	20%
Maximum damper position for DCV (this is the max if CO2 is at or above the high limit)	DmpDCVMaxPos	MAX DCV POS	ACnfVal	100%
Minimum air quality for DCV damper pos	DmpDCVMinAQua	MIN DCV PPM	ACnfVal	1100 ppm
Maximum air quality for DCV damper pos	DmpDCVMaxAQua	MAX DCV PPM	ACnfVal	1190 ppm

## Ventilation control for outside air damper (PID controller)

<input checked="" type="checkbox"/>	Ventilation ctr.for outs.air damper	Gain	0.23	%/ppm	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Hysteresis switch-off	100	ppm	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Hysteresis switch-on	100	ppm	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Neutral zone	0	ppm	%R%RHvacCooVntCtl'DmpOaVntCtr
<input checked="" type="checkbox"/>	Ventilation ctr.for outs.air damper	Integral action time Tn	1800	s	%R%RHvacCooVntCtl'DmpOaVntCtr
<input checked="" type="checkbox"/>	Ventilation ctr.for outs.air damper	Controller type	PID controller		%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Controller output maximum	100	%	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Controller output minimum	0	%	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Controller output for offset	0	%	%R%RHvacCooVntCtl'DmpOaVntCtr
<input checked="" type="checkbox"/>	Ventilation ctr.for outs.air damper	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooVntCtl'DmpOaVntCtr
<input checked="" type="checkbox"/>	Ventilation ctr.for outs.air damper	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Number of stages	1	---	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Switch delay	05:00	mm:ss	%R%RHvacCooVntCtl'DmpOaVntCtr
<input type="checkbox"/>	Ventilation ctr.for outs.air damper	Derivative action-time Tv	0	s	%R%RHvacCooVntCtl'DmpOaVntCtr

## Ventilation control for fan (PID controller)

<input checked="" type="checkbox"/>	Ventilation controller for fan	Gain	0.23	%/ppm	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Hysteresis switch-off	100	ppm	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Hysteresis switch-on	100	ppm	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Neutral zone	0	ppm	%R%RHvacCooVntCtlFanVntCtr
<input checked="" type="checkbox"/>	Ventilation controller for fan	Integral action time Tn	1800	s	%R%RHvacCooVntCtlFanVntCtr
<input checked="" type="checkbox"/>	Ventilation controller for fan	Controller type	PID controller		%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Controller output maximum	100	%	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Controller output minimum	0	%	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Controller output for offset	0	%	%R%RHvacCooVntCtlFanVntCtr
<input checked="" type="checkbox"/>	Ventilation controller for fan	Rise time from 0 to 100%	600	1/10s	%R%RHvacCooVntCtlFanVntCtr
<input checked="" type="checkbox"/>	Ventilation controller for fan	Fall time from 100 to 0%	600	1/10s	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Number of stages	1	---	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Switch delay	05:00	mm:ss	%R%RHvacCooVntCtlFanVntCtr
<input type="checkbox"/>	Ventilation controller for fan	Derivative action-time Tv	0	s	%R%RHvacCooVntCtlFanVntCtr

Issued by  
Siemens Industry, Inc.  
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Document ID	A6V11565070	A6V11565070(BA)
Edition	2019-05-20	Restricted