Application Description

7

Terminal Unit Functional Blocks

13

Controller

1

Summary:

This Working Document is a part of the HVAC Application Interworking Standard for HVAC applications. This chapter describes the Terminal Unit Controller Functional Blocks.

Version 02.03.01 is a KNX Approved Standard.

This document is part of the KNX Specifications v2.1.

Document updates

Version	Date	Modifications
001.18	2001.xx.xx	Excerpt from former document TU_FB_18B Adapted to the Template
001.19-20	---	Stepwise completion
001.21	2002.04.19	Document completed and ready for TFI presentation (The detailed Specification of the Datapoints is not yet ready. Will be completed for the second revision by TFI)
	2002.05.13	3.4.2 ChangeOver input mooved to DistrSegm 3.5.4 3.3.4 HeatCoolMode added 3.4.4
001.22	2002.07.17	All Controller FB's MasterSalveI/O's deleted (as CS) StatusController deleted (as CS) 3.2, 3.5 Parameter ControlSequence added 3.2, 3.7 Supply Air (from primary air handler) and Discharge Air (air into the room) corrected 3.2.5, 3.3.5, 3.4.5, 3.5.5, 3.6.5, 3.7.5 HVACModeEff, HVACModeEffNext and Setpoints adapted to RSMHD 3.2.5, 3.5.5, 3.6.5, 3.7.5 EnergyDemXX corrected 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 BUSActuator#xON/OFF specified 3.7 TempSupplyAir for ChangeOver added 3.8 Scheduling zone u.v.w added 3.8, 3.9 AirFlowDelta changed from m^3/h to % 3.9 completed
2.00	2002.11.29	Header and footer adapted Version adapted 3.9 Property ID's corrected
2.01	2003.08.07	3.9.2.8 Source (LTE-Mode) of ContrMode adapted 3.7.4.1 Source of EmergMode corrected 3.8.4 3.2.5 Tables corrected 3.3.5 3.4.5 3.5.5 3.6.5 3.7.5
	2003.09.16	3.2 Completed with FanManual 3.3, 3.4, 3.9
	2003.09.18	3.9 S-Mode timeout of FanManual and FanSpeedUser deleted (due to compatibility with simple EIB products) 3.9 ActPosSetpHeatStageA and ActPosSetpHeatStageB completed with 369 (EHEA)
2.02	2004.01.15	3.9.2.8 Completed with HVAC Optimiser 3.9.2.14 Timeout deleted 3.9.2.26
2.03	2004.11.11	3.5 Input TempFloor added 3.6 Input TempFloor added 3.9 3.1, 3.2, 3.6, 3.7 POOC added
2.3	2009.06.18	Update in view of publication in the KNX Specifications v2.0.
02.03.01	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[01] Chapter 3/7/2 “Datapoint Types”
[02] Chapter 7/10/1 “HVAC Sensor Functional Blocks”
[03] Chapter 7/10/2 “HVAC HMI Functional Blocks”
[04] Chapter 7/10/3 “HVAC Actuator Functional Blocks”
[05] Chapter 7/10/4 “HVAC Common Functional Blocks”
[06] Chapter 7/10/5 “HVAC Scheduler Functional Blocks”
[07] Part 7/11 “Hot Water Heating - Introduction”
[08] Part 7/12 “Direct Electric Heating”
[09] Part 7/13 “Terminal Unit Functional Blocks”
[10] Chapter 7/13/1 “Terminul Unit Controller”
[11] Chapter 7/13/2 “Terminal Unit Transformer”
[12] Part 7/14 “Ventilation & Air Conditioning and Cold Water”
[13] Part 10/1 “Logical Tag Extended”

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Contents

1 Introduction

1.1 Scope

This document is part of the KNX HVAC Application Interworking Standard.
It contains the Specification of the Terminal Unit Controller Functional Blocks used for HVAC applications.

Other general purpose Functional Blocks used for HVAC applications such as 'HVAC Sensors' [02], 'HVAC HMI' [03], 'HVAC Actuators' [04], 'HVAC Common Functions' [05] and 'HVAC Schedulers' [06] are described in separate documents.

The Functional Blocks of the 'TU Energy Demand Transformers' [11] are described in a separate document.

Functional Block specification for the applications 'Hot Water Heating' (HWH) [07], 'Direct Electric Heating' (DEH) [08] and 'Ventilation & Air Conditioning' (VAC) [12] are described in separate documents.

1.2 Objectives

This document includes the information necessary to build interoperable HVAC products using the KNX Bus. Runtime process interworking between HVAC control devices at the application level is the focus. Also data-interfaces for parameter setting, visualisation etc. are specified where appropriate (only state of the art datapoints generally used in all companies).

In addition, this document specifies the specific mechanisms for zoning and runtime process data distribution used in HVAC for an ‘easy installation’ system (LTE-HEE Mode [13]).

This is a technical specification with informative material provided as needed to convey key concepts. The approach taken here is a top-down view of interoperability. The HVAC system model is based on the decomposition of the distributed HVAC application by means of Functional Blocks, i.e. black-box description of Functional Blocks including data-interface and relationship to other Functional Blocks.

Every Functional Block may be part of a complex device (e.g. a heating controller) containing more than one Functional Block. Because of this modular approach, apart of some examples, there is no attempt in this specification to describe or dictate the internal construction of a Functional Block or to describe specific device types.

This document only includes details of the transport protocol as needed to specify interoperability and easy installation mechanisms. The document does not specifically cover implementation aspects, but guidelines are included where appropriate.

This part of the KNX HVAC specification is mainly but not completely independent of the underlying protocol since specific mechanisms for “easy configuration” and runtime data distribution must be available on the network.

Completely protocol dependent parts of the HVAC Specification such as data encoding and datapoint-types, object address tables, group address tables etc. are not part of this document.

1.3 Dependence on Configuration Modes

The main focus of this document is the specification of the **Basic Functional Blocks** and the **LTE specific parts**.

The document provides all necessary information needed:

- for a complete implementation of the Functional Blocks in LTE mode
- for the implementation of mandatory objects used for runtime interworking in standard mode (Basic Functional Block)

1.3.1 Runtime Interworking

Mode dependent (S, LT-R, LT-S, Ctrl, PB, A) implementation of optional runtime interworking objects is not specified in this document, e.g. “easy channel” definitions.

The following table (example) shows the mode dependencies concerning runtime interworking

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**LTE-Mode**
Inputs	Inp1	**NA**	NA	NA	M
	Inp2	**NA**	NA	NA	O
	Inp3	**(GO_b)**		(GO)	O
Outputs	Outp1	**NA**	NA	NA	M
	- Outp1-1	**GO_b**	GO	GO	NA
	- Outp1-2	**GO_b**	GO	GO	NA
	Outp 2	**GO_b**	GO	GO	M

Inp1: is mandatory M in LTE Mode but the information is not available NA in the Basic FB and all other modes because the datapoint type (DPT) is today not available in standard mode and there are no products on the market with this functionality.

Inp2: is optional O in LTE Mode but the information is not available NA in the Basic FB and all other modes because the DPT is today not available in standard mode and there are no products on the market with this functionality.

Inp3: is optional O in LTE Mode and an optional Group Object in the Basic FB (GO_b). The datapoint is optionally supported as Group Object in the LTE Standard Mode Interface (GO).
For all other modes the implementation is not defined. This is indicated by an empty field.

Outp1: is mandatory M in LTE Mode and has a structured DPT or a DPT with extended features which is today not available in standard mode. In the Basic FB the information of Outp1 is split up into Outp1-1 and Outp1-2 (separate datapoints with standard DPT).
Outp1-1 and Outp1-2 are mandatory Group Objects GO in the Basic FB and are therefore mandatory in all modes.

Outp2: is mandatory in all modes.

1.3.2 Parameters and Diagnostic Data

LTE implementation:

- Parameters and Diagnostic Data of a Functional Block shall be implemented as Properties of the corresponding Interface Object which are accessed using individual addressing.
- These Properties are addressed via the standard Interface Object Type (IO Type) for this Functional Block. This IO Type is also used for datapoint addressing in the LTE runtime interworking model
- Standard DPT or HVAC specific DPT with extended features are used where appropriate.

Other modes:

- Parameters and Diagnostic Data can in principle be implemented as memory mapped datapoints or Group Objects or Properties of an Interface Object using individual addressing. This document does not lay down how to implement Parameters and Diagnostic Data in S, LT-R, LT-S, Ctrl, PB and A-Mode.
- In case of **Memory Mapped** datapoints the DPT may be manufacturer specific
- In case of **Group Objects** standard DPT shall be used instead of HVAC specific (extended) DPT. The description of these Group Objects shall be part of the mode-dependent specification (e.g. Channel definition).
- In case of **Properties**, the implementation of HVAC specific DPT with extended features may be a problem (depending on the available microcontroller ressources). The manufacturer has the choice:
  - ⇨ to use the LTE style Property implementation as specified in this document (with the DPT and IO Type for LTE implementations) **$\text{IO Type}^{\text{used}} = \text{IO Type}^{\text{HVAC-LTE}}$**
  - ⇨ to implement these Properties using standard DPT only.
    In this case, the same Property ID but a different IO Type shall be used since the DPT of a Property shall be unambiguous for each IO Type.
    Simple IOT mapping rule: $\text{IO Type}^{\text{used}} = \text{IO Type}^{\text{standardDPT}} = \text{IO Type}^{\text{HVAC-LTE}} + 10000\text{d}$
    (e.g. $\text{BUC}^{\text{HVAC-LTE}} = 128 \Rightarrow \text{BUC}^{\text{standardDPT}} = 10128$)
  - ⇨ It is allowed to implement in a device both Interface Object Types $\text{IO Type}^{\text{HVAC-LTE}}$ and $\text{IO Type}^{\text{standardDPT}}$. The implementation of parameters and diagnostic data of one given Functional Block shall however be complete. It is thus not allowed to implement part of the datapoints of a Functional Block in $\text{IO Type}^{\text{standardDPT}}$ and the remaining in $\text{IO Type}^{\text{HVAC-LTE.}}$

	Implementation of Parameter and Diagnostic Data			
	Property based		**Group Object**	**Memory mapped**
	LTE style	**Standard DPT**		
IO Type	$\text{IO Type}^{\text{HVAC-LTE}}$ e.g. BUC=128	$\text{IO Type}^{\text{HVAC-LTE}}$ + 10000 e.g. BUC=10128		
Property ID	Property ID x	Property ID x		
DPT	if standard DPT	=> same standard DPT	=> same standard DPT	company specific
	if HVAC-LTE specific***)** e.g. 205.100	=> mapped standard DPT, e.g. 9.001	=> mapped standard DPT, e.g. 9.001	

In this document only the **HVAC-LTE style** of Parameters and Diagnostic Data is specified for $\text{IO Type}^{\text{HVAC-LTE}}$.

In the FB datapoint overview those Parameters and Diagnostic Data with HVAC-LTE specific (extended) DPT are marked " ***)** "
The mapping of HVAC specific DPT to standard DPT is generic and described in the document **[01]** – HVAC Datapoint Types

1.4 Glossary

This glossary only contains a few positions, which might be misunderstood.

Term	Description
Supervisor	Supervisor stands for building management station, programme unit or similar installations, which normally are computer based.
Supply Air	Preconditioned air from an air handler, delivered to a room
Discharge Air	Conditioned air from a room device (e.g. fan coil unit or VAV box) delivered into the room
xx	

1.5 Abbreviations

Functional Blocks:

as far as relevant in this document

Sensors [02]**, HMI** [03]**, Actuators** [04]**, Common Controller Functions** [05]

Abbreviation	[Doc]	Description
ACOS	1	Air Change Over Status Sensor
ADA	3	Air Damper Actuator
BOS	4	Building- / Occ-Mode Source
CPA	3	Compressor Actuator
DATS	1	Discharge Air Temperature Sensor
DPS	1	Dew Point Status Sensor
FSA	3	Fan Speed Actuator
HVA	3	HVAC Valve Actuator
HVACEMS	4	HVAC Emergency Source
HVACOPT	4	HVAC Optimiser
OAQS	1	Outside Air Quality Sensor
OTS	1	Outside Temperature Sensor
PMC	4	Programme to HVAC Mode Conversion
PRD	1	Rresence Detector
RAQS	1	Room Air Quality Sensor
RNATS	1	Return Air Temperature Sensor
RSMHD	4	Room Setpoint Manager HVAC Mode Driven
RSMTD	4	Room Setpoint Manager Temperature Driven
RTS	1	Room Temperature Sensor
SATS	1	Supply Air Temperature Sensor
SMAQ	4	Setpoint Manager Air Quality
UFS	2	User Fan Speed Setting
WCOS	1	Water Change Over Status Sensor

Terminal Units (TU) [09]
as far as relevant in this document
Controllers [10]**, Transformers** [11]

Abbreviation	[Doc]	Description
ACDTTU	132	Air Cooler Energy Demand Transformer Terminal Unit
AHDTTU	132	Air Heater Energy Demand Transformer Terminal Unit
CCDTTU	132	Chilled Ceiling Energy Demand Transformer TU
FCC	131	Fancoil Control
RCCRC	131	Radiator and Chilled Ceiling Room Control
RHDTTU	132	Radiator Heating Energy Demand Transformer TU
RRCTU	131	Radiator Room Control TU
SPUC	131	Split Unit Control
VAVCDA	131	VAV Control Discharge Air
VAVCEA	131	VAV Control Extract Air
VDTTU	132	Ventilation Demand Transformer
WHPC	131	Water Heat Pump Control for Ringwater

Hot Water Heating (HWH) [07]
as far as relevant in this document

Abbreviation	Description
HFDM	Heating Flow Demand Manager
HPM	Heat Production Manager

Ventilation, Air Conditioning and Cold Water (VAC) [12]
as far as relevant in this document

Abbreviation	Description
AHUC	Air Handling Unit Controller
CFDM	Cooling Flow Demand Manager
CPM	Cold Water Production Manager
SATC	Supply Air Temperature Controller

Other Documents

Abbreviation	Document	Description
HVACS	[06]	HVAC Scheduler

General

Abbreviation	Description
cs	Company Specific
GO	Group Object mandatory
(GO)	Group Object optional
M	Mandatory
NA	Not Allowed / Not Applicable
O	Optional
S	Has to be implemented in Standard Mode, if implemented in LTE-HEE Mode
HEE	HVAC Easy Extension
HVAC	Heating Ventilation Air Conditioning
LTE	Logical Tag Extended
IR	LTE-Service InfoReport
W	LTE-Service Write

2 Formal matters

2.1 Introduction to Functional Blocks

The Functional Blocks are described in a standard way as described below.

Every Functional Block may be part of a complex device (e.g. a controller) containing more than one Functional Block.

A Functional Block never can be split. Although not all inputs, outputs etc. are mandatory. The optional inputs, outputs do not have to be realised.

2.2 Description of Functional Blocks

2.2.1 Aims and objectives

This clause shall give a overview of the functionality of the Functional Block, as well as eventually information about interworking with other Functional Blocks.

2.2.2 Functional specifications

This clause gives detailed information about the Inputs, the Outputs, the Parameters, the Diagnostic Data, the Alarms and the Hardwired I/O's.

2.2.3 Constraints

Constraints for the use of the Functional Block as well as for the use of Inputs, Outputs, Parameters, Diagnostic Data, Alarms etc. are described here.

2.2.4 Functional Block

On top of the Functional Block the name and its abbreviation is marked.

Then the Inputs / Outputs are following.

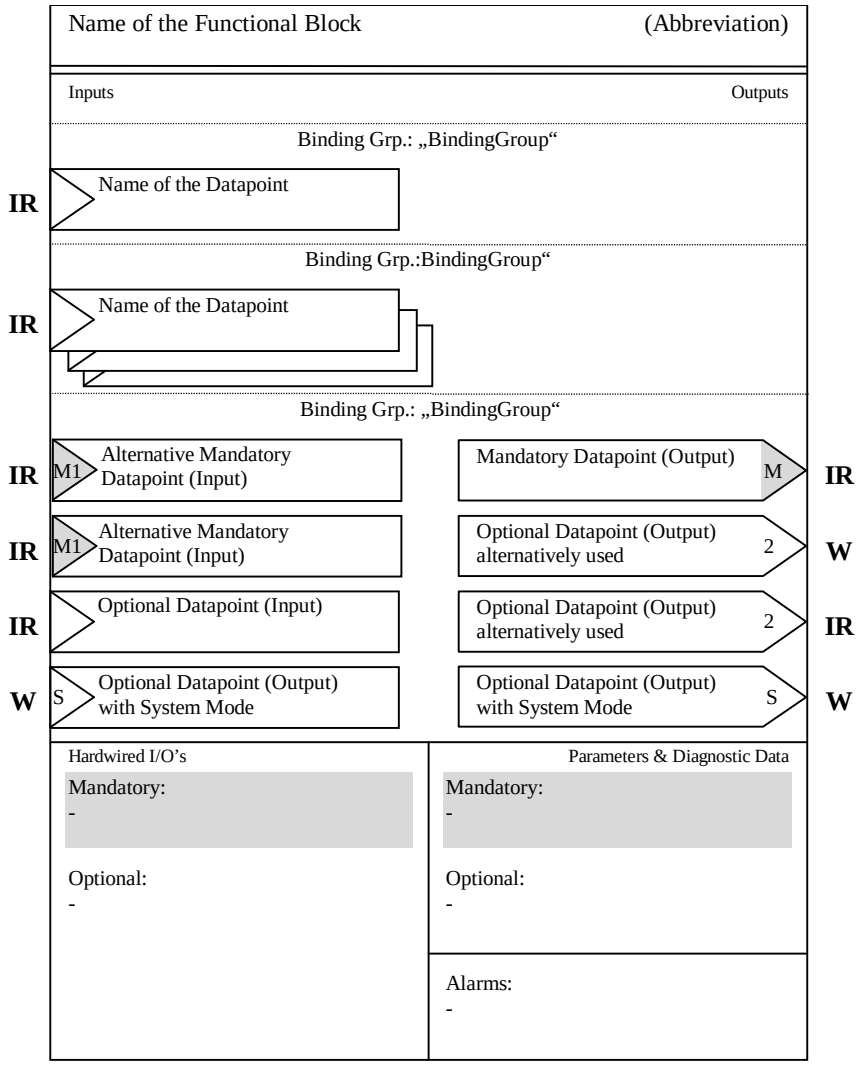
The Inputs / Outputs are grouped in Binding Groups, according to LTE (Logical Tag Extended).

Mandatory Inputs / Outputs have a grey arrow with the letter M.
They also have to be available in the System Mode.
Optional Inputs / Outputs have a white arrow.
Some of these Inputs / Outputs, in case of being implemented, also have to be available in the System Mode. These Inputs / Outputs have a white arrow with the letter S.

Some of the Inputs / Outputs only make sense in combination, others may be used either / or.
Such Inputs / Outputs are grouped with numbers.

At the bottom there are three fields:

On the left-hand side we find the Hardwired Inputs / Outputs, the mandatory ones in a grey field, the optional ones in a white field.
On the right-hand side there is a field for the Parameters and the Diagnostic Data used in the Functional Block (mandatory in grey, optional in white).
On the right-hand side at the bottom there is the field for the Alarms, generated in the Functional Block (for use in the Functional Block Alarm Source).


Name of the Functional Block
(Abbreviation)
Inputs
Outputs
Binding Grp.: „BindingGroup“
IR
Name of the Datapoint
Binding Grp.:BindingGroup“
IR
Name of the Datapoint
Binding Grp.: „BindingGroup“
IR
M1
Alternative Mandatory Datapoint (Input)
Mandatory Datapoint (Output)
M
IR
IR
M1
Alternative Mandatory Datapoint (Input)
Optional Datapoint (Output) alternatively used
2
W
IR
Optional Datapoint (Input)
Optional Datapoint (Output) alternatively used
2
IR
W
S
Optional Datapoint (Output) with System Mode
Optional Datapoint (Output) with System Mode
S
W
Hardwired I/O’s
Parameters & Diagnostic Data
Mandatory:
-
Optional:
-
Mandatory:
-
Optional:
-
Alarms:
-

2.2.5 Datapoints / Formats

Datapoints	Description / Remarks	Datapoint Type	Additional Information
Inputs			
Name of the Data-Point	Descriptions, remarks if necessary	Name of the Datapoint Type and/or coding LTE: DPT_TempHVACAbs_Z $V_{16}Z_8$ S: DPT_Value_Temp F_{16}	
			M = mandatory, with system mode M1/M2 = alternative mandatory O = optional, system mode optional S = optional, but if implemented, then with system mode 1,2 the numbers represent alternative packages
			Unit of the Datapoint Value Default Value
			Range indications
Outputs			
Name of the Data-Point	see above	see above	see above
Parameters			
Name of the Parameter	see above	see above	see above
Diagnostic Data			
Name of the Diagnostic Data	see above	see above	see above

Alarm	Description / Remarks	Error		Additional Information
		Code	Prio	
Name of the Alarm	Descriptions, remarks if necessary	Code of the Alarm	Priority of the Alarm	Additional Information

Detailed Specification of the Datapoints

Detailed description of the Datapoints is given in a separate document [01].

Notations:

Symbol	Field
A	Character
$A_{[n]}$	Character String with Length n
B	Boolean / Bit set
C	Control
E	Exponent
F	Float (with ME)
M	Mantisse
N	eNumeration
S	Sign
U	Unsigned value
V	2's Complement signed value
Z_8	Standardised Status/Command B_8

Example:

Format:	3 octet; $V_{16}Z_8$ 3 MSB Temperature | 2 LSB Temperature | 1 Standard Status/Comm. VVVVVVVV | VVVVVVVV | ZZZZZZZZ V_{16} | Z_8
Encoding:	See below

Octets are transmitted from left to right, i.e. octet 1 is transmitted last.

Standard Status/Command Information

Some of the Datapoints are combined with Standard Status/Command Information.
For further information see [01].

3 Terminal Unit Controller Functional Blocks

3.1 Introduction to TU Controller Functional Blocks

This document contains the Terminal Unit Controller Functional Blocks.

It is possible to combine more than one Functional Block in a device.

3.2 Fancoil Control (FCC)

3.2.1 Aims and objectives

The Functional Block ‘Fancoil Control’ includes all important functionality for the fancoil applications.

The Functional Block ‘Fancoil Control’ takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually form a supervisor Functional Block.

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.2.2 Functional specifications

The Functional Block is divided into four parts, the Basic Part, Additions for Air Quality, Additions for Integrated Optimiser and Additions for Status, Lock and Force Information of Energy Producers.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

• TempOutside TempRoom TempDischargeAir TempReturnAir AQOutside AQRoom	These temperature values and the AQ values are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
• PresenceStatus	The status of the presence detector is used e.g. for learning purposes in an optimiser.
• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpSetCoolEff (4) TempRoomSetpHeatEff TempRoomSetpCoolEff AQSetpEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The temperature setpoint values are delivered either in sets of 4 values (comfort, standby, economy and building protection for heating and for cooling) for normal applications or just one value for simple heating only or cooling only applications. The effective AQ setpoint value is delivered from the 'Setpoint Manager Air Quality'.
• HVACModeEffNext TempRoomSetpHeatEffNext TempRoomSetpCoolEffNext	Next HVAC mode or next temperature setpoints needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift TempRmSetpOptimCoolShift	The optimised HVAC Mode and the optimiser shift values originate from an optimiser. The optimised mode overrides the mode from the RSM. The two shift values are used to shift the setpoints (heating and cooling) of the active HVACMode.

• ChangeOverStatusWater FanSpeedUser FanManual	These information are delivered by the corresponding Functional Blocks, (either in separate devices or included in the same device as the controller block).
• DisableDamper	This information is used to disable the damper. It has to be delivered from a supervisor (see also ContrMode).
• SplitHeat SplitCool EnableHeat EnableCool	Fancoils may have two heating or cooling stages. In this case the splitting has t.b.d. Base is the ‘ValueEnergyDem’. The split value defines at which value the stage B starts. The enable information defines which kind of energy is available. These four information have to be delivered from a “smart supervisor”.
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• ForceSignHFDM LockSignHFDM ForceSignHPM LockSignHPM StatusHPM ForceSignCFDM LockSignCFDM ForceSignCPM LockSignCPM StatusCPM	The forcing, locking and status information is delivered from the 'Heating Flow Demand Manager' and the 'Cooling Flow Demand Manager'.
• ContrMode	The controlling mode originates from a “supervisor” (see Functional Block ‘Programme to HVAC-Mode Conversion’ or ‘HVAC Optimiser’).
• EmergMode	The EmergMode originates from a “supervisor” (see Functional Block ‘HVAC Emergency Source’.

Outputs

• ActPosSetpHeatStageA ActPosSetpHeatStageB ActPosSetpCoolStageA ActPosSetpCoolStageB	These information is used for the actuator Functional Blocks (valve, electrical power switch or damper). These blocks may be in separate devices or in the same device as the controller block.
• ActPosSetpFreshAir	This information is used for the actuator Functional Block (damper). This block may be in separate devices or in the same device as the controller block.
• FanSpeedSetp	This information is used to control the fan (fan actuator).

• EnergyDemAH EnergyDemAC	This information contains the value used for energy demand co-ordination with the producer of e.g. hot and cold water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.

Binding Groups (LTE)

The Functional Block (with additions) shows up to 7 different binding groups.

• Binding group x.y.z	This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
• Binding group u.v.w	This binding group represents the scheduling zone.
• Binding group m.n.o	This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.
• OutsideSensorZone_f	no special features
• OutsideSensorZone_g	second zone if necessary for AQ
• DistrSegmH_b	Distributions segment for heating water (air heater).
• DistrSegmC_d	Distribution segment for cooling water (air cooler).

Parameters

• ControlSequence	This parameter defines whether the controller has to work in heating only, cooling only or in both.
• FanSpeed#x_ON FanSpeed#x_OFF	ON and OFF values for each fan step, taken from ValueEnergyDem.
• FanSpeedDeadZone	Definition of the fan speed in the dead zone.
• FanInDeadZone FanRunTimeDeadZone FanDwellTimeDeadZone	For return air applications FanInDeadZone defines whether the fan is running or not. If it is running, it runs at the above defined speed. In addition the run time and the dwell time can be defined.
• TempDischargeAirMin	Value for the minimum discharge air temperature.
• FreshAirMinValue	Minimum fresh air value for applications with fresh air damper.
• TempFrostAlarm	Temperature value at which the frost alarm is generated.
• SplitHeatDefValue SplitCoolDefValue	Default value for the percentage of ValueEnergyDem at which the split of stageA and stageB is defined.
• BUSActuatorHSA_ON/OFF	ON/OFF for BUS information for heat stage A actuator in case of local actuator connection (reducing BUS load).
• BUSActuatorHSB_ON/OFF	ON/OFF for BUS information for heat stage B actuator in case of local actuator connection (reducing BUS load).
• BUSActuatorCSA_ON/OFF	ON/OFF for BUS information for cool stage A actuator in case of local actuator connection (reducing BUS load).

- BUSActuatorCSB_ON/OFF — ON/OFF for BUS information for cool stage B actuator in case of local actuator connection (reducing BUS load).
- BUSActuatorFA_ON/OFF — ON/OFF for BUS information for fresh air actuator in case of local actuator connection (reducing BUS load).
- BUSActuatorFS_ON/OFF — ON/OFF for BUS information for fan speed actuator in case of local actuator connection (reducing BUS load).

Diagnostic Data

- TempRoomSetpAct
HVACModeAct
ContrModeAct
HeatCoolMode — These information are used in a supervisor or in a user HMI.
- ValueEnergyDem — This information contains a theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

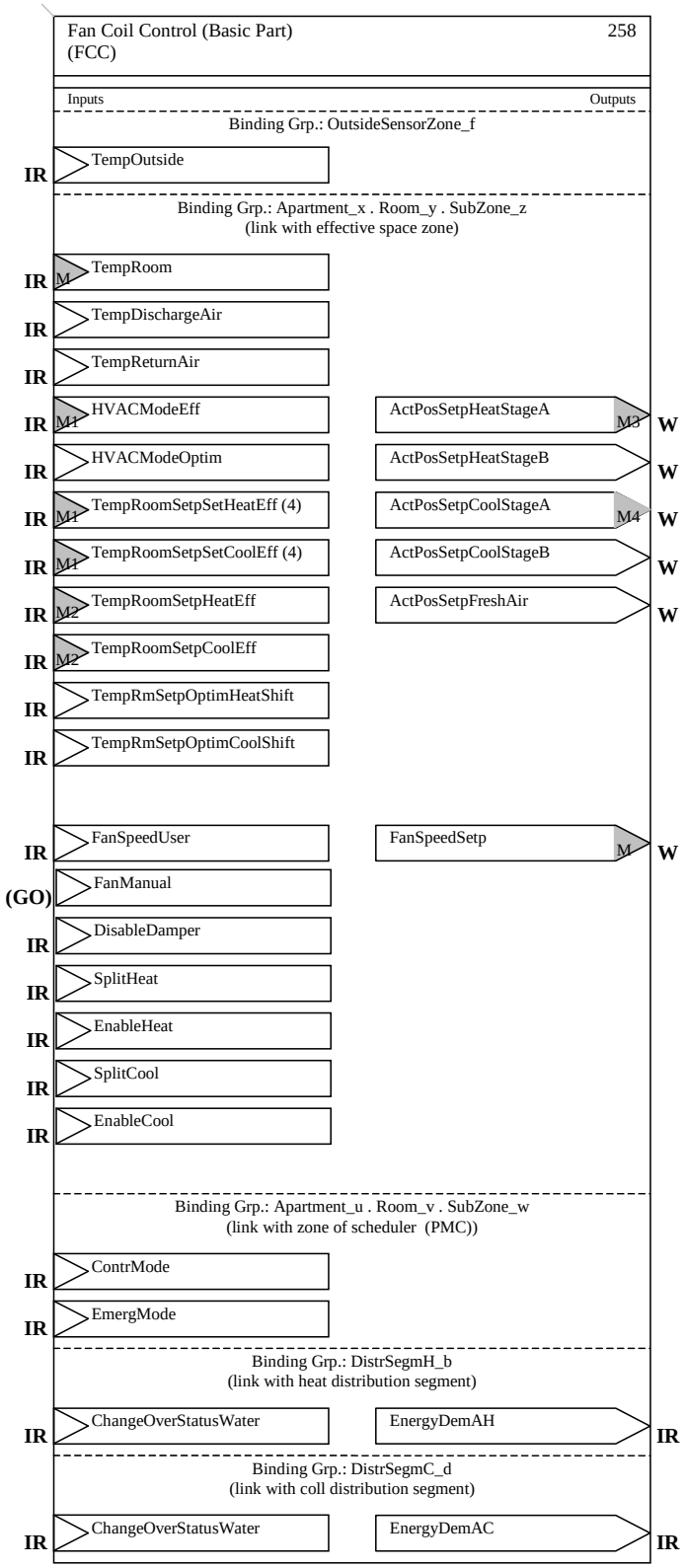
- FrostRoom — Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.
- LowDischargeAir — Alarm when the discharge air temperature falls below TempDischargeAirMin.
- SecurityStop — Alarm when the security switch is activated (e.g. cover of the fan coil open).

3.2.3 Constraints

None.

3.2.4 Functional Block Diagram

3.2.4.1 Fan Coil Control (Basic Part)



Alternative Inputs:

M1 / M2

These Inputs are mandatory either or.

M1: For HVACMode driven systems consisting of:
- HVACModeEff plus
- TempRoomSetpSetHeatEff and/or
- TempRoomSetpSetCoolEff

M2: For temperature driven systems consisting of:
- TempRoomSetpHeatEff and/or
- TempRoomSetpCoolEff

Ev. alternative Outputs:

M3 / M4:

These outputs are mandatory either or, or both.

M3: For heating only applications
M4: For cooling only applications
M3 + M4: For heating and cooling applications

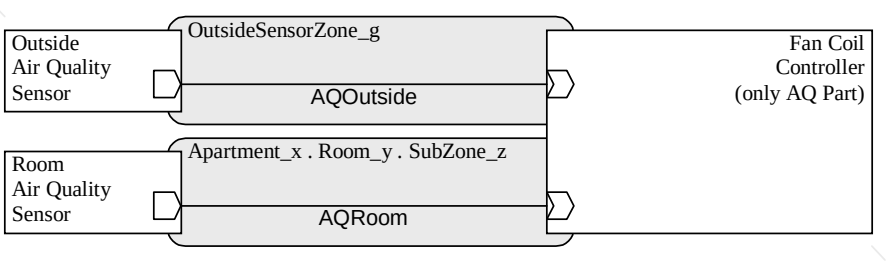
Hardwired I/O's	Parameters & Diagnostic Data
Mandatory: -	Mandatory: - Apartment_x (LTE) - Room_y (LTE) - SubZone_z (LTE) -
Optional: - Security Switch - Frost Room Input -	Optional: - Apartment_u (LTE) - Room_v (LTE) - SubZone_w (LTE) - OutsideSensorZone_f (LTE) - DistrSegmH_b (LTE) - DistrSegmC_d (LTE) - ControlSequence - FanSpeed#x_ON (n-times) - FanSpeed#x_OFF (n-times) - FanSpeedDeadZone - FanInDeadZone - FanRunTimeDeadZone - FanDwellTimeDeadZone - TempDischargeAirMin - FreshAirMinValue - TempFrostAlarm - SplitHeatDefVal - SplitCoolDefVal - BUSActuatorHSA_ON/OFF - BUSActuatorHSB_ON/OFF - BUSActuatorCSA_ON/OFF - BUSActuatorCSB_ON/OFF - BUSActuatorFA_ON/OFF - BUSActuatorFS_ON/OFF Diagnostic Data - TempRoomSetpAct - HVACModeAct - ContrModeAct - HeatCoolMode - ValueEnergyDem -
	Alarms - FrostRoom - LowSupplyAir - SecurityStop -

3.2.4.2 FCC, Additions for Air Quality

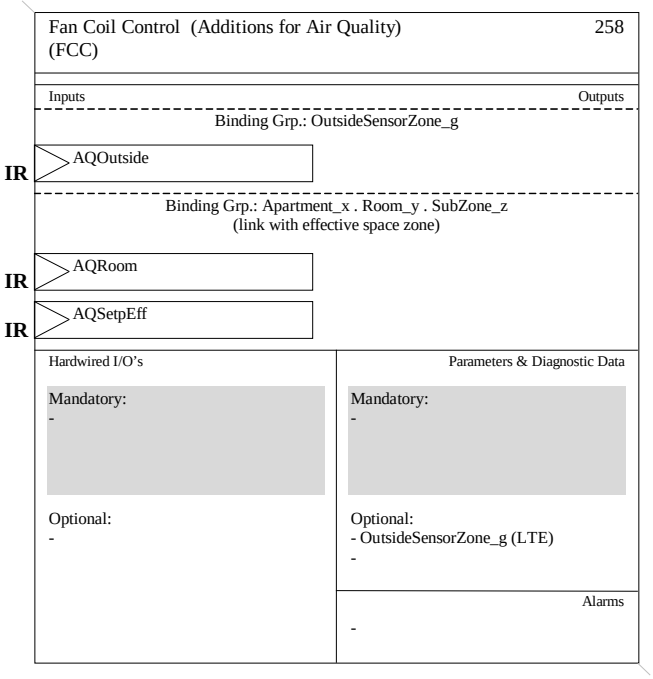
These additions allow air quality control with a fan coil.
The output ValueFreshAirDem is in the basic part of the FCC.

The 'Outside AQ Sensor' may be in the same or in a different zone (binding group) as the 'Outside Temperature Sensor'. Depending on this the zone parameters have to be implemented.

Principal Schematic



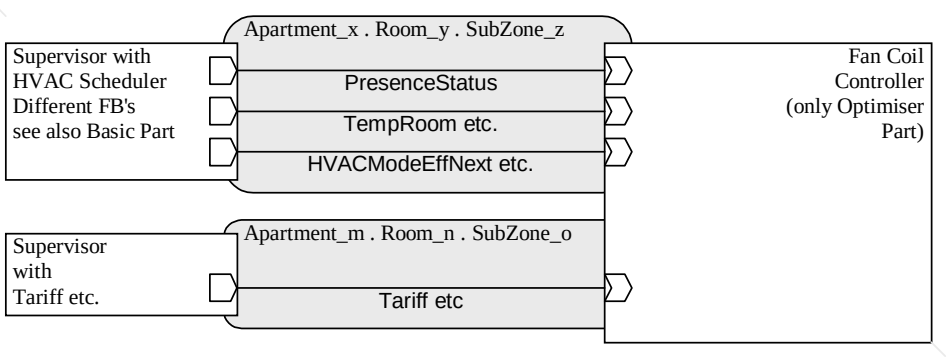
Functional Block Diagram



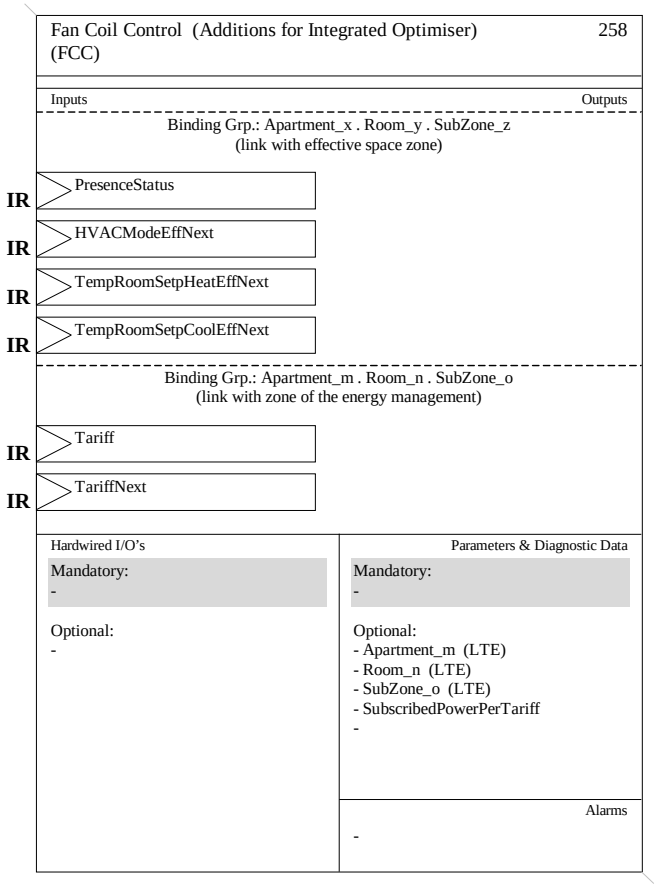
3.2.4.3 FCC, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



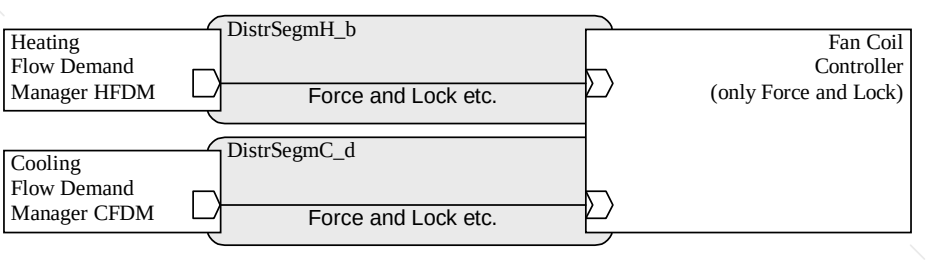
Functional Block Diagram



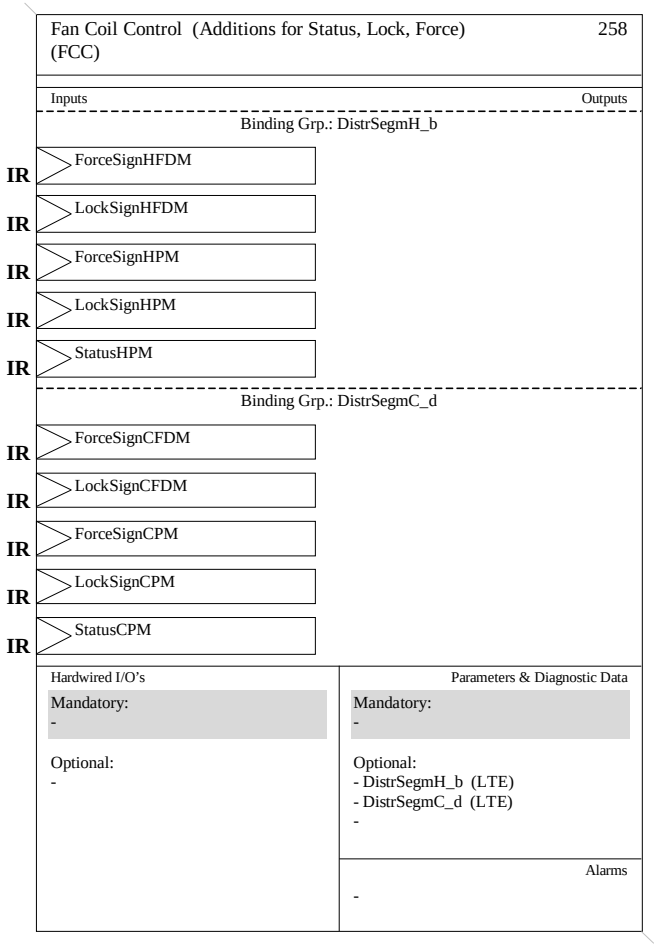
3.2.4.4 FCC, Additions for Status, Lock and Force Information of the Energy Producers

These additions allow tight interworking with the energy supply such as heat and cold producer/distributor.
For detailed information see [07] Heating Flow Demand Manager HFDM and [12] Cooling Flow Demand Manager CFDM.

Principal Schematic



Functional Block Diagram



3.2.5 Datapoint description

Overview

See clause 3.9.1.

FCC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	TempOutside	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	TempDischargeAir	**(GO_b)**		(GO)	**O**
	TempReturnAir	**(GO_b)**		(GO)	**O**
	HVACModeEff	**NA_b**	NA	NA	**M1**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	ChangeOverStatusWater	**(GO_b)**		(GO)	**O**
	FanSpeedUser	**(GO_b)**		(GO)	**O**
	FanManual	**(GO_b)**		(GO)	**NA**
	DisableDamper	**(GO_b)**		(GO)	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	SplitCool	**NA_b**	NA	NA	**O**
	EneableCool	**NA_b**	NA	NA	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
	EmergMode	**(GO_b)**		(GO)	**O**
Cont					

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**LTE-Mode**
Inputs	AQOutside	**(GO_b)**		(GO)	**O**
Cont	AQRoom	**(GO_b)**		(GO)	**O**
	AQSetpEff	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	TempRoomSetpHeatEfNext	**NA_b**	NA	NA	**O**
	TempRoomSetpCoolEfNext	**NA_b**	NA	NA	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
	ForceSignHFDM	**NA_b**	NA	NA	**O**
	LockSignHFDM	**NA_b**	NA	NA	**O**
	ForceSignHPM	**NA_b**	NA	NA	**O**
	LockSignHPM	**NA_b**	NA	NA	**O**
	StatusHPM	**NA_b**	NA	NA	**O**
	ForceSignCFDM	**NA_b**	NA	NA	**O**
	LockSignCFDM	**NA_b**	NA	NA	**O**
	ForceSignCPM	**NA_b**	NA	NA	**O**
	LockSignCPM	**NA_b**	NA	NA	**O**
	StatusCPM	**NA_b**	NA	NA	**O**

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Outputs	ActPosSetpHeatStageA	**(GO_b)**	GO3	GO3	**M3**
	ActPosSetpHeatStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpCoolStageA	**(GO_b)**	GO4	GO4	**M4**
	ActPosSetpCoolStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpFreshAir	**(GO_b)**		(GO)	**O**
	FanSpeedSetp	**GO_b**	GO	GO	**M**
	EnergyDemAH	**NA_b**	NA	NA	**O**
	EnergyDemAC	**NA_b**	NA	NA	**O**

FCC LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	OutsideSensorZone_f	**O**
	OutsideSensorZone_g	**O**
	DistrSegmH_b	**O**
	DistrSegmC_d	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**

FCC Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	ControlSequence	**O**
	FanSpeed#1_ON	**O**
	FanSpeed#1_OFF	**O**
	FanSpeed#2_ON	**O**
	FanSpeed#2_OFF	**O**
	FanSpeed#3_ON	**O**
	FanSpeed#3_OFF	**O**
	FanSpeed#4_ON	**O**
	FanSpeed#4_OFF	**O**
	FanSpeed#5_ON	**O**
	FanSpeed#5_OFF	**O**
	FanSpeedDeadZone	**O**
	FanInDeadZone	**O**
	FanRunTimeDeadZone	**O**
	FanDwellTimeDeadZone	**O**
	TempDischargeAirMin	**O**
	FreshAirMinValue	**O**
	TempFrostAlarm	**O**
	SplitHeatDefValue	**O**
	SplitCoolDefValue	**O**
	BUSActuatorHSA_ON/OFF	**O**
	BUSActuatorHSB_ON/OFF	**O**
	BUSActuatorCSA_ON/OFF	**O**
	BUSActuatorCSB_ON/OFF	**O**
	BUSActuatorFA_ON/OFF	**O**
	BUSActuatorFS_ON/OFF	**O**
DiagnosticData	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	HeatCoolMode	**O**
	ValueEnergyDem	**O**

3.2.6 Detailed Specification of the Datapoints

See 3.9.2.

3.3 Water Heat Pump Control for Ringwater (WHPC)

3.3.1 Aims and objectives

The Functional Block ‘Water Heat Pump Control’ includes all important functionality for the water heat pump (on ring water) applications.

The Functional Block ‘Water Heat Pump Control’ takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually from a supervisor Functional Block.

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.3.2 Functional specifications

The Functional Block is divided into three parts, the Basic Part, Additions for Air Quality and Additions for Integrated Optimiser.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

• TempOutside TempRoom AQOutside AQRoom TempReturnAir	These temperature values and the AQ values are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
• PresenceStatus	The status of the presence detector is used e.g. for learning purposes in an optimiser.
• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpSetCoolEff (4) TempRoomSetpHeatEff TempRoomSetpCoolEff AQSetpEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The temperature setpoint values are delivered either in sets of 4 values (comfort, standby, economy and building protection for heating and for cooling) for normal applications or just one value for simple heating only or cooling only applications. The effective AQ setpoint value is delivered from the 'Setpoint Manager Air Quality'.
• HVACModeEffNext TempRoomSetpHeatEffNext TempRoomSetpCoolEffNext	Next HVAC mode or next temperature setpoints needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift TempRmSetpOptimCoolShift	The optimised HVAC Mode and the optimiser shift values originate from an optimiser. The optimised mode overrides the mode from the RSM. The two shift values are used to shift the setpoints (heating and cooling) of the active HVACMode.
• FanSpeedUser FanManual	This information is delivered by the corresponding Functional Block, (either in a separate device or included in the same device as the controller block).
• DisableDamper	This information is used to disable the damper. It has to be delivered by a supervisor (see also ContrMode).

• SplitHeat EnableHeat	A water heat pump may have two heating stages. (stage A heat pump, stage B electrical register.) In this case the splitting has t.b.d. Base is the ‘ValueEnergyDem’. The split value defines at which value the stage B starts. The enable information defines which kind of energy is available. These two informations have to be delivered from a “supervisor”.
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• ContrMode	The controlling mode originates from a “supervisor” (see Functional Block ‘Programme to HVAC-Mode Conversion’ or ‘HVAC Optimiser).
• EmergMode	The EmergMode originates from a “supervisor” (see Functional Block ‘HVAC Emergency Source’.

Outputs

• CompressorPosSetp HeatCoolMode	This information is used in the Functional Block 'Compressor Actuator'. This block may be in the compressor device or in the controller device.
• ActPosSetpHeatStageB	This information is used in the Functional Blocks 'Electrical Heat Element Control' or 'HVAC Valve'. These blocks may be in separate devices or in the same device as the controller block.
• ActPosSetpFreshAir	This information is used for the actuator Functional Block (damper). This block may be in separate devices or in the same device as the controller block.
• FanSpeedSetp	This information is used to control the fan ('Fan Actuator').
• EnergyDemAH	This information contains the value used for energy demand co-ordination with the producer of e.g. hot water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.

Binding Groups (LTE)

The Functional Block (with additions) shows up to 5 different binding groups.

• Binding group x.y.z	This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
• Binding group u.v.w	This binding group represents the scheduling zone.
• Binding group m.n.o	This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.

- OutsideSensorZone_f — no special features
- OutsideSensorZone_g — second zone if necessary for AQ
- DistrSegmH_b — Distribution segment for heating water (air heater).

Parameters

- FanSpeed#x_ON
FanSpeed#x_OFF — ON and OFF values for each fan step, taken from ValueEnergyDem.
- FanSpeedDeadZone — Definition of the fan speed in the dead zone.
- FanInDeadZone
FanRunTimeDeadZone
FanDwellTimeDeadZone — For return air applications FanInDeadZone defines whether the fan is running or not. If it is running, it runs at the above defined speed. In addition the run time and the dwell time can be defined.
- FreshAirMinValue — Minimum fresh air value for applications with fresh air damper.
- TempFrostAlarm — Temperature value at which the frost alarm is generated.
- SplitHeatDefValue — Default value for the percentage of ValueEnergyDem at which the split of stageA and stageB is defined.
- BUSActuatorCP_ON/OFF — ON/OFF for BUS information for compressor actuator in case of local actuator connection (reducing BUS load).
- BUSActuatorHSB_ON/OFF — ON/OFF for BUS information for heat stage B actuator in case of local actuator connection (reducing BUS load).
- BUSActuatorFA_ON/OFF — ON/OFF for BUS information for fresh air actuator in case of local actuator connection (reducing BUS load).
- BUSActuatorFS_ON/OFF — ON/OFF for BUS information for fan speed actuator in case of local actuator connection (reducing BUS load).

Diagnostic Data

- TempRoomSetpAct
HVACModeAct
ContrModeAct
HeatCoolMode — These information are used in a supervisor or in a user HMI.
- ValueEnergyDem — This information contains the theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

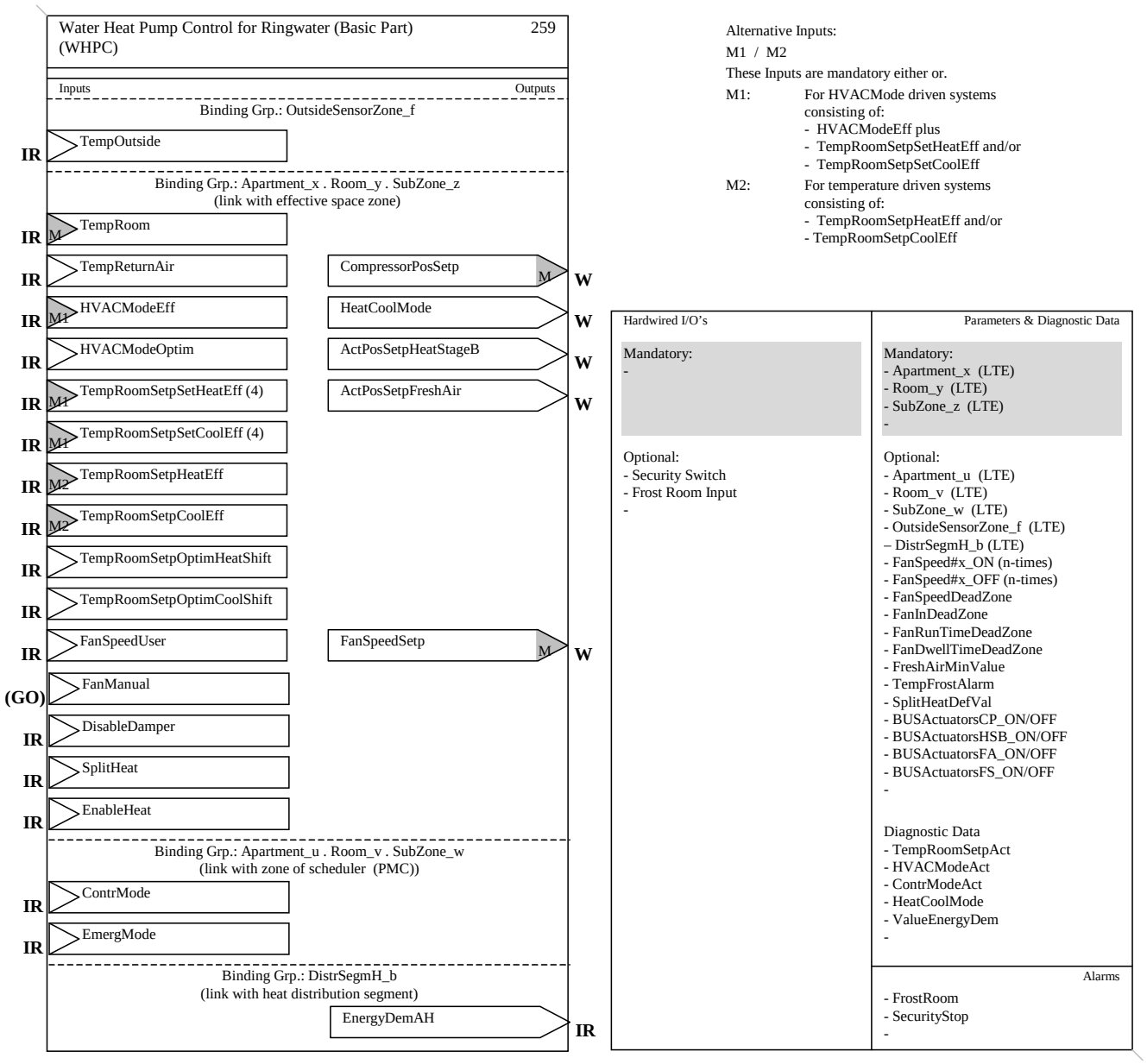
- FrostRoom — Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.
- SecurityStop — Alarm when the security switch is activated (e.g. cover of the fan coil open).

3.3.3 Constraints

None.

3.3.4 Functional Block Diagram

3.3.4.1 Water Heat Pump Control for Ringwater (Basic Part)

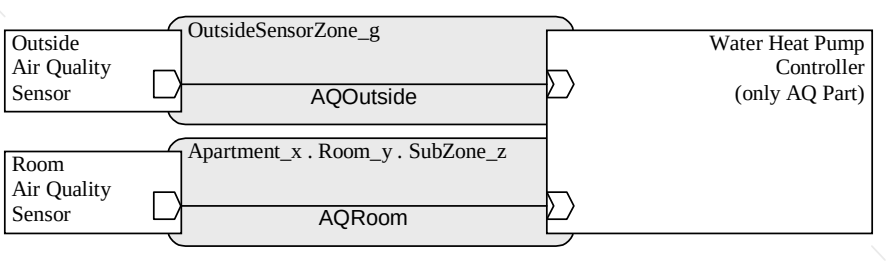


3.3.4.2 WHPC, Additions for Air Quality

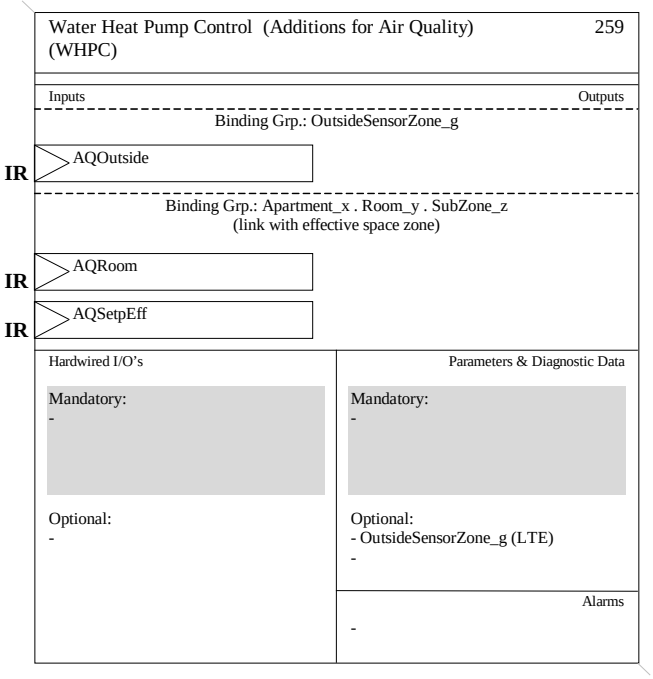
These additions allow air quality control with a water heat pump unit with a damper.
The output ActPosSetpFreshAir is in the basic part of the WHPC.

The ‘Outside AQ Sensor’ may be in the same or in a different zone (binding group) as the ‘Outside Temperature Sensor’. Depending on this the zone parameters have to be implemented.

Principal Schematic



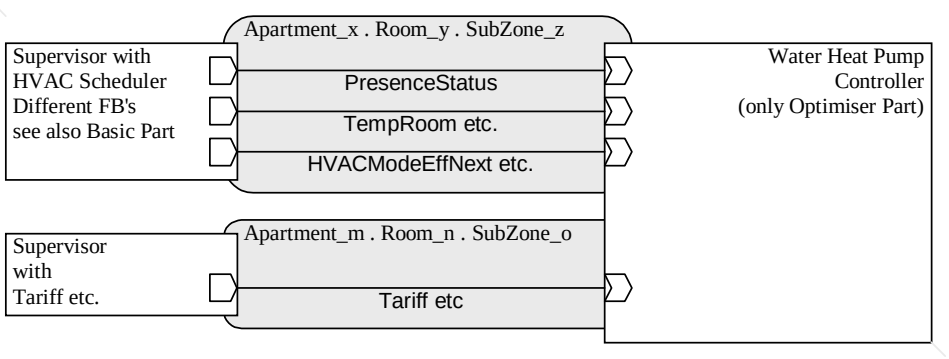
Functional Block Diagram



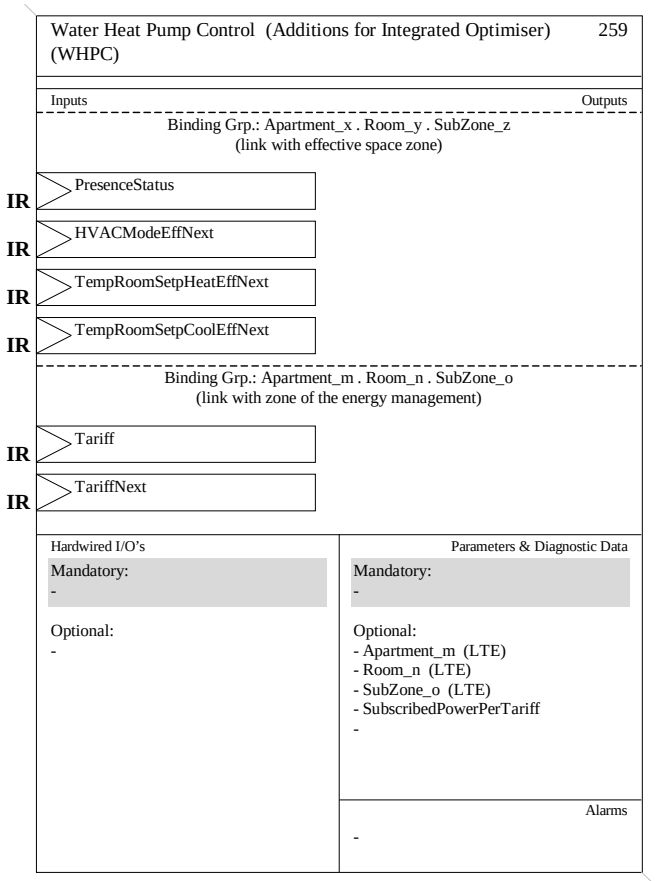
3.3.4.3 WHPC, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



Functional Block Diagram



3.3.5 Datapoint description

Overview

See clause 3.9.1.

WHPC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	TempOutside	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	TempReturnAir	**(GO_b)**		(GO)	**O**
	HVACModeEff	**NA_b**	NA	NA	**M1**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	FanSpeedUser	**(GO_b)**		(GO)	**O**
	FanManual	**(GO_b)**		(GO)	**NA**
	DisableDamper	**(GO_b)**		(GO)	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
	EmergMode	**(GO_b)**		(GO)	**O**
cont					

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	AQOutside	**(GO_b)**		(GO)	**O**
cont	AQRoom	**(GO_b)**		(GO)	**O**
	AQSetpEff	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	TempRoomSetpHeatEfNext	**NA_b**	NA	NA	**O**
	TempRoomSetpCoolEfNext	**NA_b**	NA	NA	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
Outputs	CompressorPosSetp	**GO_b**	GO	GO	**M**
	HeatCoolMode	**(GO_b)**		(GO)	**O**
	ActPosSetpHeatStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpFreshAir	**(GO_b)**		(GO)	**O**
	FanSpeedSetp	**GO_b**	GO	GO	**M**
	EnergyDemAH	**NA_b**	NA	NA	**O**

WHPC LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	OutsideSensorZone_f	**O**
	OutsideSensorZone_g	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**
	DistrSegmH_b	**O**

WHPC Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	FanSpeed#1_ON	**O**
	FanSpeed#1_OFF	**O**
	FanSpeed#2_ON	**O**
	FanSpeed#2_OFF	**O**
	FanSpeed#3_ON	**O**
	FanSpeed#3_OFF	**O**
	FanSpeed#4_ON	**O**
	FanSpeed#4_OFF	**O**
	FanSpeed#5_ON	**O**
	FanSpeed#5_OFF	**O**
	FanSpeedDeadZone	**O**
	FanInDeadZone	**O**
	FanRunTimeDeadZone	**O**
	FanDwellTimeDeadZone	**O**
	FreshAirMinValue	**O**
	TempFrostAlarm	**O**
	SplitHeatDefValue	**O**
	BUSActuatorCP_ON/OFF	**O**
	BUSActuatorHSB_ON/OFF	**O**
	BUSActuatorFA_ON/OFF	**O**
	BUSActuatorFS_ON/OFF	**O**
DiagnosticData	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	HeatCoolMode	**O**
	ValueEnergyDem	**O**

3.3.6 Detailed Specification of the Datapoints

See 3.9.2.

3.4 Split Unit Control (SPUC)

3.4.1 Aims and objectives

The Functional Block ‘Split Unit Control’ includes all important functionality for the split unit applications.

The Functional Block ‘Split Unit Control’ takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually from a supervisor Functional Block.

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.4.2 Functional specifications

The Functional Block is divided into three parts, the Basic Part, Additions for Air Quality and Additions for Integrated Optimiser.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

• TempOutside TempRoom AQOutside AQRoom TempReturnAir	These temperature values and the AQ values are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
• PresenceStatus	The status of the presence detector is used e.g. for learning purposes in an optimiser.
• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpSetCoolEff (4) TempRoomSetpHeatEff TempRoomSetpCoolEff AQSetpEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The temperature setpoint values are delivered either in sets of 4 values (comfort, standby, economy and building protection for heating and for cooling) for normal applications or just one value for simple heating only or cooling only applications. The effective AQ setpoint value is delivered from the 'Setpoint Manager Air Quality'.
• HVACModeEffNext TempRoomSetpHeatEffNext TempRoomSetpCoolEffNext	Next HVAC mode or next temperature setpoints needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift TempRmSetpOptimCoolShift	The optimised HVAC Mode and the optimiser shift values originate from an optimiser. The optimised mode overrides the mode from the RSM. The two shift values are used to shift the setpoints (heating and cooling) of the active HVACMode.
• FanSpeedUser FanManual	This information is delivered by the corresponding Functional Block, (either in a separate device or included in the same device as the controller block).
• DisableDamper	This information is used to disable the damper. It has to be delivered by a supervisor (see also ContrMode).

• SplitHeat EnableHeat	A water heat pump may have two heating stages. (stage A heat pump, stage B electrical register.) In this case the splitting has t.b.d. Base is the 'ValueEnergyDem'. The split value defines at which value the stage B starts. The enable information defines which kind of energy is available. These two information have to be delivered from a "supervisor".
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• ContrMode	The controlling mode originates from a "supervisor" (see Functional Block 'Programme to HVAC-Mode Conversion' or 'HVAC Optimiser).
• EmergMode	The EmergMode originates from a "supervisor" (see Functional Block 'HVAC Emergency Source'.

Outputs

• CompressorPosSetp HeatCoolMode	This information is used in the Functional Block 'Compressor Actuator'. This block may be in the compressor device or in the controller device.
• ActPosSetpHeatStageB	This information is used in the Functional Blocks 'Electrical Heat Element Control' or 'HVAC Valve'. These blocks may be in separate devices or in the same device as the controller block.
• ActPosSetpFreshAir	This information is used for the actuator Functional Block (damper). This block may be in separate devices or in the same device as the controller block.
• FanSpeedSetp	This information is used to control the fan ('Fan Actuator').
• EnergyDemAH	This information contains the value used for energy demand co-ordination with the producer of e.g. hot water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.

Binding Groups (LTE)

The Functional Block (with additions) shows up to 5 different binding groups.

• Binding group x.y.z	This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
• Binding group u.v.w	This binding group represents the scheduling zone.
• Binding group m.n.o	This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.
• OutsideSensorZone_f	No special features
• OutsideSensorZone_g	Second zone if necessary for AQ
• DistrSegmH_b	Distribution segment for heating water (air heater).

Parameters

• FanSpeed#x_ON FanSpeed#x_OFF	ON and OFF values for each fan step, taken from ValueEnergyDem.
• FanSpeedDeadZone	Definition of the fan speed in the dead zone.
• FanInDeadZone FanRunTimeDeadZone FanDwellTimeDeadZone	For return air applications FanInDeadZone defines whether the fan is running or not. If it is running, it runs at the above defined speed. In addition the run time and the dwell time can be defined.
• FreshAirMinValue	Minimum fresh air value for applications with fresh air damper.
• TempFrostAlarm	Temperature value at which the frost alarm is generated.
• SplitHeatDefValue	Default value for the percentage of ValueEnergyDem at which the split of stageA and stageB is defined.
• BUSActuatorCP_ON/OFF	ON/OFF for BUS information for compressor output in case of local actuator connection (reducing BUS load).
• BUSActuatorHSB_ON/OFF	ON/OFF for BUS information for heat stage B output in case of local actuator connection (reducing BUS load).
• BUSActuatorFA_ON/OFF	ON/OFF for BUS information for fresh air output in case of local actuator connection (reducing BUS load).
• BUSActuatorFS_ON/OFF	ON/OFF for BUS information for fan speed output in case of local actuator connection (reducing BUS load).

Diagnostic Data

• TempRoomSetpAct HVACModeAct ContrModeAct HeatCoolMode	These information are used in a supervisor or in a user HMI.
• ValueEnergyDem	This information contains the theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

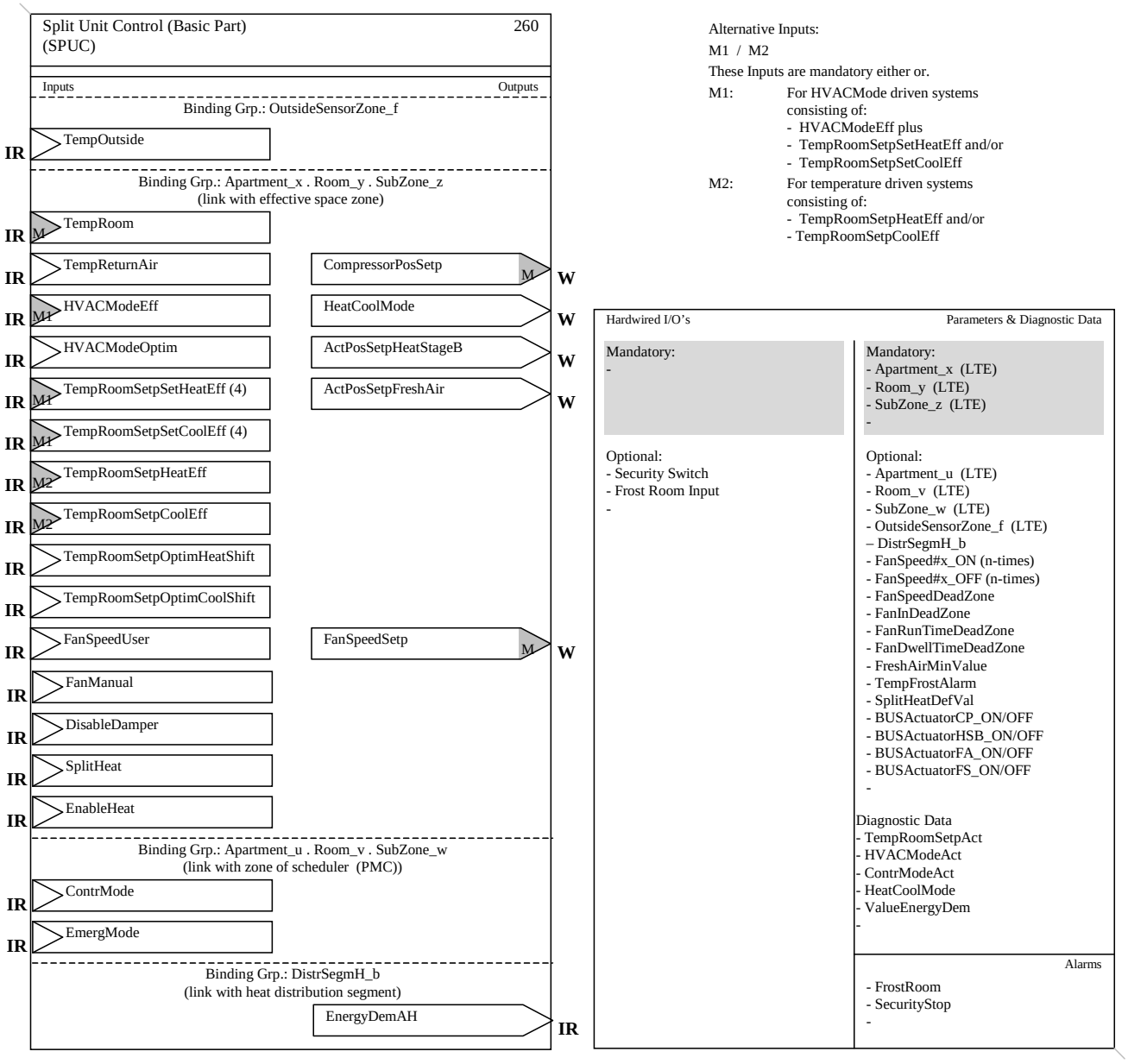
• FrostRoom	Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.
• SecurityStop	Alarm when the security switch is activated (e.g. cover of the fan coil open).

3.4.3 Constraints

None.

3.4.4 Functional Block Diagram

3.4.4.1 Split Unit Control (Basic Part)

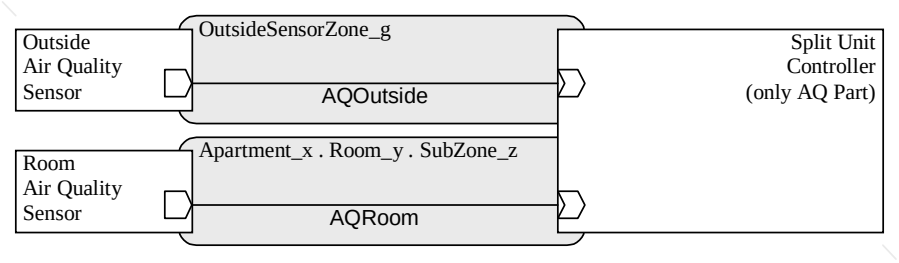


3.4.4.2 SPUC, Additions for Air Quality

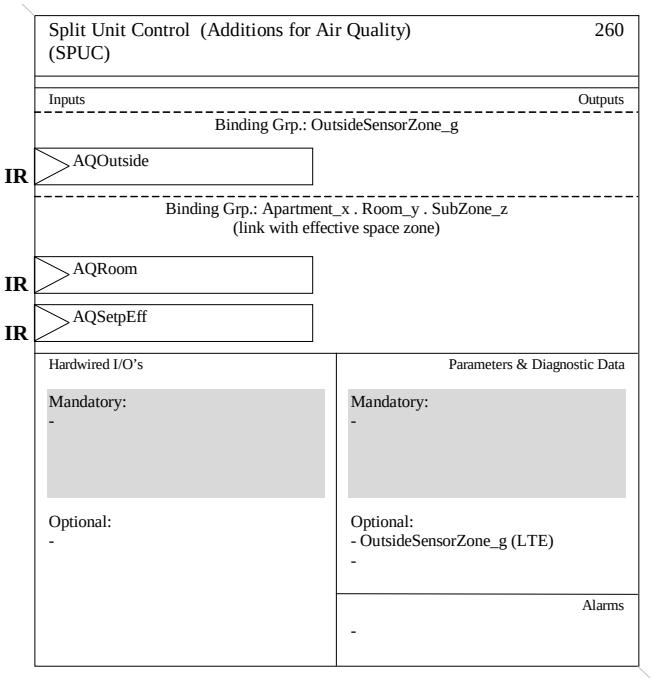
These additions allow air quality control with a split unit with a damper.
The output ActPosSetpFreshAir is in the basic part of the SPUC.

The 'Outside AQ Sensor' may be in the same or in a different zone (binding group) as the 'Outside Temperature Sensor'. Depending on this the zone parameters have to be implemented.

Principal Schematic



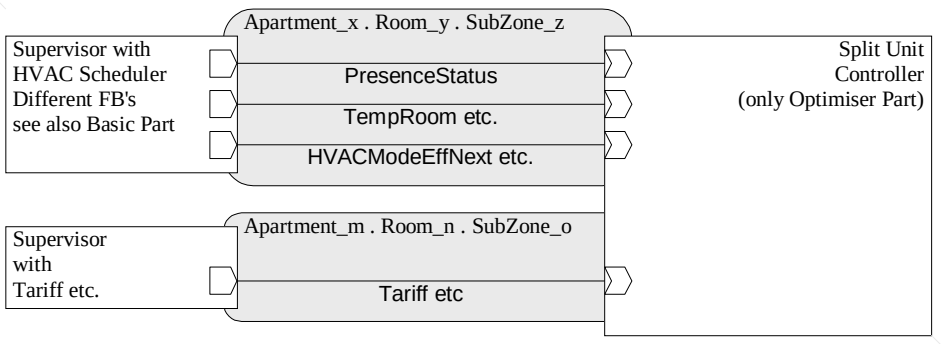
Functional Block Diagram



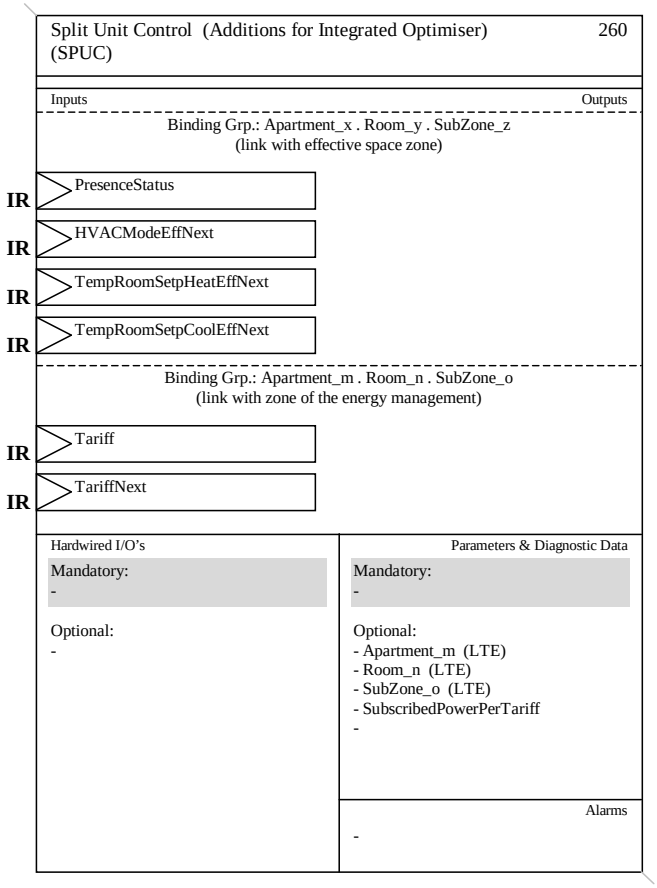
3.4.4.3 SPUC, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



Functional Block Diagram



3.4.5 Datapoint description

Overview

See clause 3.9.1.

SPUC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	TempOutside	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	TempReturnAir	**(GO_b)**		(GO)	**O**
	HVACModeEff	**NA_b**	NA	NA	**M1**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	FanSpeedUser	**(GO_b)**		(GO)	**O**
	FanManual	**(GO_b)**		(GO)	**NA**
	DisableDamper	**(GO_b)**		(GO)	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
	EmergMode	**(GO_b)**		(GO)	**O**
Cont					

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	AQOutside	**(GO_b)**		(GO)	**O**
Cont	AQRoom	**(GO_b)**		(GO)	**O**
	AQSetpEff	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	TempRoomSetpHeatEfNext	**NA_b**	NA	NA	**O**
	TempRoomSetpCoolEfNext	**NA_b**	NA	NA	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
Outputs	CompressorPosSetp	**GO_b**	GO	GO	**M**
	HeatCoolMode	**(GO_b)**		(GO)	**O**
	ActPosSetpHeatStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpFreshAir	**(GO_b)**		(GO)	**O**
	FanSpeedSetp	**GO_b**	GO	GO	**M**
	EnergyDemAH	**NA_b**	NA	NA	**O**

SPUC LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	OutsideSensorZone_f	**O**
	OutsideSensorZone_g	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**
	DistrSegmH_b	**O**

SPUC Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	FanSpeed#1_ON	**O**
	FanSpeed#1_OFF	**O**
	FanSpeed#2_ON	**O**
	FanSpeed#2_OFF	**O**
	FanSpeed#3_ON	**O**
	FanSpeed#3_OFF	**O**
	FanSpeed#4_ON	**O**
	FanSpeed#4_OFF	**O**
	FanSpeed#5_ON	**O**
	FanSpeed#5_OFF	**O**
	FanSpeedDeadZone	**O**
	FanInDeadZone	**O**
	FanRunTimeDeadZone	**O**
	FanDwellTimeDeadZone	**O**
	FreshAirMinValue	**O**
	TempFrostAlarm	**O**
	SplitHeatDefValue	**O**
	BUSActuatorCP_ON/OFF	**O**
	BUSActuatorHSB_ON/OFF	**O**
	BUSActuatorFA_ON/OFF	**O**
	BUSActuatorFS_ON/OFF	**O**
DiagnosticData	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	HeatCoolMode	**O**
	ValueEnergyDem	**O**

3.4.6 Detailed Specification of the Datapoints

See 3.9.2.

3.5 Radiator and Chilled Ceiling Room Control (RCCRC)

3.5.1 Aims and objectives

The Functional Block ‘Radiator and Chilled Ceiling Room Control’ includes all important functionality for the radiator and chilled ceiling applications. It also is applicable for floor heating.

The Functional Block ‘Radiator and Chilled Ceiling Room Control’ takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually form a supervisor Functional Block..

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.5.2 Functional specifications

The Functional Block is divided into three parts, the Basic Part, Additions for Integrated Optimiser and Additions for Status, Lock and Force Information of Energy Producers.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

• TempOutside TempRoom TempFloor	These temperature values are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
• PresenceStatus	The status of the presence detector is used e.g. for learning purposes in an optimiser.
• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpSetCoolEff (4) TempRoomSetpHeatEff TempRoomSetpCoolEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The temperature setpoint values are delivered either in sets of 4 values (comfort, standby, economy and building protection for heating and for cooling) for normal applications or just one value for simple heating only or cooling only applications.
• HVACModeEffNext TempRoomSetpHeatEffNext TempRoomSetpCoolEffNext	Next HVAC mode or next temperature setpoints needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift TempRmSetpOptimCoolShift	The optimised HVAC Mode and the optimiser shift values originate from an optimiser. The optimised mode overrides the mode from the RSM. The two shift values are used to shift the setpoints (heating and cooling) of the active HVACMode.
• ChangeOverStatusWater DewPointStatus	These information are delivered by the corresponding Functional Blocks, (either in separate devices or included in the same device as the controller block).

• SplitHeat SplitCool EnableHeat EnableCool	Fancoils may have two heating or cooling stages. In this case the splitting has t.b.d. Base is the ‘ValueEnergyDem’. The split value defines at which value the stage B starts. The enable information defines which kind of energy is available. These four information have to be delivered from a “smart supervisor”.
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• ForceSignHFDM LockSignHFDM ForceSignHPM LockSignHPM StatusHPM ForceSignCFDM LockSignCFDM ForceSignCPM LockSignCPM StatusCPM	The forcing, locking and status information is delivered from the 'Heating Flow Demand Manager' and the 'Cooling Flow Demand Manager'.
• ContrMode	The controlling mode originates from a “supervisor” (see Functional Block ‘Programme to HVAC-Mode Conversion’ or ‘HVAC Optimiser’).

Outputs

• ActPosSetpHeatStageA ActPosSetpHeatStageB ActPosSetpCoolStageA ActPosSetpCoolStageB	These information is used for the actuator Functional Blocks (valve, electrical power switch or damper). These blocks may be in separate devices or in the same device as the controller block.
• EnergyDemRD EnergyDemCC	This information contains the value used for energy demand co-ordination with the producer of e.g. hot and cold water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.

Binding Groups (LTE)

The Functional Block (with Additions) shows 6 different binding groups.

• Binding group x.y.z	This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
• Binding group u.v.w	This binding group represents the scheduling zone.
• Binding group m.n.o	This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.
• OutsideSensorZone_f	no special features
• DistrSegmH_a	Distributions segment for heating water (radiator).
• DistrSegmC_c	Distribution segment for cooling water (chilled ceiling).

Parameters

- ControlSequence — This parameter defines whether the controller has to work in heating only, cooling only or in both.
- TempFrostAlarm — Temperature value at which the frost alarm is generated.
- SplitHeatDefValue
SplitCoolDefValue — Default value for the percentage of ValueEnergyDem at which the split of stageA and stageB is defined.
- BUSActuatorHSA_ON/OFF — ON/OFF for BUS information for heat stage A output in case of local actuator connection (reducing BUS load).
- BUSActuatorHSB_ON/OFF — ON/OFF for BUS information for heat stage B output in case of local actuator connection (reducing BUS load).
- BUSActuatorCSA_ON/OFF — ON/OFF for BUS information for cool stage A output in case of local actuator connection (reducing BUS load).
- BUSActuatorCSB_ON/OFF — ON/OFF for BUS information for cool stage B output in case of local actuator connection (reducing BUS load).

Diagnostic Data

- TempRoomSetpAct
HVACModeAct
ContrModeAct
HeatCoolMode — These information are used in a supervisor or in a user HMI.
- ValueEnergyDem — This information contains a theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

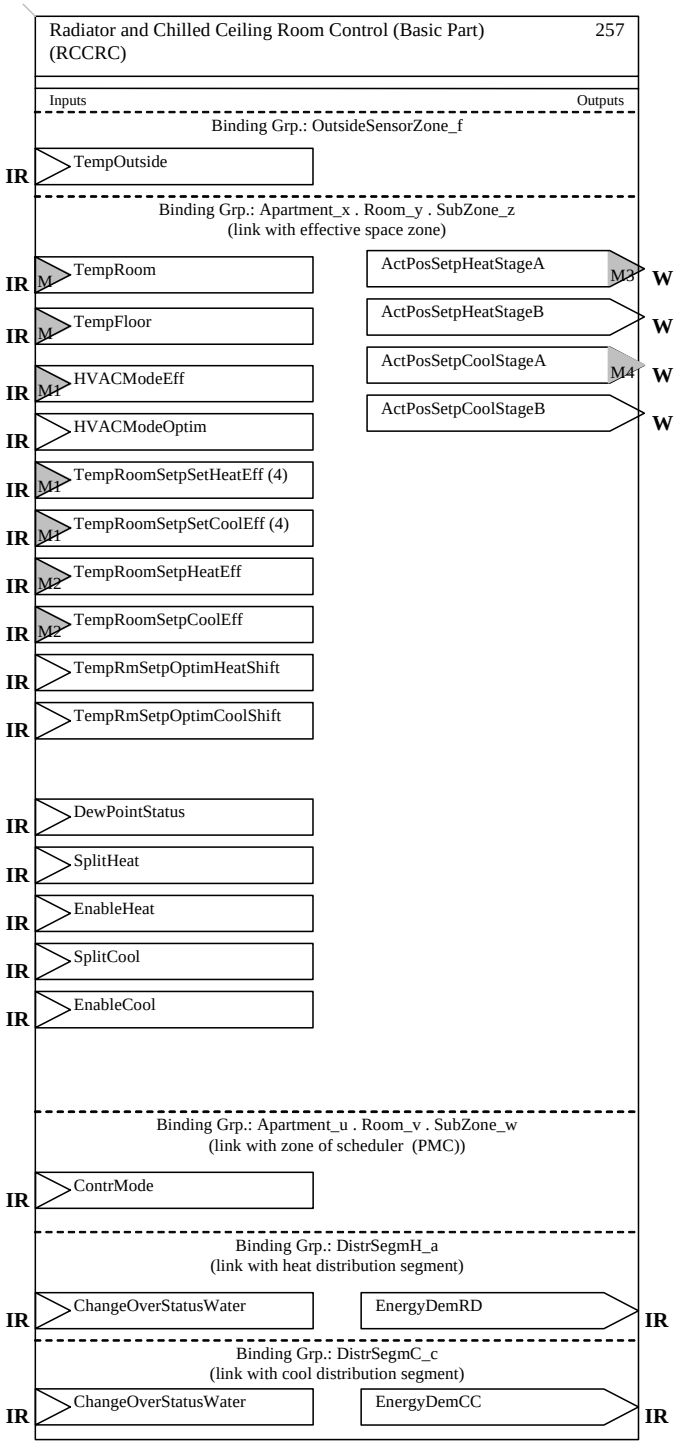
- FrostRoom — Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.

3.5.3 Constraints

None.

3.5.4 Functional Block Diagram

3.5.4.1 Radiator and Chilled Ceiling Room Control (Basic Part)



Alternative Inputs:
M1 / M2
These Inputs are mandatory either or.
M1: For HVACMode driven systems consisting of:
- HVACModeEff plus
- TempRoomSetpSetHeatEff and/or
- TempRoomSetpSetCoolEff

M2: For temperature driven systems consisting of:
- TempRoomSetpHeatEff and/or
- TempRoomSetpCoolEff

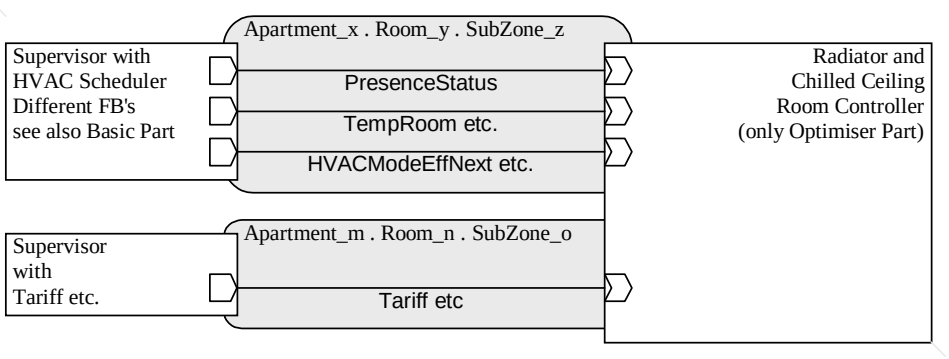
Ev. alternative Outputs:
M3 / M4:
These outputs are mandatory either or, or both.
M3: For heating only applications
M4: For cooling only applications
M3 + M4: For heating and cooling applications

Hardwired I/O's	Parameters & Diagnostic Data
Mandatory: -	Mandatory: - Apartment_x (LTE) - Room_y (LTE) - SubZone_z (LTE) -
Optional: - Frost Room Input -	Optional: - Apartment_u (LTE) - Room_v (LTE) - SubZone_w (LTE) - OutsideSensorZone_f (LTE) - DistrSegmH_a (LTE) - DistrSegmC_c (LTE) - ControlSequence - TempFrostAlarm - SplitHeatDefVal - SplitCoolDefVal - BUSActuatorHSA_On/Off - BUSActuatorHSB_On/Off - BUSActuatorCSA_On/Off - BUSActuatorCSB_On/Off - Diagnostic Data: - TempRoomSetpAct - HVACModeAct - ContrModeAct - HeatCoolMode - ValueEnergyDem -
	Alarms - FrostRoom -

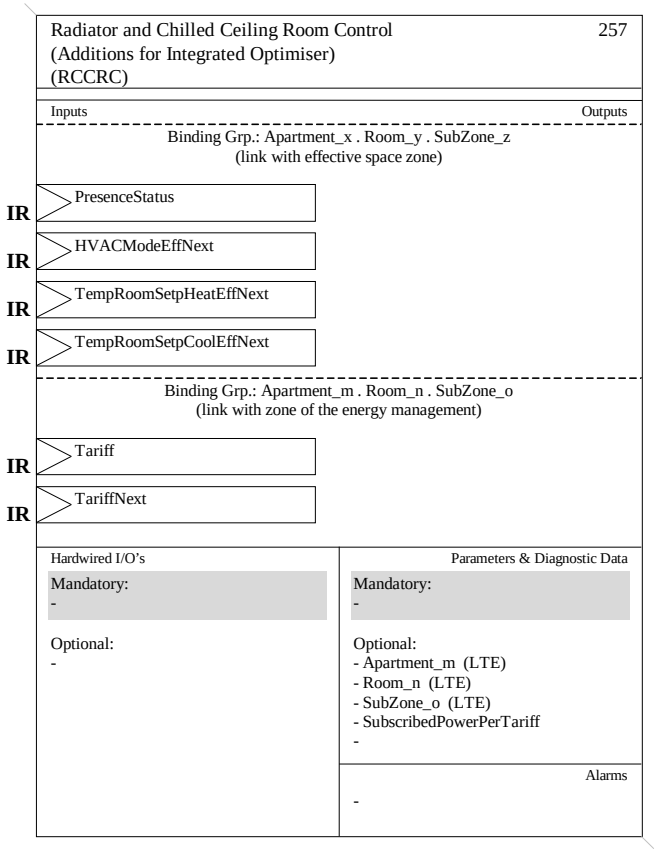
3.5.4.2 RCCRC, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



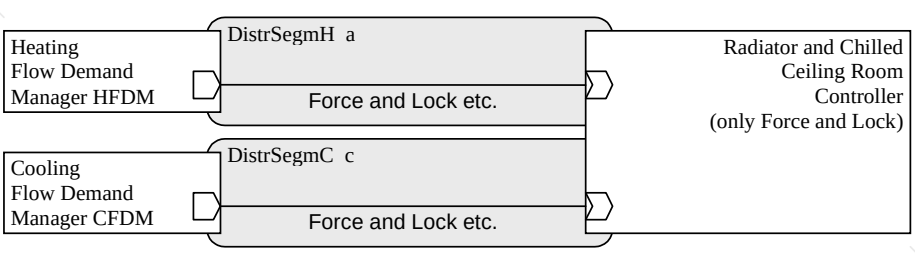
Functional Block Diagram



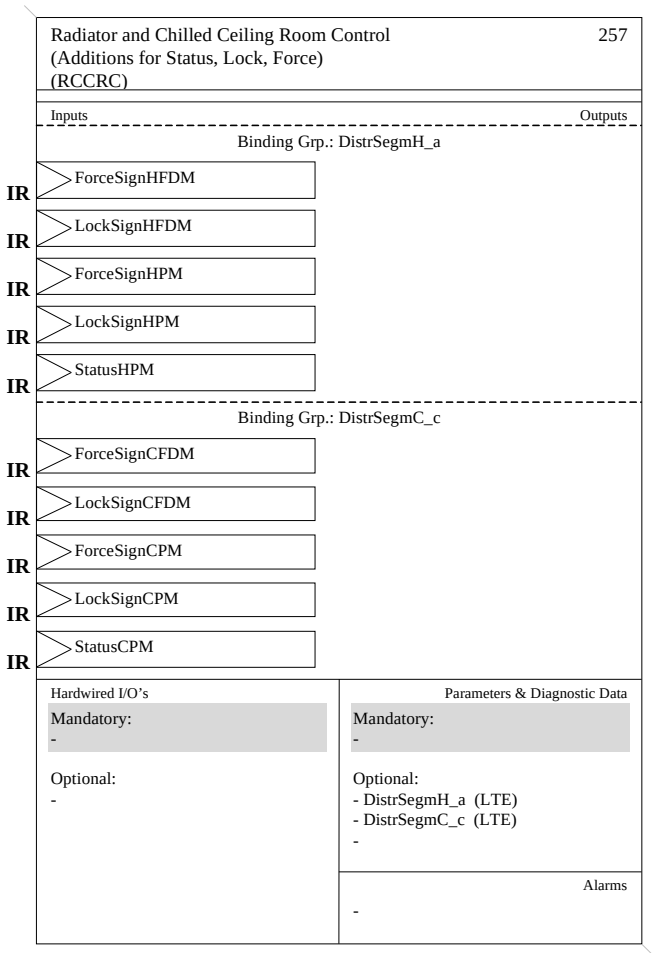
3.5.4.3 RCCRC, Additions for Status, Lock and Force Information of the Energy Producers

These additions allow tight interworking with the energy supply such as heat and cold producer/distributor.
For detailed information see [07] Heating Flow Demand Manager HFDM and [12] Cooling Flow Demand Manager CFDM.

Principal Schematic



Functional Block Diagram



3.5.5 Datapoint description

Overview

See clause 3.9.1.

RCCRC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	TempOutside	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	TempFloor	**GO_b**	GO	GO	**O**
	HVACModeEff	**NA_b**	NA	NA	**M1**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	ChangeOverStatusWater	**(GO_b)**		(GO)	**O**
	DewPointStatus	**(GO_b)**		(GO)	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	SplitCool	**NA_b**	NA	NA	**O**
	EneableCool	**NA_b**	NA	NA	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
Cont					

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	PresenceStatus	**(GO_b)**		(GO)	**O**
Cont	HVACModeEffNext	**NA_b**	NA	NA	**O**
	TempRoomSetpHeatEfNext	**NA_b**	NA	(GO)	**O**
	TempRoomSetpCoolEfNext	**NA_b**	NA	(GO)	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
	ForceSignHFDM	**NA_b**	NA	(GO)	**O**
	LockSignHFDM	**NA_b**	NA	(GO)	**O**
	ForceSignHPM	**NA_b**	NA	(GO)	**O**
	LockSignHPM	**NA_b**	NA	(GO)	**O**
	StatusHPM	**NA_b**	NA	(GO)	**O**
	ForceSignCFDM	**NA_b**	NA	(GO)	**O**
	LockSignCFDM	**NA_b**	NA	(GO)	**O**
	ForceSignCPM	**NA_b**	NA	(GO)	**O**
	LockSignCPM	**NA_b**	NA	(GO)	**O**
	StatusCPM	**NA_b**	NA	(GO)	**O**
Outputs	ActPosSetpHeatStageA	**(GO_b)**	GO3	GO3	**M3**
	ActPosSetpHeatStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpCoolStageA	**(GO_b)**	GO4	GO4	**M4**
	ActPosSetpCoolStageB	**(GO_b)**		(GO)	**O**
	EnergyDemRD	**NA_b**	NA	NA	**O**
	EnergyDemCC	**NA_b**	NA	NA	**O**

RCCRC LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	OutsideSensorZone_f	**O**
	DistrSegmH_a	**O**
	DistrSegmC_c	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**

RCCRC Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	ControlSequence	**O**
	TempFrostAlarm	**O**
	SplitHeatDefValue	**O**
	SplitCoolDefValue	**O**
	BUSActuatorHSA_ON/OFF	**O**
	BUSActuatorHSB_ON/OFF	**O**
	BUSActuatorCSA_ON/OFF	**O**
	BUSActuatorCSB_ON/OFF	**O**
DiagnosticData	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	HeatCoolMode	**O**
	ValueEnergyDem	**O**

3.5.6 Detailed Specification of the Datapoints

See 3.9.2.

3.6 Radiator Room Control TU (RRCTU)

3.6.1 Aims and objectives

The Functional Block ‘Radiator Room Control TU’ includes all important functionality for the radiator application. It also is applicable for floor heating.

The Functional Block ‘Radiator Room Control TU’ is dedicated for commercial buildings. For residential buildings refer to the 'Heating Individual Room Controller' HIRC [07]. The RRCTU takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually form a supervisor Functional Block..

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.6.2 Functional specifications

The Functional Block is divided into three parts, the Basic Part, Additions for Integrated Optimiser and Additions for Status, Lock and Force Information of Energy Producers.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

• TempOutside TempRoom TempFloor	These temperature values are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
• PresenceStatus	The status of the presence detector is used e.g. for learning purposes in an optimiser.
• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpHeatEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The temperature setpoint values are delivered either in a set of 4 values (comfort, standby, economy and building protection) for normal applications or just one value for simple heating applications.
• HVACModeEffNext TempRoomSetpHeatEffNext	Next HVAC mode or next temperature setpoint needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift	The optimised HVAC Mode and the optimiser shift value originate from an optimiser. The optimised mode overrides the mode from the RSM. The shift value is used to shift the heating setpoint of the active HVACMode.
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• ForceSignHFDM LockSignHFDM ForceSignHPM LockSignHPM StatusHPM	The forcing, locking and status information is delivered from the 'Heating Flow Demand Manager' and the 'Cooling Flow Demand Manager'.
• ContrMode	The controlling mode originates from a “supervisor” (see Functional Block ‘Programme to HVAC-Mode Conversion’ or ‘HVAC Optimiser’).

Outputs

- ActPosSetpHeatStageA — These information is used for the actuator Functional Block (valve or electrical power switch). These block may be in a separate device or in the same device as the controller block.
- EnergyDemRD — This information contains the value used for energy demand co-ordination with the producer of the hot water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.

Binding Groups (LTE)

The Functional Block (with Additions) shows 6 different binding groups.

- Binding group x.y.z — This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
- Binding group u.v.w — This binding group represents the scheduling zone.
- Binding group m.n.o — This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.
- OutsideSensorZone_f — no special features
- DistrSegmH_a — Distributions segment for heating water (radiator).

Parameters

- TempFrostAlarm — Temperature value at which the frost alarm is generated.
- BUSActuatorHSA_ON/OFF — ON/OFF for BUS information for heat stage A output in case of local actuator connection (reducing BUS load).

Diagnostic Data

- TempRoomSetpAct
HVACModeAct
ContrModeAct — These information are used in a supervisor or in a user HMI.
- ValueEnergyDem — This information contains a theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

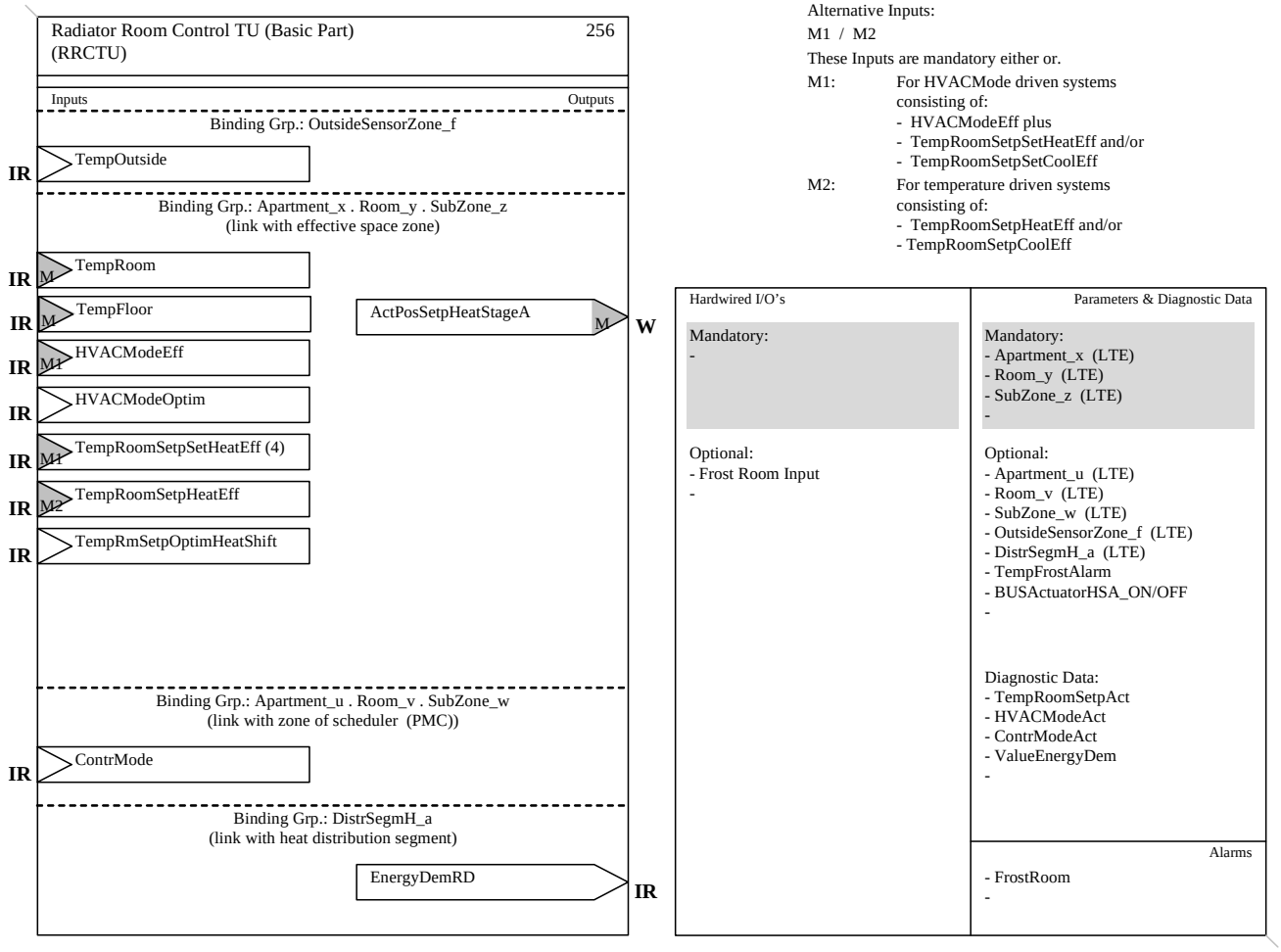
- FrostRoom — Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.

3.6.3 Constraints

None.

3.6.4 Functional Block Diagram

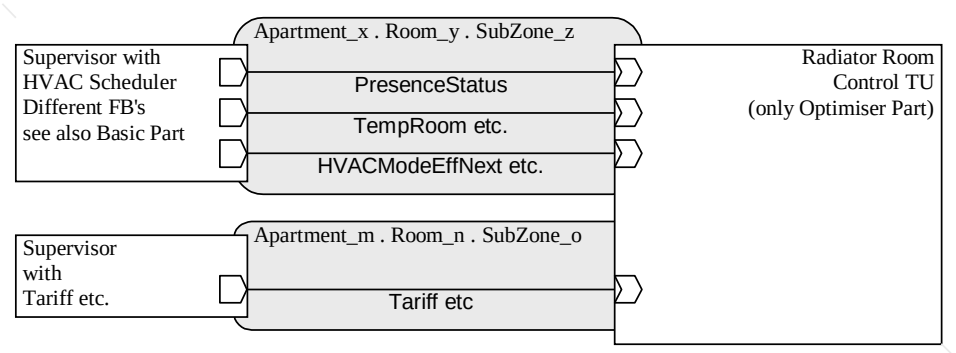
3.6.4.1 Radiator Room Control TU (Basic Part)



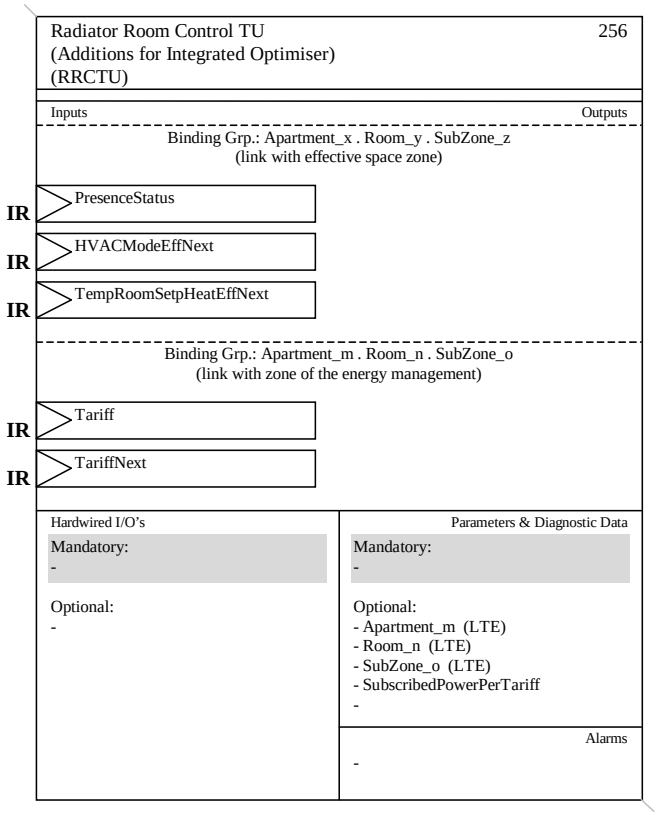
3.6.4.2 RRCTU, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



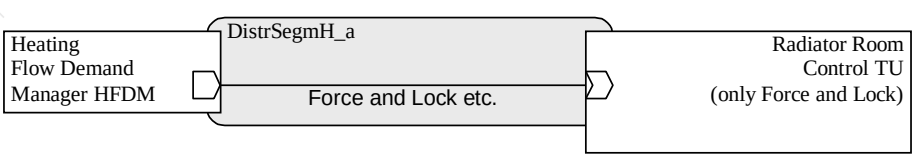
Functional Block Diagram



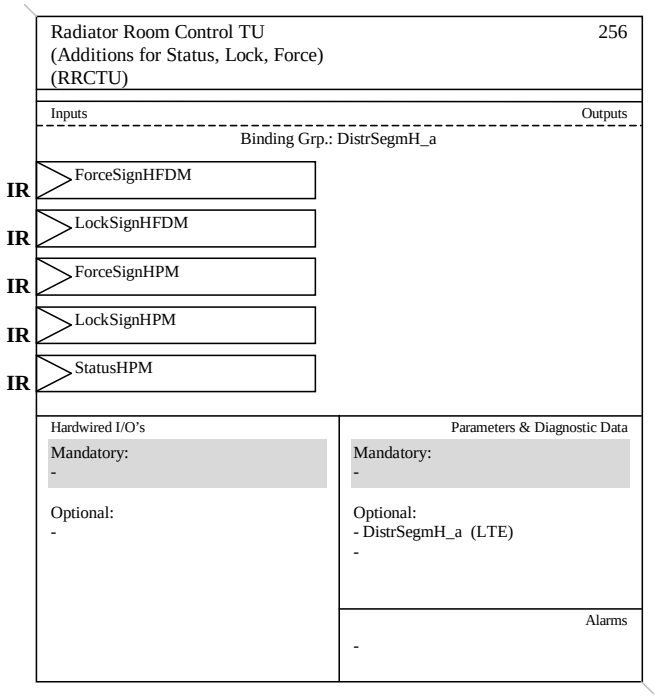
3.6.4.3 RRCTU, Additions for Status, Lock and Force Information of the Energy Producers

These additions allow tight interworking with the energy supply such as heat producer/distributor. For detailed information see [07] Heating Flow Demand Manager HFDM.

Principal Schematic



Functional Block Diagram



3.6.5 Datapoint description

Overview

See clause 3.9.1.

RRCTU Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	TempOutside	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	TempFloor	**GO_b**	GO	GO	**O**
	HVACModeEff	**NA_b**	NA	NA	**M1**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	TempRoomSetpHeatEfNext	**NA_b**	NA	NA	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
	ForceSignHFDM	**NA_b**	NA	NA	**O**
	LockSignHFDM	**NA_b**	NA	NA	**O**
	ForceSignHPM	**NA_b**	NA	NA	**O**
	LockSignHPM	**NA_b**	NA	NA	**O**
	StatusHPM	**NA_b**	NA	NA	**O**
Outputs	ActPosSetpHeatStageA	**(GO_b)**	GO	GO	**M**
	EnergyDemRD	**NA_b**	NA	NA	**O**

RRCTU LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	OutsideSensorZone_f	**O**
	DistrSegmH_a	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**

RRCTU Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	TempFrostAlarm	**O**
	BUSActuatorHSA_ON/OFF	**O**
DiagnosticData	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	ValueEnergyDem	**O**

3.6.6 Detailed Specification of the Datapoints

See 3.9.2.

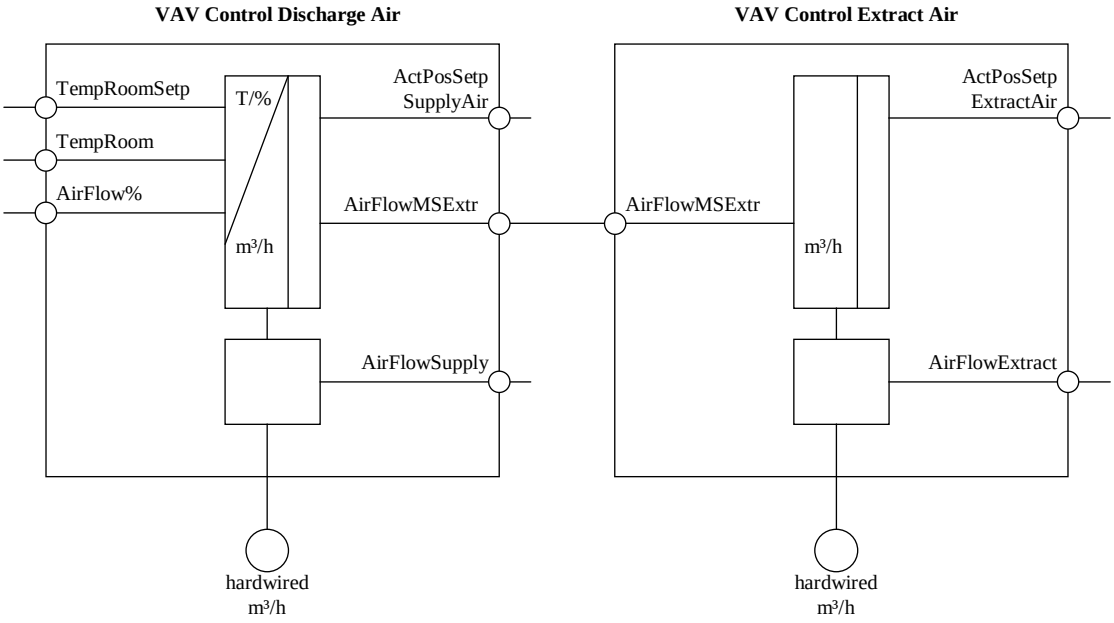
3.7 VAV Control Discharge Air (VAVCDA)

3.7.1 Aims and objectives

The Functional Block ‘VAV Control Discharge Air’ includes all important functionality for the VAV discharge air applications. See also 3.8 for extract air.

The Functional Block ‘VAV Control Discharge Air’ takes the inputs from the ‘Room Setpoint Manager’ and different sensor and HMI Functional Blocks and eventually form a supervisor Functional Block..

General block diagram:



The Functional Block ‘VAV Control Extract Air’ takes the air flow value form the discharge air block.

Information needed for the actuators and for indication or in a supervisor is provided to the bus.

3.7.2 Functional specifications

The Functional Block is divided into two parts, the Basic Part and Additions for Integrated Optimiser.

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

- AirFlow% — This input is used for air flow control instead of temperature control and is delivered by a supervisor. This control only is active, if the input is valid (Z_8). If the value is not valid or not available the controller works as temperature controller.
- TempRoom, AQRoom, TempDischargeAir — These temperature values and the AQ value are delivered by the corresponding sensor Functional Blocks (either in separate devices or included in the same device as the controller block).
- PresenceStatus — The status of the presence detector is used e.g. for learning purposes in an optimiser.

• HVACModeEff TempRoomSetpSetHeatEff (4) TempRoomSetpSetCoolEff (4) AQSetpEff	The effective HVAC mode and the effective temperature setpoint values are delivered from the ‘Room Setpoint Manager’. The effective AQ setpoint value is delivered from the 'Setpoint Manager Air Quality'.
• HVACModeEffNext	Next HVAC mode needed for optimiser purposes.
• HVACModeOptim TempRmSetpOptimHeatShift TempRmSetpOptimCoolShift	The optimised HVAC Mode and the optimiser shift values originate from an optimiser. The optimised mode overrides the mode from the RSM. The two shift values are used to shift the setpoints (heating and cooling) of the active HVACMode.
• ChangeOverStatusWater	These information is delivered by the corresponding Functional Block, (either in a separate device or included in the same device as the controller block). The input is possible in either of the four distribution segments. Only one of them is realised at a time.
• ChangeOverStatusAir TempSupplyAir	These information is delivered by the corresponding Functional Block, (either in a separate device or included in the same device as the controller block).
• SplitHeat SplitCool EnableHeat EnableCool	The Functional Block 'VAV Control Discharge Air' may control a VAV box as well as an additional radiator and an additional chilled ceiling. In this case the splitting has t.b.d. Base is the ‘ValueEnergyDem’. The split value defines at which value the stage B starts. The enable information defines which kind of energy is available. These four information have to be delivered from a “smart supervisor”.
• Tariff TariffNext	This information is provided by a supervisor with e.g. tariff calculation.
• StatusSATC	The status information is delivered from the Supply Air Temperature Controller.
• ContrMode	The controlling mode originates from a “supervisor” (see Functional Block ‘Programme to HVAC-Mode Conversion’ or ‘HVAC Optimiser’).
• EmergMode	The EmergMode originates from a “supervisor” (see Functional Block ‘HVAC Emergency Source’.

Outputs

- ActPosSetpDischargeAir
ActPosSetpHeatStageA
ActPosSetpHeatStageB
ActPosSetpCoolStageA
ActPosSetpCoolStageB — This information is used for the actuator Functional Blocks (valve, electrical power switch or damper). These blocks may be in separate devices or in the same device as the controller block.
- EnergyDemAH
EnergyDemAC
EnergyDemRD
EnergyDemCC
EnergyDemAir
ValueFreshAirDem — This information contains the value used for energy demand co-ordination with the producer of e.g. hot and cold water and it can be used in a supervisor for general information. The LTE information is completed with an attribute containing information from the ContrMode.
- AirFlowMSExtr — This flow value is used to synchronise the extract air controller

Binding Groups (LTE)

The Functional Block (with Additions) shows 8 different binding groups.

- Binding group x.y.z — This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
- Binding group u.v.w — This binding group represents the scheduling zone.
- Binding group m.n.o — This binding group represents a group for optimising / energy management purposes. The behaviour is similar to the zone for the 'programme'.
- DistrSegmH_a — Distributions segment for heating water (radiator).
- DistrSegmH_b — Distributions segment for heating water (air heater).
- DistrSegmC_c — Distribution segment for cooling water (chilled ceiling).
- DistrSegmC_d — Distribution segment for cooling water (air cooler).
- DistrSegmV_e — Distribution segment for the ventilation air.

Parameters

- NominalDischargeAirFlow — Nominal value of the VAV box.
- ControlSequence — This parameter defines whether the controller has to work in heating only, cooling only or in both.
- MinAirFlowHeat — The minimum air flow in heating mode.
- MaxAirFlowHeat — The maximum air flow in heating mode.
- MinAirFlowCool — The minimum air flow in cooling mode.
- MaxAirFlowCool — The maximum air flow in cooling mode.
- MinAirFlowStandby — The minimum air flow in standby operation.
- MinAirFlowEconomy — The minimum air flow in economy operation.
- TempDischargeAirMin — Minimum temperature limit for discharge air.
- SplitHeatDefValue
SplitCoolDefValue — Default value for the percentage of ValueEnergyDem at which the split of stageA and stageB is defined.

- TempFrostAlarm — Temperature value at which the frost alarm is generated.
- BUSActuatorDA_ON/OFF — ON/OFF for BUS information for discharge air output in case of local actuator connection (reducing BUS load).
- BUSActuatorHSA_ON/OFF — ON/OFF for BUS information for heat stage A output in case of local actuator connection (reducing BUS load).
- BUSActuatorHSB_ON/OFF — ON/OFF for BUS information for heat stage B output in case of local actuator connection (reducing BUS load).
- BUSActuatorCSA_ON/OFF — ON/OFF for BUS information for cool stage A output in case of local actuator connection (reducing BUS load).
- BUSActuatorCSB_ON/OFF — ON/OFF for BUS information for cool stage B output in case of local actuator connection (reducing BUS load).

Diagnostic Data

- TempRoomSetpAct
HVACModeAct
ContrModeAct
HeatCoolMode
AirFlowDischarge — These information are used in a supervisor or in a user HMI.
- ValueEnergyDem — This information contains a theoretical overall value for the energy demand. It is company specific calculated and can be used for indication purposes.

Alarms

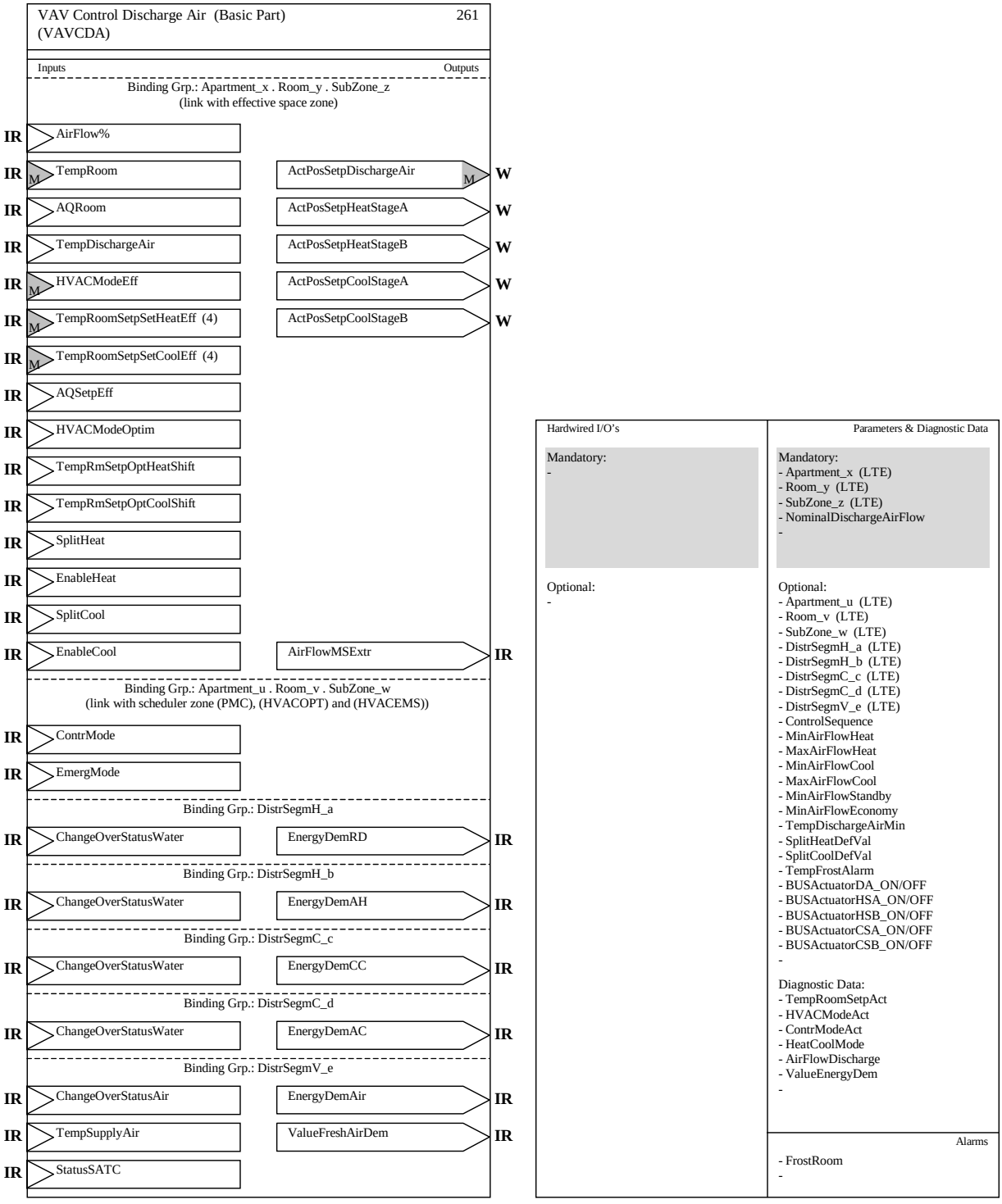
- FrostRoom — Alarm when the room temperature falls below TempFrostAlarm or if the frost room input is activated.

3.7.3 Constraints

None.

3.7.4 Functional Block Diagram

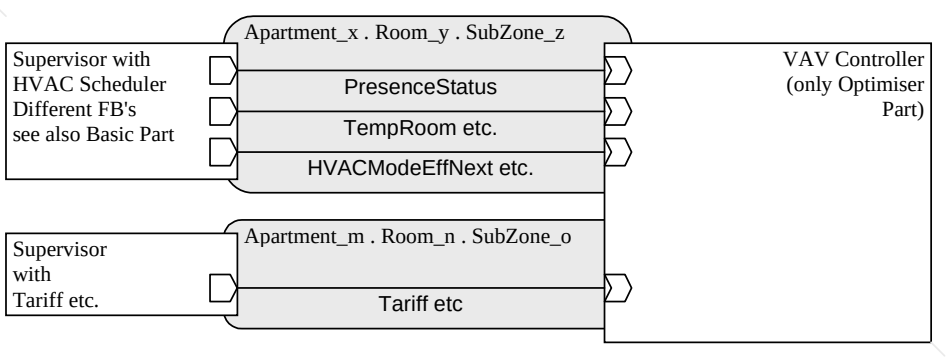
3.7.4.1 VAV Control Discharge Air (Basic Part)



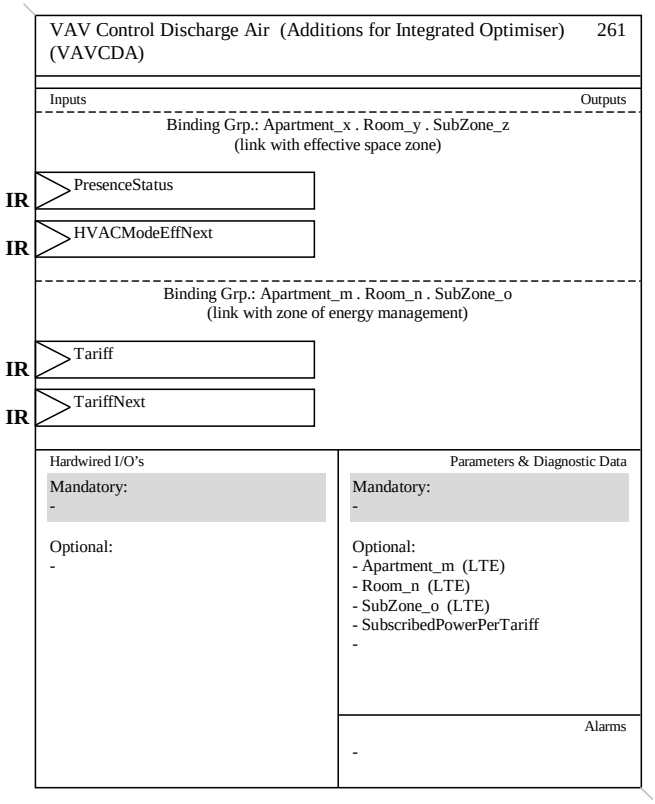
3.7.4.2 VAVCDA, Additions for Integrated Optimiser

These additions allow the controller to determine optimised start an stop.
For applications with electrical heating, also the tariff situation can be taken in consideration.

Principal Schematic



Functional Block Diagram



3.7.5 Datapoint description

Overview

See clause 3.9.1.

VAVCDA Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-Mode
Inputs	AirFlow%	**(GO_b)**		(GO)	**O**
	TempRoom	**GO_b**	GO	GO	**M**
	AQRoom	**(GO_b)**		(GO)	**O**
	TempDischargeAir	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	HVACModeEff	**NA_b**	NA	NA	**M**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M**
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M**
	AQSetpEff	**(GO_b)**		(GO)	**O**
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	HVACModeOptim	**NA_b**	NA	NA	**O**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	ChangeOverStatusWater	**(GO_b)**		(GO)	**O**
	ChangeOverStatusAir	**(GO_b)**		(GO)	**O**
	TempSupplyAir	**(GO_b)**		(GO)	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	SplitCool	**NA_b**	NA	NA	**O**
	EnableCool	**NA_b**	NA	NA	**O**
	Tariff	**(GO_b)**		(GO)	**O**
	TariffNext	**(GO_b)**		(GO)	**O**
	StatusSATC	**NA_b**	NA	NA	**O**
Cont					

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**LTE-Mode**
Inputs	ContrMode	**(GO_b)**		(GO)	**O**
Cont	EmergMode	**(GO_b)**		(GO)	**O**
Outputs	ActPosSetpDischargeAir	**GO_b**	GO	GO	**M**
	ActPosSetpHeatStageA	**(GO_b)**		(GO)	**O**
	ActPosSetpHeatStageB	**(GO_b)**		(GO)	**O**
	ActPosSetpCoolStageA	**(GO_b)**		(GO)	**O**
	ActPosSetpCoolStageB	**(GO_b)**		(GO)	**O**
	EnergyDemAH	**NA_b**	NA	NA	**O**
	EnergyDemAC	**NA_b**	NA	NA	**O**
	EnergyDemRD	**NA_b**	NA	NA	**O**
	EnergyDemCC	**NA_b**	NA	NA	**O**
	EnergyDemAir	**NA_b**	NA	NA	**O**
	ValueFreshAirDem	**(GO_b)**		(GO)	**O**
	AirFlowMSExtr	**(GO_b)**		(GO)	**O**

VAVCDA LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SubZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	DistrSegmH_a	**O**
	DistrSegmH_b	**O**
	DistrSegmC_c	**O**
	DistrSegmC_d	**O**
	DistrSegmV_e	**O**
	Apartment_m	**O**
	Room_n	**O**
	SubZone_o	**O**

VAVCDA Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	NominalDischargeAirFlow	**M**
	ControlSequence	**O**
	MinAirFlowHeat	**O**
	MaxAirFlowHeat	**O**
	MinAirFlowCool	**O**
	MaxAirFlowCool	**O**
	MinAirFlowStandby	**O**
	MinAirFlowEconomy	**O**
	TempDischargeAirMin	**O**
	SplitHeatDefValue	**O**
	SplitCoolDefValue	**O**
	TempFrostAlarm	**O**
	BUSActuatorDA_ON/OFF	**O**
	BUSActuatorHSA_ON/OFF	**O**
	BUSActuatorHSB_ON/OFF	**O**
	BUSActuatorCSA_ON/OFF	**O**
	BUSActuatorCSB_ON/OFF	**O**

		Support
Diagnostic Data	TempRoomSetpAct	**O**
	HVACModeAct	**O**
	ContrModeAct	**O**
	HeatCoolMode	**O**
	AirFlowDischarge	**O**
	ValueEnergyDem	**O**

3.7.6 Detailed Specification of the Datapoints

See 3.9.2.

3.8 VAV Control Extract Air (VAVCEA)

3.8.1 Aims and objectives

The Functional Block ‘VAV Control Extract Air’ includes all important functionality for the VAV extract air applications. See also 3.7 for discharge air.

The Functional Block ‘VAV Control Extract Air’ takes the inputs from the ‘VAV Control Discharge Air’ and eventually form a supervisor Functional Block.

Information needed in a supervisor is provided to the system.

3.8.2 Functional specifications

Detailed information about the different datapoints can be found in clause 3.9 Datapoints.

Inputs

- AirFlowMSExtr — This flow value is used to synchronise the extract air controller with the discharge air controller.
- EmergMode — The EmergMode originates from a "supervisor" (see Functional Block ‘HVAC Emergency Source’.

Outputs

- ActPosSetpExtractAir — This information is used for the actuator functional block. This block may be in a separate device or in the same device as the controller block.

Binding Groups (LTE)

- Binding group x.y.z — This binding group corresponds with the room / zone to which the Functional Block effectively belongs.
- Binding group u.v.w — This binding group represents the scheduling zone.

Parameters

- NominalExtractAirFlow — Nominal value of the VAV box.
- RatioExtractDischarge — Ratio to be used in case of multiple extract air boxes together with a single discharge air box.
- AirFlowDelta — Air flow delta to generate over- or under pressure. (not for technical applications.)
- BUSActuatorEA_ON/OFF — ON/OFF for BUS information for extract air output in case of local actuator connection (reducing BUS load).

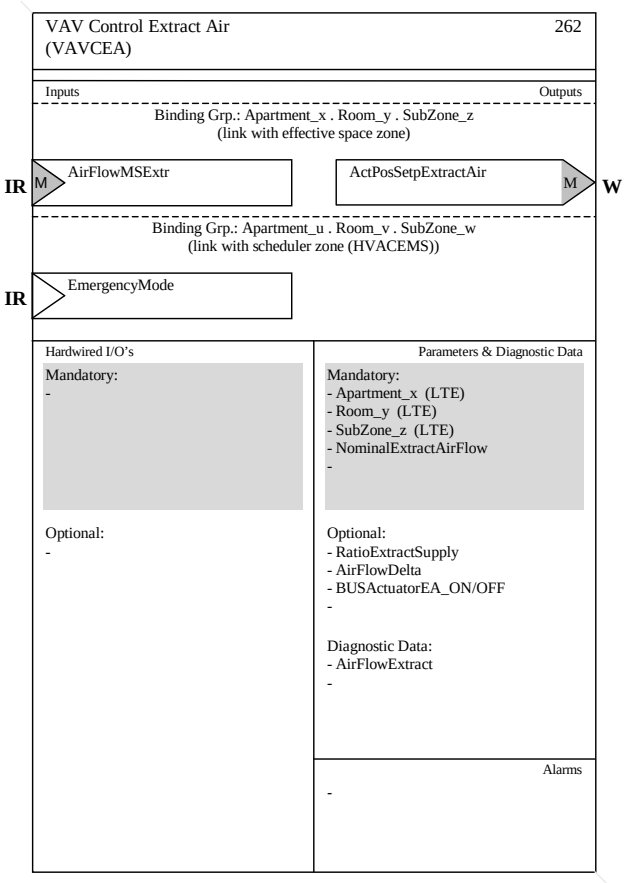
Diagnostic Data

- AirFlowExtract — This information is used in a supervisor or in a user HMI.

3.8.3 Constraints

None.

3.8.4 Functional Block Diagram



3.8.5 Datapoint description

Overview

See clause 3.9.1.

VAVCEA Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	**EXTENDED MODE**	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**LTE-Mode**
Inputs	AirFlowMSExtr	**GO_b**	GO	GO	**M**
	EmergMode	**(GO_b)**		(GO)	**O**
Outputs	ActPosSetpExtractAir	**GO_b**	GO	GO	**M**

VAVCEA LTE specific Properties

		Support
Parameter	Apartment_x	**M**
	Room_y	**M**
	SupZone_z	**M**
	Apartment_u	**O**
	Room_v	**O**
	SupZone_w	**O**

VAVCEA Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	NominalExtractAirFlow	**M**
	RatioExtractDischarge	**O**
	AirFlowDelta	**O**
	BUSActuatorEA_ON/OFF	**O**
DiagnosticData	AirFlowExtract	**O**

3.8.6 Detailed Specification of the Datapoints

See 3.9.2.

3.9 Datapoints

3.9.1 Datapoint description

3.9.1.1 Overview Inputs (in alphabetic order)

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Air Flow MSExtr	Air flow value for co-ordination of discharge and extract air with: - COV and RepPer - Z_8 NOT supported from FB VAV Control Discharge Air	LTE: 203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$ S: 9.009 DPT_Value_AirFlow F_{16}	m^3/h	
Air Flow%	Percentage of Max Flow with - COV and RepPer - Z_8 STATUS supported from FB “”User Air Flow””	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.004 DPT_Percent_U8 U_8	%	
AQ Outside	Outside air quality actual value with: - COV and RepPer - Z_8 STATUS supported from FB Outside Air Quality Sensor	LTE: 203.100 DPT_AVACAirQual_Z $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	ppm	
AQ Room	Room air quality actual value with: - COV and RepPer - Z_8 STATUS supported from FB Room Air Quality Sensor	LTE: 203.100 DPT_AVACAirQual_Z $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	ppm	
AQ Setp Eff	Air quality setpoint value with: - COV and RepPer - Z_8 NOT supported from FB Setpoint Manager Air Quality	LTE: 203.100 DPT_AVACAirQual_Z $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	ppm	
Change Over Status Air	Change over status with: - COV and RepPer - Z_8 STATUS supported from FB Air Change Over Status Sensor	LTE: 200.100 DPT_Heat/Cool_Z B_1Z_8 S: 1.100 DPT_Heat/Cool B_1	0 = cooling 1 = heating	
Change Over Status Water	Change over status with: - COV and RepPer - Z_8 STATUS supported from FB Water Change Over Status Sensor	LTE: 200.100 DPT_Heat/Cool_Z B_1Z_8 S: 1.100 DPT_Heat/Cool B_1	0 = cooling 1 = heating	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Contr Mode	HVAC Controlling Mode with: - COV and RepPer - Z_8 STATUS supported from FB Programme to HVAC-Mode Conversion or HVAC Optimiser	LTE: 201.104 DPT_HVACContrMode_Z N_8Z_8 S: 20.105 DPT_HVACContrMode N_8	enum. see detailed specification	
Dew Point Status	Dew point status with: - COV and RepPer from FB Dew Point Status Sensor	LTE: 1.005 DPT_Alarm B_1 S: 1.005 DPT_Alarm B_1	0 = no alarm 1 = alarm	
Disable Damper	Disable local damper with: - COV and RepPer from FB HVAC Optimiser	LTE: 1.003 DPT_Enable B_1 S: 1.003 DPT_Enable B_1	0 = disable 1 = enable	
Emerg Mode	Input for emergency situations with: - COV and RepPer Z_8 STATUS supported from FB HVAC Emergency Source	LTE: 201.109 DPT_HVACEmergencyMode_Z N_8Z_8 S: 20.106 DPT_HVACEmergencyMode N_8	enum. see detailed specification	
Enable Cool	Control of the different cool stages with: - COV and RepPer - Z_8 NOT supported from FB HVAC Optimiser	LTE: 201.105 DPT_EnableH/CStage_Z N_8Z_8 S: NA	0 = disabled 1 = enable stage A 2 = enable stage B 3 = enable both stages	
Enable Heat	Control of the different heat stages with: - COV and RepPer - Z_8 NOT supported from FB HVAC Optimiser	LTE: 201.105 DPT_EnableH/CStage_Z N_8Z_8 S: NA	0 = disabled 1 = enable stage A 2 = enable stage B 3 = enable both stages	
Fan Manual	S-Mode status information for FanSpeedUser with: - COV and RepPer from FB User Fan speed Setting	LTE: NA S: 1.003 DPT_Enable B_1	0 = HMI disabled => Auto 1 = HMI enabled => Manual	
Fan Speed User	User fan speed with: - COV and RepPer - Z_8 STATUS supported from FB User Fan speed Setting	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Force Sign CFDM	Force signal cool (CFDM) with: - COV and RepPer from FB Cool Flow Demand Manager	LTE: 21.101 DPT_ForceSignCool B_8 S: NA	Bitset	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Force Sign CPM	Force signal cool (CPM) with - COV and RepPer from FB Cool Flow Demand Manager	LTE: 21.101 DPT_ForceSignCool B_8 S: NA	Bitset	
Force Sign HFDM	Force signal heat (HFDM) with: - COV and RepPer from FB Heat Flow Demand Manager	LTE: 21.100 DPT_ForceSign B_8 S: NA	Bitset	
Force Sign HPM	Force signal heat (HPM) with: - COV and RepPer from FB Heat Flow Demand Manager	LTE: 21.100 DPT_ForceSign B_8 S: NA	Bitset	
HVAC Mode Eff	Effective HVAC Mode with: - COV and RepPer - Z_8 STATUS supported from FB Room Setpoint Manager HVAC Mode Driven	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = BuildingProtect	
HVAC Mode Eff Next	Next HVAC Mode plus time to next mode with: - COV and RepPer from FB Room Setpoint Manager HVAC Mode Driven	LTE: 206.100 DPT_HVACModeNext $U_{16}N_8$ S: NA	min 0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = BuildingProtect	
HVAC Mode Optim	Optimised HVAC Mode with: - COV and RepPer - Z_8 STATUS supported from FB HVAC Optimiser	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = BuildingProtect	
Lock Sign CFDM	Lock signal cool (CFDM) with reduction and attributes with: COV and RepPer from FB Cool Flow Demand Manager	LTE: 207.101 DPT_LockSign U_8B_8 S: NA	Reduction % plus Bitset	
Lock Sign CPM	Lock signal cool (CPM) with reduction and attributes with: COV and RepPer from FB Cool Flow Demand Manager	LTE: 207.101 DPT_LockSign U_8B_8 S: NA	Reduction % plus Bitset	
Lock Sign HFDM	Lock signal heat (HFDM) with reduction and attributes with: COV and RepPer from FB Heat Flow Demand Manager	LTE: 207.101 DPT_LockSign U_8B_8 S: NA	Reduction % plus Bitset	
Lock Sign HPM	Lock signal heat (HPM) with reduction and attributes with: COV and RepPer from FB Heat Flow Demand Manager	LTE: 207.101 DPT_LockSign U_8B_8 S: NA	Reduction % plus Bitset	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Presence Status	Presence status with: - COV and RepPer from FB Presence Detector User Presence Switch see Functional specifications	LTE: 1.018 DPT_Occupancy B_1 S: 1.018 DPT_Occupancy B_1	0 = not occupied 1 = occupied	
Split Cool	Percentage of energy demand at which cooling stage B will start from FB HVAC Optimiser	LTE: 5.004 DPT_Percent_U8 U_8 S: NA	%	
Split Heat	Percentage of energy demand at which heating stage B will start from FB HVAC Optimiser	LTE: 5.004 DPT_Percent_U8 U_8 S: NA	%	
Status CPM	Flow water temperature of chilled water plus attributes with: - COV and RepPer from FB Cool Flow Demand Manager	LTE: 209.102 DPT_StatusCPM $V_{16}B_8$ S: splitted details see [12]	°C plus attributes	
Status HPM	Flow water temperature of hot water plus attributes with: - COV and RepPer from FB Heat Flow Demand Manager	LTE: 209.100 DPT_StatusHPM $V_{16}B_8$ S: splitted details see [07]	°C plus attributes	
Status SATC	Status of the SATC with: - COV and RepPer from FB Supply Air Temperature Controller	LTE: 21.106 DPT_StatusAHU B_8 S: splitted details see [[12]	Bitset attributes	
Tariff	T.b.d. by DEH			
Tariff Next	T.b.d. by DEH			
Temp Discharge Air	Discharge air temperature actual value with: - COV and RepPer - Z_8 STATUS supported from FB Discharge Air Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Floor	Floor temperature actual value with: - COV and RepPer – Z_8 STATUS supported from FB Floor Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Outside	Outside temperature actual value with: - COV and RepPer – Z_8 STATUS supported from FB Outside Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Temp Return Air	Return air temperature actual value with: - COV and RepPer – Z_8 STATUS supported from FB Return Air Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Room	Room temperature actual value with: - COV and RepPer – Z_8 STATUS supported from FB Room Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Room Setp Cool Eff	1 temperature value for cooling for simple cooling only applications with: - COV and RepPer - Z_8 NOT supported from FB Room Setpoint Manager HVAC Mode Driven or Room Setpoint Manager Temperature Driven	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Room Setp Cool Eff Next	Next temperature value plus time to it for simple cooling only applications with optimiser with: - COV and RepPer from FB Absolute Room Temperature Scheduler	LTE: 220.100 DPT_TempHVACAbsNext $U_{16}V_{16}$ S: NA	time °C	
Temp Room Setp Heat Eff	1 temperature value for heating for simple heating only applications with: - COV and RepPer - Z_8 NOT supported from FB Room Setpoint Manager HVAC Mode Driven or Room Setpoint Manager Temperature Driven	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	
Temp Room Setp Heat Eff Next	Next temperature value plus time to it for simple heating only applications with optimiser with: - COV and RepPer from FB Absolute Room Temperature Scheduler	LTE: 220.100 DPT_TempHVACAbsNext $U_{16}V_{16}$ S: NA	time °C	
Temp Room Setp Optim Cool Shift	Setpoint shift value cooling with: - COV and RepPer - Z_8 NOT supported from FB HVAC Optimiser	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	K	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	
Inputs				
Temp Room Setp Optim Heat Shift	Setpoint shift value heating with: - COV and RepPer - Z_8 NOT supported from FB HVAC Optimiser	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	K	
Temp Room SetpSet Cool Eff (4)	4 temperature values for cooling for: 'Comfort' 'Standby' 'Economy' 'BuildingProtection' with: - COV and RepPer from FB Room Setpoint Manager HVAC Mode Driven	LTE: 213.100 DPT_TempRoomSetpSet[4] $V_{16}V_{16}V_{16}V_{16}$ S: NA	4 x °C	
Temp Room SetpSet Heat Eff (4)	4 temperature values for heating for: 'Comfort' 'Standby' 'Economy' 'BuildingProtection' with: - COV and RepPer from FB Room Setpoint Manager HVAC Mode Driven	LTE: 213.100 DPT_TempRoomSetpSet[4] $V_{16}V_{16}V_{16}V_{16}$ S: NA	4 x °C	
Temp Supply Air	Supply air temperature actual value with: - COV and RepPer - Z_8 STATUS supported from FB Supply Air Temperature Sensor	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	°C	

3.9.1.2 Overview Outputs (in alphabetic order)

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Outputs				
Act Pos Setp Cool StageA	Position value for the cooling actuator stage A with: - COV and RepPer Z_8 STATUS supported to FB HVAC Valve Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Act Pos Setp Cool StageB	Position value for the cooling actuator stage B with: - COV and RepPer - Z_8 STATUS supported to FB HVAC Valve Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Outputs				
Act Pos Setp Discharge Air	Position value for the discharge air actuator with: - COV and RepPer - Z_8 STATUS supported to FB Air Damper Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Act Pos Setp Extract Air	Position value for the extract air actuator with: - COV and RepPer - Z_8 STATUS supported to FB Air Damper Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Act Pos Setp Fresh Air	Position value for the fresh air actuator with: - COV and RepPer - Z_8 STATUS supported to FB Air Damper Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Act Pos Setp Heat StageA	Position value for the heating actuator stage A with: - COV and RepPer - Z_8 STATUS supported to FB HVAC Valve Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Act Pos Setp Heat StageB	Position value for the heating actuator stage B with: - COV and RepPer - Z_8 STATUS supported to FB HVAC Valve Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Air Flow MSExtr	Air flow value for co-ordination of discharge and extract air with: - COV and RepPer - Z_8 NOT supported to FB VAV Control Extract Air	LTE: 203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$ S: 9.009 DPT_Value_AirFlow F_{16}	m^3/h	
Compressor Pos Setp	Setpoint value to control the compressor actuator with: - COV and RepPer - Z_8 STATUS supported to FB Compressor Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Energy Dem AC	Energy demand value for cold flow demand manager (water) (100% = full cooling) plus ContrMode with: COV and RepPer to FB Air Cooler Energy Demand Transformer TU	LTE: 211.100 DPT_EnergyDemWater U_8N_8 S: NA	% plus ContrMode	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Outputs				
Energy Dem AH	Energy demand value for heat flow demand manager (water) (100% = full heating) plus ContrMode with: COV and RepPer to FB Air Heater Energy Demand Transformer TU	LTE: 211.100 DPT_EnergyDemWater U_8N_8 S: NA	% plus ContrMode	
Energy Dem Air	Energy demand value for air handling unit (air) –100% = full heating +100% = full cooling plus modes with: - COV and RepPer to FB Ventilation Demand Transformer TU	LTE: 223.100 DPT_EnergyDemAir $V_8N_8N_8$ S: NA	% plus ContrMode plus EmergMode	
Energy Dem CC	Energy demand value for cold flow demand manager (water) (100% = full cooling) plus ContrMode with: COV and RepPer to FB Chilled Ceiling Energy Demand Transformer TU	LTE: 211.100 DPT_EnergyDemWater U_8N_8 S: NA	% plus ContrMode	
Energy Dem RD	Energy demand value for heat flow demand manager (water) (100% = full heating) plus ContrMode with: COV and RepPer to FB Radiator Heating Energy Demand Transformer TU	LTE: 211.100 DPT_EnergyDemWater U_8N_8 S: NA	% plus ContrMode	
Fan Speed Setp	Setpoint value to control the fan actuator with: - COV and RepPer - Z_8 STATUS supported to FB Fan Speed Actuator	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	%	
Heat Cool Mode	Heat / cool information for the compressor actuator with: - COV and RepPer to FB Compressor Actuator	LTE: 1.100 DPT_Heat/Cool B_1 S: 1.100 DPT_Heat/Cool B_1	0 = cooling 1 = heating	
Value Fresh Air Dem	Value for primary fresh air demand with: - COV and RepoPer to FB Ventilation Demand Transformer TU	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.004 DPT_Percent_U8 U_8		

3.9.1.3 Overview LTE Zone Parameters

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Parameter (LTE)				
Apartment_x	LTE zoning parameter for Apartment Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Real apartment zone	
Room_y	LTE zoning parameter for Room Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Real room zone	
SubZone_z	LTE zoning parameter for SubZone Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Real sub zone	
Apartment_u	LTE zoning parameter for Apartment Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Scheduler zone	
Room_v	LTE zoning parameter for Room Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Scheduler zone	
SubZone_w	LTE zoning parameter for SubZone Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Scheduler zone	
Apartment_m	LTE zoning parameter for Apartment Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Optimiser zone	
Room_n	LTE zoning parameter for Room Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Optimiser zone	
SubZone_o	LTE zoning parameter for SubZone Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Optimiser zone	
Outside Sensor Zone_f	LTE zoning number for Outside Sensor Zone Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	First outside sensor zone	
Outside Sensor Zone_g	LTE zoning number for Outside Sensor Zone Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Second outside sensor zone	
Distr SegmC_c	LTE zoning number for Distribution Segment Cooling Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Used for chilled ceiling	
Distr SegmC_d	LTE zoning number for Distribution Segment Cooling Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Used for air cooler	
Distr SegmH_a	LTE zoning number for Distribution Segment Heating Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Used for ratiators	
Distr SegmH_b	LTE zoning number for Distribution Segment Heating Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Used for air heater	
Distr SegmV_e	LTE zoning number for Distribution Segment Ventilation Z_8 supported	202.00 DPT_UcountValue8_Z U_8Z_8	Used for air	

3.9.1.4 Overview Parameters (in alphabetic order)

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Parameter				
Air Flow Delta	Delta value for generating over or under pressure	5.004 DPT_Percent_U8 U_8	%	
BUS Actuator CP ON/OFF	Parameter for switching ON/OFF the bus information for compressor actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator CSA ON/OFF	Parameter for switching ON/OFF the bus information for cool stage A actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator CSB ON/OFF	Parameter for switching ON/OFF the bus information for cool stage B actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator DA ON/OFF	Parameter for switching ON/OFF the bus information for discharge air actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator EA ON/OFF	Parameter for switching ON/OFF the bus information for extract air actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator FA ON/OFF	Parameter for switching ON/OFF the bus information for fresh air actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator FS ON/OFF	Parameter for switching ON/OFF the bus information for fan speed actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator HSA ON/OFF	Parameter for switching ON/OFF the bus information for heat stage A actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
BUS Actuator HSB ON/OFF	Parameter for switching ON/OFF the bus information for heat stage B actuator	1.001 DPT_Switch B_1	0 = OFF 1 = ON	
Control Sequence	Definition for the used sequence	20.107 DPT_ChangeoverMode N_8	0 = automatic 1 =Cooling only 2 = Heating only	
Fan Dwell Time Dead Zone	Stop period of fan in dead zone	7.006 DPT_TimePeriodMin U_{16}	Min	
Fan In Dead Zone	Operation of fan in the dead zone	20.111 DPT_FanMode N_8	0 = not running 1 = perm. Running 2 = running in interv.	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Parameter				
Fan Run Time Dead Zone	Run period of fan in dead zone	7.006 DPT_TimePeriodMin U_{16}	Min	
Fan Speed #1 OFF	Percent level for step 1 OFF	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #1 ON	Percent level for step 1 ON	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #2 OFF	Percent level for step 2 OFF	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #2 ON	Percent level for step 2 ON	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #3 OFF	Percent level for step 3 OFF	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #3 ON	Percent level for step 3 ON	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #4 OFF	Percent level for step 4 OFF	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #4 ON	Percent level for step 4 ON	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #5 OFF	Percent level for step 5 OFF	5.004 DPT_Percent_U8 U_8	%	
Fan Speed #5 ON	Percent level for step 5 ON	5.004 DPT_Percent_U8 U_8	%	
Fan Speed Dead Zone	Fan speed for dead zone running	5.004 DPT_Percent_U8 U_8	%	
Fresh Air Min Value	Minimum value for fresh air in percent for the damper	5.004 DPT_Percent_U8 U_8	%	

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Parameter				
Max Air Flow Cool	Maximum air flow in cooling mode and comfort Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Max Air Flow Heat	Maximum air flow in heating mode and comfort Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Min Air Flow Cool	Minimum air flow in cooling mode and comfort Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Min Air Flow Economy	Minimum air flow in economy (heating and cooling) Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Min Air Flow Heat	Minimum air flow in heating mode and comfort Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Min Air Flow Standby	Minimum air flow in standby (heating and cooling) Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Nominal Discharge Air Flow	Nominal air flow of discharge air Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Nominal Extract Air Flow	Nominal air flow of extract air Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Ratio Extract Discharge	Ratio between extract air flow and discharge air flow (extract / discharge)	5.005 DPT_DecimalFactor U_8	Factor	
Split Cool Def Value	Default value for percentage of ValueEnergyDem for splitting of cooling	5.004 DPT_Percent_U8 U_8	%	
Split Heat Def Value	Default value for percentage of ValueEnergyDem for splitting of cooling	5.004 DPT_Percent_U8 U_8	%	
Temp Discharge Air Min	Temperature value for discharge air temperature limitation Z_8 NOT supported	205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$	°C	
Temp Frost Alarm	Temperature value for frost alarm Z_8 NOT supported	205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$	°C	

3.9.1.5 Overview Diagnostic Data (in alphabetic order)

Datapoints	Description / Remarks	Datapoint Type	Additional Info Description	Used in
Diagnostic Data				
Air Flow Discharge	Air flow of discharge air box Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Air Flow Extract	Air flow of extract air box Z_8 NOT supported	203.104 DPT_HVACAirFlow_Z $U_{16}Z_8$	m^3/h	
Contr Mode Act	Act ContrMode	20.105 DPT_HVACContrMode N_8	enum. see detailed specification	
Heat Cool Mode	HeatCoolMode of the controller	1.100 DPT_Heat/Cool B_1	0 = cooling 1 = heating	
HVAC Mode Act	Act HVACMode	20.102 DPT_HVACMode N_8	0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = BuildingProtect	
Status Controller	Status of the controller	T.b.d.		
Temp Discharge Air Min	Min limit for the discharge air temperature Z_8 NOT supported	205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$	°C	
Temp Room Setp Act	Act room temperature setpoint Z_8 NOT supported	205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$	°C	
Value Energy Dem	Value for the energy demand -100% = full heating demand +100% = full cooling demand	6.001 DPT_Percent_V8 V_8	%	

3.9.1.6 Overview Alarms (in alphabetic order)

Alarms	Description / Remarks	Error		Additional Info Description	Used in
		Code	Prio		
Frost Room	Frost alarm	T.b.d.	T.b.d.	T.b.d.	
Low Discharge Air	Alarm for low discharge air	T.b.d.	T.b.d.	T.b.d.	
Security Stop	Alarm for security stop	T.b.d.	T.b.d.	T.b.d.	

3.9.2 Detailed Specification of the Datapoints (Inputs)

3.9.2.1 Input AirFlowMSExtr

Standard Mode

DP Name:	AirFlowMSExtr	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'VAV Control Discharge Air'.

Datapoint Type

DPT_Name:	DPT_Value_AirFlow				
DPT Format:	F_{16}	DPT_ID:	9.009		
Field	Description	Supp.	Range	Unit	Default
		O	full	m^3/h	cs

Access Type

♦ Input

	N → this	☐	1 → this	☒			
	Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
	Request	☐	Polling:	☐	Period:		

Communication Type

♦	Group Object Datapoint	Mandatory:	☒
	Default Group Address:	---	

Dynamics

	Power down:	Save:	☐			
	Power up:	Value:	No initialisation:	☐	Default value:	☒
			Saved value:	☐		☐
				☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input AirFlowMSExtr** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Extract Air	VAVCEA	M

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**AirFlowMSExtr**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'VAV Control Discharge Air'. The STATUS is NOT supported.							
DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$V_{16}Z_8$	

Field	Description	Sup.	Unit	Default
AirFlow	Air flow value	M	m^3/h	cs
STATUS - All Bits	Bitset ignore	M NA	t/f	false

Communication:				
Binding Group:				
Class	Type	Default		
Geographical ☒	Apartment . Room . SubZone	1.1.1		
Application Specific ☐				
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	261 (VAVCDA)	Property ID:	56
LTE-Service (event):	InfoReport Sniffer	on Binding Group:		--
InfoReport ☒	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--
Value after Power-up:	Default Value ☒			Stored Value ☐
Exception Handling:				Save at Powerdown ☐

Special Features:				

List of Functional Blocks, **Input AirFlowMSExtr** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Extract Air	VAVCEA	M

3.9.2.2 Input AirFlow%

Standard Mode

DP Name:	AirFlow%	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description
This information is provided by the Functional Block 'User Air Flow'.

Datapoint Type					
DPT_Name:	DPT_Percent_U8				
DPT Format:	U_8	DPT_ID:	5.004		
Field	Description	Supp.	Range	Unit	Default
		O	full	%	cs

Access Type							
♦ Input							
	N → this	☐	1 → this	☒			
	Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
	Request	☐	Polling:	☐	Period:		

Communication Type			
♦ Group Object Datapoint		Mandatory:	☒
	Default Group Address:	---	

Dynamics						
	Power down:	Save:	☐			
	Power up:	Value:	No initialisation:	☐	Default value:	☒
			Saved value:	☐		☐
				☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input AirFlow%** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**AirFlow%**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'User Air Flow' (T.b.d.). The STATUS is supported.								
DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8		
Field		Description				Sup.	Unit	Default
AirFlow		Air flow value in percent of nominal				M	%	cs
STATUS		Bitset				M		
- OutOfService		Sensor out of service				M	t/f	false
- Fault		Sensor value is corrupted				O	t/f	false
- Overridden		Sensor is temporary overridden				O	t/f	false
- InAlarm		Sensor is in alarm				O	t/f	false
- AlarmUnAck		Acknowledgement of alarm				O	t/f	false
- All other Bits		reserved				NA	t/f	false
Communication:								
Binding Group:								
Class		Type				Default		
Geographical ☒		Apartment . Room . SubZone				1.1.1		
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	T.b.d.		Property ID:	T.b.d.		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:				--		
		Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:				--		
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input AirFlow%** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

3.9.2.3 Input AQOutside

Standard Mode

DP Name:	AQOutside	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Outside AQ Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_AirQuality				
DPT Format:	F_{16}	DPT_ID:	9.008		
Field	Description	Supp.	Range	Unit	Default
		O	full	ppm	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input AQOutside** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**AQOutside**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'Outside AQ Sensor'. The STATUS is supported.								
DPT:	Name	DPT_HVACAirQual_Z	DPT ID	203.100	Datatype format	$U_{16}Z_8$		
Field		Description				Sup.	Unit	Default
AirQuality		Air quality value				M	ppm	cs
STATUS		Bitset				M		
- OutOfService		Sensor out of service				M	t/f	false
- Fault		Sensor value is corrupted				O	t/f	false
- Overridden		Sensor is temporary overridden				O	t/f	false
- InAlarm		Sensor is in alarm				O	t/f	false
- AlarmUnAck		Acknowledgement of alarm				O	t/f	false
- All other Bits		reserved				NA	t/f	false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☐								
Application Specific ☒		OutsideSensorZone			1			
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	330 (OAQS)	Property ID:	51			
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:	--					
		Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:	--					
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input AQOutside** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

3.9.2.4 Input AQRoom

Standard Mode

DP Name:	AQRoom	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Room AQ Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_AirQuality				
DPT Format:	F_{16}	DPT_ID:	9.008		
Field	Description	Supp.	Range	Unit	Default
		O	full	ppm	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐				
Power up:	Value:	No initialisation:	☐	Default value:	☒	
		Saved value:	☐		☐	
			☐	Read from bus:	☐	

Exception Handling

Special Features

List of Functional Blocks, **Input AQRoom** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**AQRoom**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Room AQ Sensor'. The STATUS is supported.

DPT:	Name	DPT_HVACAirQual_Z	DPT ID	203.100	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Unit	Default
AirQuality	Air quality value	M	ppm	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
- All other Bits	reserved	NA	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	331 (RAQS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input AQRoom** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.5 Input AQSetpEff

Standard Mode

DP Name:	AQSetpEff	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Setpoint Manager Air Quality'.

Datapoint Type

DPT_Name:	DPT_Value_AirQuality				
DPT Format:	F_{16}	DPT_ID:	9.008		
Field	Description	Supp.	Range	Unit	Default
		O	full	ppm	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input AQSetpEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**AQSetpEff**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Setpoint Manager Air Quality'. The STATUS is NOT supported.							
DPT:	Name	DPT_HVACAirQual_Z	DPT ID	203.100	Datatype format	$U_{16}Z_8$	

Field	Description	Sup.	Unit	Default
AirQuality	Air quality value	M	ppm	cs
STATUS - All Bits	Bitset ignore	M NA	t/f	false

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☒	Apartment . Room . SubZone		1.1.1	
Application Specific ☐				
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	102 (SMAQ)	Property ID:	51
LTE-Service (event):	InfoReport Sniffer	on Binding Group:		--
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling):	Read Wildcard / Resp Sniffer on Binding Group:			--
Read – Response ☐				
Value after Power-up:	Default Value ☒			Stored Value ☐
Exception Handling:			Save at Powerdown ☐	

Special Features:				

List of Functional Blocks, **Input AQSetpEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.6 Input ChangeOverStatusAir

Standard Mode

DP Name:	ChangeOverStatusAir	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Air Change Over Status Sensor'.

Datapoint Type

DPT_Name:	DPT_Heat/Cool		
DPT Format:	B_1	DPT_ID:	1.100

Field	Description	Supp.	Range	Unit	Default
Status	Status of the air 0 = cooling 1 = heating	O	0/1	Bit	cs

Access Type

♦ Input

N → this	☐	1 → this	☒	
Spontaneous	☒	Cyclically:	☒	Time-out: 31min (rec.)
Request	☐	Polling:	☐	Period:

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input ChangeOverStatusAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**ChangeOverStatusAir**		Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Air Change Over Status Sensor'. The STATUS is supported.

DPT:	Name	DPT_Heat/Cool_Z	DPT ID	200.100	Datatype format	B_1Z_8

Field	Description	Sup.	Unit	Default
Change Over Status	Status of the air 0 = cooling 1 = heating	M	0/1	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
- All other Bits	reserved	NA	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	DistrSegmV	1
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	341 (ACOS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input ChangeOverStatusAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
VAV Control Discharge Air	VAVCDA	O

3.9.2.7 Input ChangeOverStatusWater

Standard Mode

DP Name:	ChangeOverStatusWater	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Water Change Over Status Sensor'.

Datapoint Type

DPT_Name:	DPT_Heat/Cool				
DPT Format:	B_1	DPT_ID:	1.100		
Field	Description	Supp.	Range	Unit	Default
Status	Status of the water 0 = cooling 1 = heating	O	0/1	Bit	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input ChangeOverStatusWater** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**ChangeOverStatusWater**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Water Change Over Status Sensor'. The STATUS is supported.

DPT:	Name	DPT_Heat/Cool_Z	DPT ID	200.100	Datatype format	B_1Z_8

Field	Description	Sup.	Unit	Default
Change Over Status	Status of the water 0 = cooling 1 = heating	M	Bit	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
- All other Bits	reserved	NA	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	DistrSegmH or DistrSegmC	1
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	342 (WCOS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input ChangeOverStatusWater** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.8 Input ContrMode

Standard Mode

DP Name:	ContrMode	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Programme to HVAC-Mode Conversion' or 'Building/Occ-Mode Source'.

Datapoint Type

DPT_Name:	DPT_HVACContrMode		
DPT Format:	N_8	DPT_ID:	20.105

Field	Description	Supp.	Range	Unit	Default
ContrMode		M	0...20	enum.	cs
	0 = Auto	O			
	1 = Heat 2 = Mrng Wmup	O			
	3 = Cool 4 = NightPurge	O			
	5 = Precool 6 = Off	O			
	7 = Test 8 = Emerg Heat	O			
	9 = Fan Only 10 = Free Cool	O			
	11 = Ice 20 = No Demand	O			
	all other enumerations	NA			

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input ContrMode** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**ContrMode**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Programme to HVAC-Mode Conversion' or 'Building/Occ Mode Source'. The STATUS is supported.

DPT:	Name	DPT_HVACContrMode_Z	DPT ID	201.104	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
ContrMode		M	0...20	cs
	0 = Auto	O		
	1 = Heat, 2 = Mng Wrmup	O		
	3 = Cool, 4 = Night Purge	O		
	5 = Precool, 6 = Off	O		
	7 = Test, 8 = Emerg Heat	O		
	9 = Fan Only, 10 = Free Cool	O		
	11 = Ice, 20 = No Demand	O		
	all other enumerations	NA		
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
- All other Bits	reserved	NA	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	Property ID:
	104 (PMC)	54
	109 (BOS)	55
	115 (HVACOPT)	56

LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group: --
	Timeout: 31 Min
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group: --

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input ContrMode** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.9 Input DewPointStatus

Standard Mode

DP Name:	DewPointStatus	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Dew Point Status Sensor'.

Datapoint Type

DPT_Name:	DPT_Alarm		
DPT Format:	B_1	DPT_ID:	1.005

Field	Description	Supp.	Range	Unit	Default
Status	Dew point status 0 = no alarm 1 = alarm	O	0/1	Bit	cs

Access Type

♦ Input

N → this	☐	1 → this	☒	
Spontaneous	☒	Cyclically:	☒	Time-out: 31min (rec.)
Request	☐	Polling:	☐	Period:

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input DewPointStatus** is used in:

Name of FB	Abbreviation	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**DewPointStatus**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'Dew Point Status Sensor'.								
DPT:	Name	DPT_Alarm	DPT ID	1.005	Datatype format	B_1		
Field		Description				Sup.	Unit	Default
Dew Point Status		0 = no alarm 1 = alarm					Bit	cs
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	344 (DPS)		Property ID:	51		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:			--			
		Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒					Stored Value ☐	
Exception Handling:							Save at Powerdown ☐	

Special Features:								

List of Functional Blocks, **Input DewPointStatus** is used in:

Name of FB	Abbreviation	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.10 Input DisableDamper

Standard Mode

DP Name:	DisableDamper	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'HVAC Optimiser'.

Datapoint Type

DPT_Name:	DPT_Enable				
DPT Format:	B_1	DPT_ID:	1.003		
Field	Description	Supp.	Range	Unit	Default
Status	0 = disable 1 = enable	O	0/1	Bit	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input DisableDamper** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**DisableDamper**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'HVAC Optimiser'.								
DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1		
Field		Description				Sup.	Unit	Default
Status		0 = disable 1 = enable					Bit	cs
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	115 (HVACOPT)	Property ID:	61			
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:	--					
		Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:	--					
Value after Power-up:		Default Value ☒					Stored Value ☐	
Exception Handling:							Save at Powerdown ☐	

Special Features:								

List of Functional Blocks, **Input DisableDamper** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

3.9.2.11 Input EmergMode

Standard Mode

DP Name:	EmergMode	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block ' HVAC-Emergency Source'.

Datapoint Type

DPT_Name:	DPT_HVACEmergencyMode				
DPT Format:	N_8	DPT_ID:	20.106		

Field	Description	Supp.	Range	Unit	Default
EmergMode	0 = Normal 1 = EmergPressure 1 = EmergDepressure 3 = EmergPurge 4 = EmergShutdown 5 = EmergFire all other enumerations	M O O O NA	0...5	enum.	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input EmergMode** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O
VAV Control Extract Air	VAVCEA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**EmergMode**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'HVAC Emergency Source'. The STATUS is supported.

DPT:	Name	DPT_HVACEmergMode_Z	DPT ID	201.109	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
EmergMode		M	0...5	cs
	0 = Normal 1 = EmergPressure	O		
	2 = EmergDepressure 3 = EmergPurge	O		
	4 = EmergShutdown 5 = EmergFire	O		
	all other enumerations	NA		
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
- All other Bits	reserved	NA	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	108 (HVACEMS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:	--		
	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:	--		

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input EmergMode** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.12 Input EnableCool

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**EnableCool**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'HVAC Optimiser'. The STATUS is NOT supported.							
DPT:	Name	DPT_EnableH/CStage_Z	DPT ID	201.105	Datatype format	N_8Z_8	
Field		Description			Sup.	Unit	Default
Status					M	0...3	cs
		0 = disabled			M		
		1 = enable stage A			M		
		2 = enable stage B			M		
		3 = enable both stages			M		
		all other enumerations			NA		
STATUS		Bitset			M		
- All Bits		ignore			NA	t/f	false
Communication:							
Binding Group:							
Class		Type			Default		
Geographical	☒	Apartment . Room . SubZone			1.1.1		
Application Specific	☐						
Unassigned	☐	Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	115 (HVACOPT)	Property ID:	59		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport	☒	Timeout:	31	Min			
LTE-Service (polling):		Read Wildcard / Resp Sniffer on Binding Group:			--		
Read – Response	☐						
Value after Power-up:		Default Value ☒				Stored Value ☐	
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input EnableCool** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.13 Input EnableHeat

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**EnableHeat**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'HVAC Optimiser'. The STATUS is NOT supported.							
DPT:	Name	DPT_EnableH/CStage_Z	DPT ID	201.105	Datatype format	N_8Z_8	
Field		Description			Sup.	Unit	Default
Status					M	0...3	cs
		0 = disabled			M		
		1 = enable stage A			M		
		2 = enable stage B			M		
		3 = enable both stages			M		
		all other enumerations			NA		
STATUS		Bitset			M		
- All Bits		ignore			NA	t/f	false
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☒		Apartment . Room . SubZone			1.1.1		
Application Specific ☐							
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	115 (HVACOPT)	Property ID:	57		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport ☒		Timeout:	31 Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input EnableHeat** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.14 Input FanManual

LTE-HEE Mode

Not applicable

Standard Mode

DP Name:	FanManual	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description
This information is provided by the Functional Block 'User Fan Speed Setting'.

Datapoint Type					
DPT_Name:	DPT_Enable				
DPT Format:	B_1	DPT_ID:	1.003		
Field	Description	Supp.	Range	Unit	Default
Bit	0 = disabled → AUTOMATIC 1 = enabled → manual = HMI Value is valid	O	0 / 1	Bit	cs

Access Type							
♦ Input							
	N → this	☐	1 → this	☒			
	Spontaneous	☒	Cyclically:	☐	Time-out:	NO *	
	Request	☐	Polling:	☐	Period:		

Communication Type			
♦ Group Object Datapoint		Mandatory:	☒
	Default Group Address:	---	

Dynamics						
	Power down:	Save:	☐			
	Power up:	Value:	No initialisation:	☐	Default value:	☒
			Saved value:	☐		☐
				☐	Read from bus:	☐

Exception Handling
* NO timeout due to compatibility with existing EIB products.

Special Features

List of Functional Blocks, **Input FanManual** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

3.9.2.15 Input FanSpeedUser

Standard Mode

DP Name:	FanSpeedUser	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'User Fan Speed Setting'.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	F_{16}	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	%	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☐	Time-out:	NO *
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

* NO timeout due to compatibility with existing EIB products.

Special Features

List of Functional Blocks, **Input FanSpeedUser** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**FanSpeedUser**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'User Fan Speed Setting'. The STATUS is supported.								
DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8		
Field		Description				Sup.	Unit	Default
Fan Speed		Fan speed value in percent				M	%	cs
STATUS		Bitset				M		
- OutOfService		Sensor out of service				M	t/f	false
- Fault		Sensor value is corrupted				O	t/f	false
- Overridden		Sensor is temporary overridden				O	t/f	false
- InAlarm		Sensor is in alarm				O	t/f	false
- AlarmUnAck		Acknowledgement of alarm				O	t/f	false
- All other Bits		reserved				NA	t/f	false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	393 (UFS)	Property ID:	51			
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:	--					
		Timeout:	NO *	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:	--					
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		
* NO timeout due to compatibility with S-Mode and existing EIB products.								
Special Features:								

List of Functional Blocks, **Input FanSpeedUser** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

3.9.2.16 Input ForceSignCFDM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**ForceSignCFDM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Cool Flow Demand Manager'.							
DPT:	Name	DPT_ForceSignCool	DPT ID	21.101	Datatype format	B_8	
Field		Description			Sup.	Unit	Default
Bitset		Bit 0 = ForceRequest all other bits			M M NA	t/f	false false
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☐							
Application Specific ☒		DistrSegmC			1		
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	208 (CFDM)	Property ID:	52		
LTE-Service (event):		InfoReport Sniffer on Binding Group:		--			
InfoReport ☒		Timeout:	31 Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:		--			
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input ForceSignCFDM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.17 Input ForceSignCPM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**ForceSignCPM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Cool Flow Demand Manager'.							
DPT:	Name	DPT_ForceSignCool	DPT ID	21.101	Datatype format	B_8	
Field		Description			Sup.	Unit	Default
Bitset		Bit 0 = ForceRequest all other bits			M M NA	t/f	false false
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☐							
Application Specific ☒		DistrSegmC			1		
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	199 (CPM)	Property ID:	53		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport ☒		Timeout:	31 Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input ForceSignCPM** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.18 Input ForceSignHFDM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**ForceSignHFDM**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Heat Flow Demand Manager'.							
DPT:	Name	DPT_ForceSign	DPT ID	21.100	Datatype format	B_8	
Field		Description			Sup.	Unit	Default
Bitset					M		cs
		Bit 0 = ForceRequest			O	t/f	
		Bit 1 = Protection			O	t/f	
		Bit 2 = Oversupply			O	t/f	
		Bit 3 = Overrun			O	t/f	
		Bit 4 = DHWNorm			NA	t/f	
		Bit 5 = DHWLegio			NA	t/f	
		Bit 6 = RoomHComf			O	t/f	
		Bit 7 = RoomHMax			O	t/f	
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☐							
Application Specific ☒		DistrSegmH			1		
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	144 (HFDM)	Property ID:	52		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport ☒		Timeout:	31	Min			
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input ForceSignHFDM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.19 Input ForceSignHPM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**ForceSignHPM**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Heat Flow Demand Manager'.							
DPT:	Name	DPT_ForceSign	DPT ID	21.100	Datatype format	B_8	
Field		Description			Sup.	Unit	Default
Bitset					M		cs
		Bit 0 = ForceRequest			O	t/f	
		Bit 1 = Protection			O	t/f	
		Bit 2 = Oversupply			O	t/f	
		Bit 3 = Overrun			O	t/f	
		Bit 4 = DHWNorm			NA	t/f	
		Bit 5 = DHWLegio			NA	t/f	
		Bit 6 = RoomHComf			O	t/f	
		Bit 7 = RoomHMax			O	t/f	
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☐							
Application Specific ☒		DistrSegmH			1		
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	136 (HPM)	Property ID:	53		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport ☒		Timeout:	31	Min			
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input ForceSignHPM** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.20 Input HVACModeEff

Standard Mode

DP Name:	HVACModeEff	Abbr.:	---	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven'.

Datapoint Type

DPT_Name:	DPT_HVACMode				
DPT Format:	N_8	DPT_ID:	20.102		
Field	Description	Supp.	Range	Unit	Default
HVAC Mode		M	1...4	enum.	cs
	0 = Auto	NA			
	1 = Comfort	M			
	2 = Standby	M			
	3 = Economy	M			
	4 = Building Protection	M			
	all other enumerations	NA			

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

[1] see Functional Block diagram

List of Functional Blocks, **Input HVACModeEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	M1
Water Heat Pump Control	WHPC	M1
Split Unit Control	SPUC	M1
Radiator and Chilled Ceiling Room Control	RCCRC	M1
Radiator Room Control TU	RRCTU	M1
VAV Control Discharge Air	VAVCDA	M1

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:** **HVACModeEff**	Mandatory [1] ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven'. The STATUS is supported.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
HVACMode		M	1...4	cs
	0 = Auto	NA		
	1 = Comfort	M		
	2 = Standby	M		
	3 = Economy	M		
	4 = Building Protection	M		
	All other enumeration	NA		
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	M	t/f	false
- Overridden	Sensor is temporarily overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Input HVACModeEff** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	M1
Water Heat Pump Control	WHPC	M1
Split Unit Control	SPUC	M1
Radiator and Chilled Ceiling Room Control	RCCRC	M1
Radiator Room Control TU	RRCTU	M1
VAV Control Discharge Air	VAVCDA	M1

3.9.2.21 Input HVACModeEffNext

Standard Mode

Not applicable

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:** **HVACModeEffNext**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven'.

DPT:	Name	DPT_HVACModeNext	DPT ID	206.100	Datatype format	$U_{16}N_8$

Field	Description	Sup.	Unit	Default
Time	Time to next HVAC Mode in minutes, 0 = no next mode [1)]	M	min	0
Next HVACMode		M	1...4	cs
	0 = Mode undefined [1)]	M		
	1 = Comfort 2 = Standby	M		
	3 = Economy 4 = Building Protection	M		
	All other enumeration	NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	52
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

[1)] encoding of special conditions, see table below

Interpretation of Time and HVACMode fields

Time	HVACMode	
= 0 (Undefined)	= 0 (Undefined)	the content of the datapoint is void / undefined => no next HVAC Mode available for an undefined time period
= 0 (Undefined)	= {1..4}	defined and valid next HVACMode but the delay time is undefined (unknown) => next HVACMode deactivated
> 0	= 0 (Undefined)	undefined (unknown) HVACMode during a defined delay time => in practice this combination is useless and is interpreted like Time=0 / HVACMode=0 (default value)
> 0	= {1..4}	defined and valid HVACMode and delay time

List of Functional Blocks, **Input HVACModeEffNext** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	M1
Water Heat Pump Control	WHPC	M1
Split Unit Control	SPUC	M1
Radiator and Chilled Ceiling Room Control	RCCRC	M1
Radiator Room Control TU	RRCTU	M1
VAV Control Discharge Air	VAVCDA	M1

3.9.2.22 Input HVACModeOptim

Standard Mode

DP Name:	HVACModeOptim	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'HVAC Optimiser'.

Datapoint Type

DPT_Name:	DPT_HVACMode				
DPT Format:	N_8	DPT_ID:	20.102		
Field	Description	Supp.	Range	Unit	Default
HVAC Mode		M	1...4	enum.	cs
	0 = Auto	NA			
	1 = Comfort	M			
	2 = Standby	M			
	3 = Economy	M			
	4 = Building Protection	M			
	all other enumerations	NA			

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input HVACModeOptim** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	M1
Water Heat Pump Control	WHPC	M1
Split Unit Control	SPUC	M1
Radiator and Chilled Ceiling Room Control	RCCRC	M1
Radiator Room Control TU	RRCTU	M1
VAV Control Discharge Air	VAVCDA	M1

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:** **HVACModeOptim**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block ' HVAC Optimiser'. The STATUS is supported.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
HVACMode		M	1...4	cs
	0 = Auto	NA		
	1 = Comfort	M		
	2 = Standby	M		
	3 = Economy	M		
	4 = Building Protection	M		
	All other enumeration	NA		
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporarily overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	51
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--	
InfoReport ☒	Timeout:	31	Min	
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:		--	

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input HVACModeOptim** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	M1
Water Heat Pump Control	WHPC	M1
Split Unit Control	SPUC	M1
Radiator and Chilled Ceiling Room Control	RCCRC	M1
Radiator Room Control TU	RRCTU	M1
VAV Control Discharge Air	VAVCDA	M1

3.9.2.23 Input LockSignCFDM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**LockSignCFDM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Cool Flow Demand Manager'.							
DPT:	Name	DPT_LockSign	DPT ID	207.101	Datatype format	U_8B_8	
Field	Description				Sup.	Unit	Default
PowerReduction	Reduction in % (0% = no reduction)				M	%	0
Bitset					M		
	Bit 0 = LockRequest				O	t/f	false
	Bit 1 = Type				O	0/1	0
	0 = uncritical						
	1 = critical						
	all other bits				NAO		false
Communication:							
Binding Group:							
Class	Type			Default			
Geographical ☐							
Application Specific ☒	DistrSegmC			1			
Unassigned ☐	Broadcast ☐	Configurable ☐					
DP Address:	IO Type(ID):	208 (CFDM)	Property ID:	53			
LTE-Service (event):	InfoReport Sniffer on Binding Group:			--			
InfoReport ☒	Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:	Default Value ☒			Stored Value ☐			
Exception Handling:				Save at Powerdown ☐			

Special Features:							

List of Functional Blocks, **Input LockSignCFDM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.24 Input LockSignCPM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**LockSignCPM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Cool Flow Demand Manager'.							
DPT:	Name	DPT_LockSign	DPT ID	207.101	Datatype format	U_8B_8	

Field	Description	Sup.	Unit	Default
PowerReduction	Reduction in % (0% = no reduction)	M	%	0
Bitset		M		
	Bit 0 = LockRequest	O	t/f	false
	Bit 1 = Type	O	0/1	0
	0 = uncritical			
	1 = critical			
	all other bits	NAO		false

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☐				
Application Specific ☒	DistrSegmC		1	
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	199 (CPM)	Property ID:	54
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--	
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:		--	
Value after Power-up:	Default Value ☒		Stored Value ☐	
Exception Handling:			Save at Powerdown ☐	

Special Features:				

List of Functional Blocks, **Input LockSignCPM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.25 Input LockSignHFDM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**LockSignHFDM**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Heat Flow Demand Manager'.							
DPT:	Name	DPT_LockSign	DPT ID	207.101	Datatype format	U_8B_8	
Field	Description				Sup.	Unit	Default
PowerReduction	Reduction in % (0% = no reduction)				M	%	0
Bitset					M		
	Bit 0 = LockRequest				O	t/f	false
	Bit 1 = Type				O	0/1	0
	0 = uncritical						
	1 = critical						
	all other bits				NAO		false
Communication:							
Binding Group:							
Class	Type			Default			
Geographical ☐							
Application Specific ☒	DistrSegmH			1			
Unassigned ☐	Broadcast ☐	Configurable ☐					
DP Address:	IO Type(ID):	144 (HFDM)	Property ID:	53			
LTE-Service (event):	InfoReport Sniffer on Binding Group:			--			
InfoReport ☒	Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:	Default Value ☒			Stored Value ☐			
Exception Handling:				Save at Powerdown ☐			

Special Features:							

List of Functional Blocks, **Input LockSignHFDM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.26 Input LockSignHPM

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**LockSignHPM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Heat Flow Demand Manager'.							
DPT:	Name	DPT_LockSign	DPT ID	207.101	Datatype format	U_8B_8	
Field		Description			Sup.	Unit	Default
PowerReduction		Reduction in % (0% = no reduction)			M	%	0
Bitset					M		
		Bit 0 = LockRequest			O	t/f	false
		Bit 1 = Type			O	0/1	0
		0 = uncritical					
		1 = critical					
		all other bits			NAO		false
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☐							
Application Specific ☒		DistrSegmH			1		
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	136 (HPM)	Property ID:	54		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--		
InfoReport ☒		Timeout:	31	Min			
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input LockSignHPM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.27 Input PresenceStatus

Standard Mode

DP Name:	PresenceStatus	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Presence Detector' or ‘User Presence Switch’.

Datapoint Type

DPT_Name:	DPT_Occupancy		
DPT Format:	B_1	DPT_ID:	1.018

Field	Description	Supp.	Range	Unit	Default
Status	Presence status 0 = not occupied 1 = occupied	O	0/1	Bit	cs

Access Type

♦ Input

N → this	☐	1 → this	☒	
Spontaneous	☒	Cyclically:	☐	Time-out: NO *
Request	☐	Polling:	☐	Period:

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

* NO timeout due to compatibility with existing EIB products.

Special Features

List of Functional Blocks, **Input PresenceStatus** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**PresenceStatus**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Presence Detector' or 'User Presence Switch'.							
DPT:	Name	DPT_Occupancy	DPT ID	1.018	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
Dew Point Status		0 = not occupied 1 = occupied				Bit	cs
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☒		Apartment . Room . SubZone			1.1.1		
Application Specific ☐							
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	345 (PRD)	Property ID:	51		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:			--		
		Timeout:	NO *	Min			
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		
* NO timeout due to compatibility with S-Mode and existing EIB products.							
Special Features:							

List of Functional Blocks, **Input PresenceStatus** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.28 Input SplitCool

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**SplitCool**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'HVAC Optimiser'.								
DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8		
Field		Description				Sup.	Unit	Default
Value		Demand level for splitting				M	%	cs
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	115 (HVACOPT)	Property ID:	60			
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:			--			
		Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input SplitCool** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.29 Input SplitHeat

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**SplitHeat**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'HVAC Optimiser'.							
DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8	
Field		Description			Sup.	Unit	Default
Value		Demand level for splitting			M	%	cs
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☒		apartment . Room . SubZone			1.1.1		
Application Specific ☐							
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	115 (HVACOPT)	Property ID:	58		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:			--		
		Timeout:	31	Min			
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--		
Value after Power-up:		Default Value ☒				Stored Value ☐	
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input SplitHeat** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.30 Input StatusCPM

Standard Mode

Splitted. See below.

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**StatusCPM**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'Cool Flow Demand Manager'.								
DPT:	Name	DPT_StatusCPM	DPT ID	209.102	Datatype format	$V_{16}B_8$		
Field		Description				Sup.	Unit	Default
Temperature		Flow water temperature				M	°C	cs
Bitset						M		
		Bit 0 = TempFlowValid				O	t/f	false
		Bit 1 = Fault				O	t/f	false
		Bit 2 = OffPerm				O	t/f	false
		Bit 3 = NoCoolAvailable				O	t/f	false
		all other bits				NA		false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☐								
Application Specific ☒		DistrSegmC			1			
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	199 (CPM)		Property ID:	51		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--			
InfoReport ☒		Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input StatusCPM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

Standard Mode (Temperature)

DP Name:	TempFlowWaterProdSegmC	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (Fault)

DP Name:	Fault	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (OffPerm)

DP Name:	OffPerm	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (NoCoolAvailable)

DP Name:	NoCoolAvailable	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

3.9.2.31 Input StatusHPM

Standard Mode

Splitted. See below.

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**StatusHPM**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Cool Flow Demand Manager'.							
DPT:	Name	DPT_StatusHPM	DPT ID	209.100	Datatype format	$V_{16}B_8$	

Field	Description	Sup.	Unit	Default
Temperature	Flow water temperature	M	°C	cs
Bitset		M		
	Bit 0 = TempFlowValid	O	t/f	false
	Bit 1 = Fault	O	t/f	false
	Bit 2 = SummerMode	O	t/f	false
	Bit 3 = OffPerm	O	t/f	false
	Bit 4 = NoHeatAvailable	O	t/f	false
	all other bits	NA		false

Communication:			
Binding Group:			
Class	Type	Default	
Geographical ☐			
Application Specific ☒	DistrSegmC	1	
Unassigned ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): 136 (HPM)	Property ID: 51	
LTE-Service (event):	InfoReport Sniffer on Binding Group: --		
InfoReport ☒	Timeout: 31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group: --		
Value after Power-up:	Default Value ☒	Stored Value ☐	
Exception Handling:		Save at Powerdown ☐	

Special Features:			

List of Functional Blocks, **Input StatusHPM** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

Standard Mode (Temperature)

DP Name:	TempFlowWaterProdSegmH	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Hot Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (Fault)

DP Name:	Fault	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Hot Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (SummerMode)

DP Name:	SummerMode	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Hot Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (OffPerm)

DP Name:	OffPerm	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (NoHeatAvailable)

DP Name:	NoHeatAvailable	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Cold Water Production Manager'.

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

♦ Input

N → this	☐	1 → this	☒				
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)		
Request	☐	Polling:	☐	Period:			

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

3.9.2.32 Input StatusSATC

Standard Mode

Splitted, see below

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**StatusSATC**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Supply Air Temperature Controller'.							
DPT:	Name	DPT_StatusAHU	DPT ID	21.106	Datatype format	B_8	

Field	Description	Sup.	Unit	Default
Bitset		M		
	Bit 0 = Fault	O	t/f	false
	Bit 1 = FanActive	O	t/f	false
	Bit 2 = Heat	O	t/f	false
	Bit 3 = Cool	O	t/f	false
	all other bits	NA		false

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☐				
Application Specific ☒	DistrSegmV		1	
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	240 (AHUC)	Property ID:	53
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--	
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:		--	
Value after Power-up:	Default Value ☒		Stored Value ☐	
Exception Handling:			Save at Powerdown ☐	

Special Features:				

List of Functional Blocks, **Input StatusSATC** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

Standard Mode (Fault)

DP Name:	Fault	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Air Handling Unit Controller'.

Datapoint Type

DPT_Name:	DPT_Bool		
DPT Format:	B_1	DPT_ID:	1.002

Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (FanActive)

DP Name:	FanActive	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Air Handling Unit Controller'.

Datapoint Type

DPT_Name:	DPT_Bool		
DPT Format:	B_1	DPT_ID:	1.002

Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (Heat)

DP Name:	Heat	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Air Handling Unit Controller'.

Datapoint Type

DPT_Name:	DPT_Bool		
DPT Format:	B_1	DPT_ID:	1.002

Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

Standard Mode (Cool)

DP Name:	Cool	Abbr.:	---	Mandatory	☐
FB Name:	See table above			Can be internal	☐

Description

This information is provided by the Functional Block 'Air Handling Unit Controller'.

Datapoint Type

DPT_Name:	DPT_Bool		
DPT Format:	B_1	DPT_ID:	1.002

Field	Description	Supp.	Range	Unit	Default
Status		O	t/f	bool	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

3.9.2.33 Input Tariff

T.b.d.

List of Functional Blocks, **Input Tariff** is used in:

Name of FB	Abbreviation	Mandatory Optional
FanCoil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.34 Input Tariff Next

T.b.d.

List of Functional Blocks, **Input TariffNext** is used in:

Name of FB	Abbreviation	Mandatory Optional
FanCoil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.35 Input TempDischargeAir

Standard Mode

DP Name:	TempDischargeAir	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Discharge Air Temperature Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint				Mandatory:	☒
Default Group Address:	---				

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempDischargeAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:** **TempDischargeAir**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Discharge Air Temperature Sensor' and includes the STATUS of the information.

DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temperature	Discharge air temperature value	M	°C.	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	328 (DATS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input TempDischargeAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.36 Input TempOutside

Standard Mode

DP Name:	TempOutside	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Outside Temperature Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempOutside** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempOutside**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Outside Temperature Sensor' and includes the STATUS of the information.							
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$	

Field	Description	Sup.	Unit	Default
Temperature	Outside temperature value	M	°C.	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☐				
Application Specific ☒	OutsideSensorZone		1	
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	320 (OTS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:		--	
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:		--	
Value after Power-up:	Default Value ☒		Stored Value ☐	
Exception Handling:			Save at Powerdown ☐	

Special Features:				

List of Functional Blocks, **Input TempOutside** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.37 Input TempFloor

Standard Mode

DP Name:	TempFloor	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description
This information is provided by the Functional Block 'Floor Temperature Sensor'.

Datapoint Type					
DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type							
♦ Input							
	N → this	☐	1 → this	☒			
	Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
	Request	☐	Polling:	☐	Period:		

Communication Type			
♦ Group Object Datapoint		Mandatory:	☒
	Default Group Address:	---	

Dynamics						
	Power down:	Save:	☐			
	Power up:	Value:	No initialisation:	☐	Default value:	☒
			Saved value:	☐		☐
				☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempFloor** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**TempFloor**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Floor Temperature Sensor' and includes the STATUS of the information.

DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temperature	Floor temperature value	M	°C.	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	Apartment . Room . SubZone	1.1.1
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	329 (FTS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input TempFloor** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.38 Input TempReturnAir

Standard Mode

DP Name:	TempReturnAir	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Return Air Temperature Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempReturnAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempReturnAir**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'Return Air Temperature Sensor' and includes the STATUS of the information.								
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$		
Field		Description				Sup.	Unit	Default
Temperature		Return air temperature value				M	°C.	cs
STATUS		Bitset				M		
- OutOfService		Sensor out of service				M	t/f	false
- Fault		Sensor value is corrupted				O	t/f	false
- Overridden		Sensor is temporary overridden				O	t/f	false
- InAlarm		Sensor is in alarm				O	t/f	false
- AlarmUnAck		Acknowledgement of alarm				O	t/f	false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	323 (RNATS)		Property ID:	51		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:			--			
		Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input TempReturnAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O

3.9.2.39 Input TempRoom

Standard Mode

DP Name:	TempRoom	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Room Temperature Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **TempRoom** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	M
Water Heat Pump Control for Ringwater	WHPC	M
Split Unit Control	SPUC	M
Radiator and Chilled Ceiling Room Control	RCCRC	M
Radiator Room Control TU	RRCTU	M
VAV Control Discharge Air	VAVCDA	M

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**TempRoom**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block 'Room Temperature Sensor' and includes the STATUS of the information.

DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temperature	Room temperature value	M	°C.	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	321 (RTS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:	--		
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:	--		

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **TempRoom** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	M
Water Heat Pump Control for Ringwater	WHPC	M
Split Unit Control	SPUC	M
Radiator and Chilled Ceiling Room Control	RCCRC	M
Radiator Room Control TU	RRCTU	M
VAV Control Discharge Air	VAVCDA	M

3.9.2.40 Input TempRoomSetpCoolEff

Standard Mode

DP Name:	TempRoomSetpCoolEff	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven' or 'Room Setpoint Manager Temperature Driven' Z_8 is NOT supported..

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempRoomSetpCoolEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpCoolEff**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven' or 'Room Setpoint Manager Temperature Driven' Z_8 is NOT supported..							
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$	

Field	Description	Sup.	Unit	Default
Temperature	Room temperature setpoint value cooling	M	°C.	cs
STATUS - All Bits	Bitset not supported	M NA	 f	 false

Communication:				
Binding Group:				
Class	Type	Default		
Geographical ☒	Apartment . Room . SubZone	1.1.1		
Application Specific ☐				
Unassigned ☐	Broadcast ☐ Configurable ☐			
DP Address:	IO Type(ID):	100 (RSMHD) 101 (RSMTD)	Property ID:	56 53
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling):	Read Wildcard / Resp Sniffer on Binding Group:	--		
Read – Response ☐				
Value after Power-up:	Default Value ☒	Stored Value ☐		
Exception Handling:		Save at Powerdown ☐		

Special Features:				

List of Functional Blocks, **Input TempRoomSetpCoolEff** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.41 Input TempRoomSetpCoolEffNext

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpCoolEffNext**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Room Setpoint Manager Temperature Driven'.							
DPT:	Name	DPT_TempHVACAbsNext	DPT ID	220.100	Datatype format	$U_{16}V_{16}$	
Field		Description			Sup.	Unit	Default
Time		Time to next setpoint in minutes			M	min.	0
Temperature		Next cooling setpoint			M	°C.	cs
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☒		Apartment . Room . SubZone			1.1.1		
Application Specific ☐							
Unassigned ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	101 (RSMTD)	Property ID:	54		
LTE-Service (event): InfoReport ☒		InfoReport Sniffer on Binding Group:	--				
		Timeout:	31 Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:	--				
Value after Power-up:		Default Value ☒			Stored Value ☐		
Exception Handling:					Save at Powerdown ☐		

Special Features:							

List of Functional Blocks, **Input TempRoomSetpCoolEffNext** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O

3.9.2.42 Input TempRoomSetpHeatEff

Standard Mode

DP Name:	TempRoomSetpHeatEff	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven' or 'Room Setpoint Manager Temperature Driven' Z_8 is NOT supported..

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempRoomSetpHeatEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpHeatEff**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Room Setpoint Manager HVAC Mode Driven' or 'Room Setpoint Manager Temperature Driven' Z_8 is NOT supported..							
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$	

Field	Description	Sup.	Unit	Default
Temperature	Room temperature setpoint value heating	M	°C.	cs
STATUS - All Bits	Bitset not supported	M NA	 f	 false

Communication:				
Binding Group:				
Class	Type	Default		
Geographical ☒	Apartment . Room . SubZone	1.1.1		
Application Specific ☐				
Unassigned ☐	Broadcast ☐ Configurable ☐			
DP Address:	IO Type(ID):	100 (RSMHD) 101 (RSMTD)	Property ID:	55 51
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling):	Read Wildcard / Resp Sniffer on Binding Group:	--		
Read – Response ☐				
Value after Power-up:	Default Value ☒	Stored Value ☐		
Exception Handling:		Save at Powerdown ☐		

Special Features:				

List of Functional Blocks, **Input TempRoomSetpHeatEff** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.43 Input TempRoomSetpHeatEffNext

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpHeatEffNext**				Mandatory ☐ Optional ☐
Description:							
This information is provided by the Functional Block 'Room Setpoint Manager Temperature Driven'.							
DPT:	Name	DPT_TempHVACAbsNext	DPT ID	220.100	Datatype format	$U_{16}V_{16}$	

Field	Description	Sup.	Unit	Default
Time	Time to next setpoint in minutes	M	min.	0
Temperature	Next heating setpoint	M	°C.	cs

Communication:				
Binding Group:				
Class	Type	Default		
Geographical ☒	Apartment . Room . SubZone	1.1.1		
Application Specific ☐				
Unassigned ☐	Broadcast ☐ Configurable ☐			
DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	52
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:	--		
Value after Power-up:	Default Value ☒	Stored Value ☐		
Exception Handling:	Save at Powerdown ☐			

Special Features:				

List of Functional Blocks, **Input TempRoomSetpHeatEffNext** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O

3.9.2.44 Input TempRoomSetpOptimCoolShift

Standard Mode

DP Name:	TempRoomSetpOptimCoolShift	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'HVAC Optimiser'.

Datapoint Type

DPT_Name:	DPT_Value_Tempd				
DPT Format:	F_{16}	DPT_ID:	9.002		
Field	Description	Supp.	Range	Unit	Default
		M	full	K	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempRoomSetpOptimCoolShift** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpOptimCoolShift**					Mandatory ☐ Optional ☐
Description:								
This information is provided by the Functional Block 'HVAC Optimiser'.Z_8 is NOT supported..								
DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$		
Field		Description				Sup.	Unit	Default
Temperature		Room temperature setpoint shift value cooling				M	K	cs
STATUS - All Bits		Bitset not supported				M NA	 f	 false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	115 (HVACOPT)		Property ID:	55		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--			
InfoReport ☒		Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input TempRoomSetpOptimCoolShift** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.45 Input TempRoomSetpOptimHeatShift

Standard Mode

DP Name:	TempRoomSetpOptimHeatShift	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'HVAC Optimiser'.

Datapoint Type

DPT_Name:	DPT_Value_Tempd				
DPT Format:	F_{16}	DPT_ID:	9.002		
Field	Description	Supp.	Range	Unit	Default
		M	full	K	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempRoomSetpOptimHeatShift** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpOptimHeatShift**					Mandatory ☐ Optional ☐
Description:								
This information is provided by the Functional Block 'HVAC Optimiser'.Z_8 is NOT supported..								
DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$		
Field		Description				Sup.	Unit	Default
Temperature		Room temperature setpoint shift value cooling				M	K	cs
STATUS - All Bits		Bitset not supported				M NA	f	false
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	115 (HVACOPT)		Property ID:	62		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--			
InfoReport ☒		Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒					Stored Value ☐	
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input TempRoomSetpOptimHeatShift** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.46 Input TempRoomSetpSetCoolEff

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpSetCoolEff**				Mandatory ☐ Optional ☐	
Description:								
This information is provided by the Functional Block 'Room Setpoint Manager HVAC-Mode Driven'.								
DPT:	Name	DPT_TempRoomSetpSet	DPT ID	213.100	Datatype format	$V_{16}V_{16}V_{16}V_{16}$		
Field		Description				Sup.	Unit	Default
Temperature		Comfort setpoint cooling				M	°C	cs
Temperature		Standby setpoint cooling				M	°C	cs
Temperature		Economy setpoint cooling				M	°C	cs
Temperature		Building protection setpoint cooling				M	°C	cs
Communication:								
Binding Group:								
Class		Type			Default			
Geographical ☒		Apartment . Room . SubZone			1.1.1			
Application Specific ☐								
Unassigned ☐		Broadcast ☐	Configurable ☐					
DP Address:		IO Type(ID):	100 (RSMHD)		Property ID:	54		
LTE-Service (event):		InfoReport Sniffer on Binding Group:			--			
InfoReport ☒		Timeout:	31	Min				
LTE-Service (polling): Read – Response ☐		Read Wildcard / Resp Sniffer on Binding Group:			--			
Value after Power-up:		Default Value ☒				Stored Value ☐		
Exception Handling:						Save at Powerdown ☐		

Special Features:								

List of Functional Blocks, **Input TempRoomSetpSetCoolEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.47 Input TempRoomSetpSetHeatEff

Standard Mode

Not applicable

LTE-HEE Mode

FB:	See table below	**LTE Client Input Name:**	**TempRoomSetpSetHeatEff**			Mandatory ☐ Optional ☐	
Description:							
This information is provided by the Functional Block 'Room Setpoint Manager HVAC-Mode Driven'.							
DPT:	Name	DPT_TempRoomSetpSet	DPT ID	213.100	Datatype format	$V_{16}V_{16}V_{16}V_{16}$	
Field	Description				Sup.	Unit	Default
Temperature	Comfort setpoint heating				M	°C	cs
Temperature	Standby setpoint heating				M	°C	cs
Temperature	Economy setpoint heating				M	°C	cs
Temperature	Building protection setpoint heating				M	°C	cs
Communication:							
Binding Group:							
Class	Type			Default			
Geographical ☒	Apartment . Room . SubZone			1.1.1			
Application Specific ☐							
Unassigned ☐	Broadcast ☐	Configurable ☐					
DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	53			
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--				
InfoReport ☒	Timeout:	31 Min					
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:		--				
Value after Power-up:	Default Value ☒			Stored Value ☐			
Exception Handling:				Save at Powerdown ☐			

Special Features:							

List of Functional Blocks, **Input TempRoomSetpSetHeatEff** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control for Ringwater	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.2.48 Input TempSupplyAir

Standard Mode

DP Name:	TempSupplyAir	Abbr.:	---	Mandatory	☐
FB Name:	See table below			Can be internal	☐

Description

This information is provided by the Functional Block 'Supply Air Temperature Sensor'.

Datapoint Type

DPT_Name:	DPT_Value_Temp				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
		O	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31min (rec.)	
Request	☐	Polling:	☐	Period:		

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☒
		Saved value:	☐		☐
			☐	Read from bus:	☐

Exception Handling

Special Features

List of Functional Blocks, **Input TempSupplyAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Input Name:**	**TempSupplyAir**	Mandatory ☐ Optional ☐

Description:

This information is provided by the Functional Block 'Supply Air Temperature Sensor' and includes the STATUS of the information.

DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temperature	Supply air temperature value	M	°C.	cs
STATUS	Bitset	M		
- OutOfService	Sensor out of service	M	t/f	false
- Fault	Sensor value is corrupted	O	t/f	false
- Overridden	Sensor is temporary overridden	O	t/f	false
- InAlarm	Sensor is in alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	322 (SATS)	Property ID:	51
LTE-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	31 Min		
LTE-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Power-up: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Input TempSupplyAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
VAV Control Discharge Air	VAVCDA	O

3.9.3 Detailed Specification of the Datapoints (Outputs)

See following pages

3.9.3.1 Output ActPosSetpCoolStageA

Standard Mode

DP Name:	ActPosSetpCoolStageA	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the cool stage A actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpCoolStageA** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:**	**ActPosSetpCoolStageA**	Mandatory [1] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the cool stage A actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			 0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	352 (HVA) 116 (POOC)	Property ID:	53 53
LTE-Services (event):	COV ☒	MinRepTime:	10 sec	Heartbeat: 15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐		Act Value ☒	Default Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpCoolStageA** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.3.2 Output ActPosSetpCoolStageB

Standard Mode

DP Name:	ActPosSetpCoolStageB	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the cool stage B actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpCoolStageB** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:**	**ActPosSetpCoolStageB**	Mandatory [1] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the cool stage B actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			 0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	352 (HVA) 116 (POOC)	Property ID:	54 54
LTE-Services (event):	COV ☒	MinRepTime:	10 sec	Heartbeat: 15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐		Act Value ☒	Default Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpCoolStageB** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.3.3 Output ActPosSetpDischargeAir

Standard Mode

DP Name:	ActPosSetpDischargeAir	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the discharge air actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpDischargeAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:**	**ActPosSetpDischargeAir**	Mandatory [1)] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the discharge air actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			 0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	362 (ADA)	Property ID:	57
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

[1)] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpDischargeAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
VAV Control Discharge Air	VAVCDA	O

3.9.3.4 Output ActPosSetpExtractAir

Standard Mode

DP Name:	ActPosSetpExtractAir	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the extract air actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpExtractAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Extract Air	VAVCEA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:** **ActPosSetpExtractAir**	Mandatory [1] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the extract air actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			 0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 362 (ADA)	Property ID: 58		
LTE-Services (event): Write ☒	COV ☒ MinRepTime: 10 sec		Heartbeat: 15 min	
	Output per default communicating ☐	Binding Group Wildcard allowed ☒		
	Tx Prio: High ☐	Normal ☒	Low ☐	
	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpExtractAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
VAV Control Extract Air	VAVCEA	O

3.9.3.5 Output ActPosSetpFreshAir

Standard Mode

DP Name:	ActPosSetpFreshAir	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the fresh air actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpFreshAir** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:** **ActPosSetpFreshAir**	Mandatory [1)] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the fresh air actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			 0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 362 (ADA)	Property ID: 55		
LTE-Services (event): Write ☒	COV ☒ MinRepTime: 10 sec		Heartbeat: 15 min	
	Output per default communicating ☐	Binding Group Wildcard allowed ☒		
	Tx Prio: High ☐	Normal ☒	Low ☐	
	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

[1)] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpFreshAir** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O

3.9.3.6 Output ActPosSetpHeatStageA

Standard Mode

DP Name:	ActPosSetpHeatStageA	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the heat stage A actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐

Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	--	

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):	☐	Read from bus (only for input):	☐	

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpHeatStageA** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:**	**ActPosSetpHeatStageA**	Mandatory [1] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the heat stage A actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	352 (HVA) 116 (POOC) 369 (EHEA)	Property ID:	51 51 52

LTE-Services (event):	COV ☒	MinRepTime:	10	sec	Heartbeat:	15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒		Low ☐	
	Transm after Power-up: Stored Value ☐		Act Value ☒		Default Value ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpHeatStageA** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
Radiator Room Control TU	RRCTU	O
VAV Control Discharge Air	VAVCDA	O

3.9.3.7 Output ActPosSetpHeatStageB

Standard Mode

DP Name:	ActPosSetpHeatStageB	Abbr.:	--	Mandatory [1]	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the heat stage B actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling				
DPT Format:	U_8	DPT_ID:	5.001		
Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☒ [2]	this → 1	☐

Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	--	

Dynamics

Power down:	Save:	☐					
Power up:	Value:	No initialisation:	☐	Default value:	☐		
		Saved value:	☐	Actual value (not for input):	☒		
	Transmit on bus (only for output):		☐	Read from bus (only for input):			☐

Exception Handling

Special Features

[1] see Functional Block diagram

[2] one or multiple valves can be controlled in parallel

List of Functional Blocks, **Output ActPosSetpHeatStageB** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: See table below	**LTE Client Output Name:**	**ActPosSetpHeatStageB**	Mandatory [1] ☐ Optional ☐

Description:

This datapoint contains the percent setpoint value for the haet stage B actuator position with a COMMAND information.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment.Room.Sub_Zone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	352 (HVA) 116 (POOC) 369 (EHEA)	Property ID:	52 52 53

LTE-Services (event):			
Write ☒	COV ☒ MinRepTime: 10 sec		Heartbeat: 15 min
	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐

Exception Handling: Save at Powerdown ☐

Special Features:

[1] see Functional Block diagram

List of Functional Blocks, **Output ActPosSetpHeatStageB** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	O
Water Heat Pump Control	WHPC	O
Split Unit Control	SPUC	O
Radiator and Chilled Ceiling Room Control	RCCRC	O
VAV Control Discharge Air	VAVCDA	O

3.9.3.8 Output AirFlowMSExtr

Standard Mode:

DP Name:	AirFlowMSExtr	Abbr.:	---	Mandatory	☐
FB Name:	see table below			Can be internal	☐

Description

This output contains the air flow value for co-ordination of discharge air and extract air.

Datapoint Type

DPT_Name:	DPT_Value_AirFlow				
DPT Format:	F_{16}	DPT_ID:	9.009		
Field	Description	Supp.	Range	Unit	Default
			Full	m^3/h	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10sec
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value:	☒
	Transmit on bus:	☒			☐

Exception Handling

Special Features

List of Functional Blocks, **Output AirFlowMSExtr** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB: see table below	**LTE Server** **Output Name:**	**AirFlowMSExtr**	Mandatory ☐ Optional ☐

Description:

This output contains the air flow value for co-ordination of discharge air and extract air. The STATUS and COMMAND information is NOT supported.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	COV	Default
Air Flow	Actual air flow value	M	Full Range	m^3/h	1	cs
STATUS all bits		NA		Bitset		false
				Sup.	Range	
COMMAND - all commands				NA	enum	

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment. Room . SubZone	1.1.1
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	see table below	Property ID:	see table below
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☒		Binding Group Wildcard allowed ☐	
(LTE Read-Response polling of the output shall always be supported)	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐	
Property-Service (individual access):	Read only ☐	Read/Write ☒		

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Output AirFlowMSExtr** is used in:

Name of FB	**Abbreviation**	**IO Type ID / Property ID**	**Mandatory Optional**
VAV Control Discharge Air	VAVCDA	261 / 56	O

3.9.3.9 Output CompressorPosSetp

Standard Mode

DP Name:	CompressorPosSetp	Abbr.:	--	Mandatory	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the compressor actuator position.

Datapoint Type

DPT_Name:	DPT_Scaling		
DPT Format:	U_8	DPT_ID:	5.001

Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☐	this → 1	☒				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	--	

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

List of Functional Blocks, **Output CompressorPosSetp** is used in:

Name of FB	Abbreviation	Mandatory Optional
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

LTE-HEE Mode

FB:	See table below	**LTE Client Output Name:**	**CompressorPosSetp**				Mandatory ☐ Optional ☐
Description:							
This datapoint contains the percent setpoint value for the compressor actuator position with a COMMAND information.							
DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8	

Field	Description	Sup.	Range	Unit	COV	Default
Actuator position	Percent value of the actuator position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			0

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☒	Apartment.Room.Sub_Zone		1.1.1	
Application Specific ☐				
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	373 (CPA)	Property ID:	51
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐		Act Value ☒	Default Value ☐
Exception Handling:				Save at Powerdown ☐

Special Features:				

List of Functional Blocks, **Output CompressorPosSetp** is used in:

Name of FB	Abbreviation	Mandatory Optional
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

3.9.3.10 Output EnergyDemAC

Standard Mode

Not applicable

LTE-HEE Mode

FB: see table below	**LTE Server** **Output Name:**	**EnergyDemAC**		Mandatory ☐ Optional ☐
Description:				
This output contains the energy demand value and the ContrMode (for air cooling devices) for the energy demand transformer.				
DPT: Name	DPT_EnergyDemWater	DPT ID	211.100	Datatype format U_8N_8

Field	Description	Sup.	Range	Unit	COV	Default
Energy Demand	Actual demand value	M	Full Range	%	1	cs
Mode		M	1..20	enum.	Y	cs
	0 = Auto	M				
	1 = Heat 2 = MrnngWmup	O				
	3 = Cool 4 = NightPurge	O				
	5 = Precool 6 = Off	O				
	7 = Test 8 = EmergHeat	O				
	9 = FanOnly 10 = FreeCool	O				
	11 = Ice 20 = NoDemand	O				
	all other enums	NA				

Communication:			
Binding Group:			
Class	Type	Default	
Geographical ☐			
Application Specific ☒	DistrSegmC	1	
Unassigned ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): see table below	Property ID: see table below	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☒	Binding Group Wildcard allowed ☐	
(LTE Read-Response polling of the output shall always be supported)	Tx Prio: High ☐ Normal ☒ Low ☐		
	Transm after Power-up: Stored Value ☐ Act Value ☒ Default Value ☐		
Property-Service (individual access):	Read only ☐ Read/Write ☒		
Exception Handling:		Save at Powerdown ☐	

Special Features:			

List of Functional Blocks, **Output EnergyDemAC** is used in:

Name of FB	Abbreviation	IO Type ID / Property ID	Mandatory Optional
Fan Coil Control	FCC	258 / 74	O
VAV Control Discharge Air	VAVCDA	261 / 74	O

3.9.3.11 Output EnergyDemAH

Standard Mode

Not applicable

LTE-HEE Mode

FB: see table below	**LTE Server Output Name:**	**EnergyDemAH**				Mandatory ☐ Optional ☐	
Description:							
This output contains the energy demand value and the ContrMode (for air heating devices) for the energy demand transformer.							
DPT: Name	DPT_EnergyDemWater	DPT ID	211.100	Datatype format	U_8N_8		
Field	Description		Sup.	Range	Unit	COV	Default
Energy Demand	Actual demand value		M	Full Range	%	1	cs
Mode			M	1..20	enum.	Y	cs
	0 = Auto		M				
	1 = Heat	2 = MrnngWmup	O				
	3 = Cool	4 = NightPurge	O				
	5 = Precool	6 = Off	O				
	7 = Test	8 = EmergHeat	O				
	9 = FanOnly	10 = FreeCool	O				
	11 = Ice	20 = NoDemand	O				
	all other enums		NA				

Communication:			
Binding Group:			
Class	Type	Default	
Geographical ☐			
Application Specific ☒	DistrSegmH	1	
Unassigned ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): see table below	Property ID: see table below	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☒	Binding Group Wildcard allowed ☐	
(LTE Read-Response polling of the output shall always be supported)	Tx Prio: High ☐ Normal ☒ Low ☐		
	Transm after Power-up: Stored Value ☐ Act Value ☒ Default Value ☐		
Property-Service (individual access):	Read only ☐ Read/Write ☒		
Exception Handling:		Save at Powerdown ☐	

Special Features:			

List of Functional Blocks, **Output EnergyDemAH** is used in:

Name of FB	Abbreviation	IO Type ID / Property ID	Mandatory Optional
Fan Coil Control	FCC	258 / 73	O
Water Heat Pump Control	WHPC	259 / 73	O
Split Unit Control	SPUC	260 / 73	O
VAV Control Discharge Air	VAVCDA	261 / 73	O

3.9.3.12 Output EnergyDemAir

Standard Mode

Not applicable

LTE-HEE Mode

FB: see table below	**LTE Server** **Output Name:**	**EnergyDemAir**		Mandatory ☐ Optional ☐

Description:

This output contains the energy demand value, the ContrMode and the EmergMode (VAV devices) for the energy demand transformer.

DPT:	Name	DPT_EnergyDemAir	DPT ID	223.100	Datatype format	$V_8N_8N_8$

Field	Description	Sup.	Range	Unit	COV	Default
Energy Demand	Actual demand value	M	Full Range	%	1	cs
Mode		M	1..20	enum.	Y	cs
	0 = Auto	M				
	1 = Heat 2 = MrnngWmup	O				
	3 = Cool 4 = NightPurge	O				
	5 = Precool 6 = Off	O				
	7 = Test 8 = EmergHeat	O				
	9 = FanOnly 10 = FreeCool	O				
	11 = Ice 20 = NoDemand	O				
	all other enums.	NA				
EmergMode		M	1..5	enum	Y	cs
	0 = Normal	M				
	1 = EmergPressure 2 = EmergDepress	O				
		O				
	3 = EmergPurge 4 = EmergShutDn	O				
	5 = EmergFire	NA				
	all other enums.					

Communication:

Binding Group:		
Class	Type	Default
Geographical ☐		
Application Specific ☒	DistrSegmV	1
Unassigned ☐	Broadcast ☐ Configurable ☐	
DP Address:	IO Type(ID): see table below	Property ID: see table below
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min
InfoReport ☒	Output per default communicating ☒	Binding Group Wildcard allowed ☐
(LTE Read-Response polling of the output shall always be supported)	Tx Prio: High ☐ Normal ☒ Low ☐	
	Transm after Power-up: Stored Value ☐ Act Value ☒ Default Value ☐	
Property-Service (individual access):	Read only ☐ Read/Write ☒	

Exception Handling: Save at Powerdown ☐

Special Features:

List of Functional Blocks, **Output EnergyDemAir** is used in:

Name of FB	Abbreviation	IO Type ID / Property ID	Mandatory Optional
VAV Control Discharge Air	VAVCDA	261 / 75	O

3.9.3.13 Output EnergyDemCC

Standard Mode

Not applicable

LTE-HEE Mode

FB: see table below	**LTE Server** **Output Name:**	**EnergyDemCC**				Mandatory ☐ Optional ☐	
Description:							
This output contains the energy demand value and the ContrMode (for chilled ceiling devices) for the energy demand transformer.							
DPT: Name	DPT_EnergyDemWater	DPT ID	211.100	Datatype format	U_8N_8		
Field	Description		Sup.	Range	Unit	COV	Default
Energy Demand	Actual demand value		M	Full Range	%	1	cs
Mode			M	1..20	enum.	Y	cs
	0 = Auto		M				
	1 = Heat	2 = MrnngWmup	O				
	3 = Cool	4 = NightPurge	O				
	5 = Precool	6 = Off	O				
	7 = Test	8 = EmergHeat	O				
	9 = FanOnly	10 = FreeCool	O				
	11 = Ice	20 = NoDemand	O				
	all other enums		NA				

Communication:			
Binding Group:			
Class	Type	Default	
Geographical ☐			
Application Specific ☒	DistrSegmC	1	
Unassigned ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): see table below	Property ID: see table below	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☒	Binding Group Wildcard allowed ☐	
(LTE Read-Response polling of the output shall always be supported)	Tx Prio: High ☐ Normal ☒ Low ☐		
	Transm after Power-up: Stored Value ☐ Act Value ☒ Default Value ☐		
Property-Service (individual access):	Read only ☐ Read/Write ☒		
Exception Handling:		Save at Powerdown ☐	

Special Features:			

List of Functional Blocks, **Output EnergyDemCC** is used in:

Name of FB	Abbreviation	IO Type ID / Property ID	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	257 / 72	O
VAV Control Discharge Air	VAVCDA	261 / 72	O

3.9.3.14 Output EnergyDemRD

Standard Mode

Not applicable

LTE-HEE Mode

FB: see table below	**LTE Server** **Output Name:**	**EnergyDemRD**				Mandatory ☐ Optional ☐	
Description:							
This output contains the energy demand value and the ContrMode (for radiator devices) for the energy demand transformer.							
DPT: Name	DPT_EnergyDemWater	DPT ID	211.100	Datatype format	U_8N_8		
Field	Description		Sup.	Range	Unit	COV	Default
Energy Demand	Actual demand value		M	Full Range	%	1	cs
Mode			M	1..20	enum.	Y	cs
	0 = Auto		M				
	1 = Heat	2 = MrnngWmup	O				
	3 = Cool	4 = NightPurge	O				
	5 = Precool	6 = Off	O				
	7 = Test	8 = EmergHeat	O				
	9 = FanOnly	10 = FreeCool	O				
	11 = Ice	20 = NoDemand	O				
	all other enums		NA				

Communication:			
Binding Group:			
Class	Type	Default	
Geographical ☐			
Application Specific ☒	DistrSegmH	1	
Unassigned ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): see table below	Property ID: see table below	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☒	Binding Group Wildcard allowed ☐	
(LTE Read-Response polling of the output shall always be supported)	Tx Prio: High ☐ Normal ☒ Low ☐		
	Transm after Power-up: Stored Value ☐ Act Value ☒ Default Value ☐		
Property-Service (individual access):	Read only ☐ Read/Write ☒		
Exception Handling:		Save at Powerdown ☐	

Special Features:			

List of Functional Blocks, **Output EnergyDemRD** is used in:

Name of FB	Abbreviation	IO Type ID / Property ID	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	257 / 71	O
Radiator Room Control TU	RRCTU	256 / 71	O
VAV Control Discharge Air	VAVCDA	261 / 71	O

3.9.3.15 Output FanSpeedSetp

Standard Mode

DP Name:	FanSpeedSetp	Abbr.:	--	Mandatory	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent setpoint value for the fan position.

Datapoint Type

DPT_Name:	DPT_Scaling		
DPT Format:	U_8	DPT_ID:	5.001

Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☐	this → 1	☒				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint — Mandatory: ☒

Default Group Address: --

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

List of Functional Blocks, **Output FanSpeedSetp** is used in:

Name of FB	Abbreviation	Mandatory Optional
Fan Coil Control	FCC	M
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

LTE-HEE Mode

FB:	See table below	**LTE Client** **Output Name:**	**FanSpeedSetp**				Mandatory ☐ Optional ☐
Description:							
This datapoint contains the percent setpoint value for the fan position with a COMMAND information.							
DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8	

Field	Description	Sup.	Range	Unit	COV	Default
Fan position	Percent value of the fan position	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			0

Communication:			
Binding Group:			
Class	Type		Default
Geographical ☒	Apartment.Room.Sub_Zone		1.1.1
Application Specific ☐			
Unassigned ☐	Broadcast ☐	Configurable ☐	
DP Address:	IO Type(ID): 372 (FSA)	Property ID: 51	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
Write ☒	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐	Normal ☒ Low ☐	
	Transm after Power-up: Stored Value ☐	Act Value ☒ Default Value ☐	
Exception Handling:			Save at Powerdown ☐

Special Features:			

List of Functional Blocks, **Output FanSpeedSetp** is used in:

Name of FB	**Abbreviation**	**Mandatory Optional**
Fan Coil Control	FCC	M
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

3.9.3.16 Output HeatCoolMode

Standard Mode

DP Name:	HeatCoolMode	Abbr.:	--	Mandatory	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the heat/cool information (for a compressor).

Datapoint Type

DPT_Name:	DPT_Heat/Cool				
DPT Format:	B_1	DPT_ID:	1.100		
Field	Description	Supp.	Range	Unit	Default
	0 = cooling 1 = heating		0 / 1	Bit	cs

Access Type

♦ Output

this → M	☐	this → 1	☒				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	--		

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

List of Functional Blocks, **Output HeatCoolMode** is used in:

Name of FB	Abbreviation	Mandatory Optional
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

LTE-HEE Mode

FB:	See table below	**LTE Client** **Output Name:**	**HeatCoolMode**				Mandatory ☐ Optional ☐
Description:							
This datapoint contains the heat/cool information (for a compressor).							
DPT:	Name	DPT_Heat/Cool	DPT ID	1.100	Datatype format	B_1	

Field	Description	Sup.	Range	Unit	COV	Default
	0 = cooling 1 = heating	M	0 / 1	Bit	yes	cs

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☒	Apartment.Room.Sub_Zone		1.1.1	
Application Specific ☐				
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	373 (CPA)	Property ID:	52
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐		Act Value ☒	Default Value ☐
Exception Handling:				Save at Powerdown ☐

Special Features:				

List of Functional Blocks, **Output HeatCoolMode** is used in:

Name of FB	Abbreviation	Mandatory Optional
Water Heat Pump Control	WHPC	M
Split Unit Control	SPUC	M

3.9.3.17 Output ValueFreshAirDem

Standard Mode

DP Name:	FalueFreshAirDem	Abbr.:	--	Mandatory	☐
FB Name:	See table below			Can be internal	☒

Description

This datapoint contains the percent value for the fresh air demand.

Datapoint Type

DPT_Name:	DPT_Percent_U8				
DPT Format:	U_8	DPT_ID:	5.004		

Field	Description	Supp.	Range	Unit	Default
			0..100	%	cs

Access Type

♦ Output

this → M	☐	this → 1	☒				
Spontaneous	☒	COV:	☒	Delta-Value:	5%	MinRepTime:	10s
		Cyclic	☒	Period:	15min (recommended value)		
Request	☒						

Communication Type

♦ Group Object Datapoint — Mandatory: ☒

Default Group Address: --

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☐	Default value:	☐
		Saved value:	☐	Actual value (not for input):	☒
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

Special Features

List of Functional Blocks, **Output ValueFreshAirDem** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

LTE-HEE Mode

FB:	See table below	**LTE Client** **Output Name:**	**ValueFreshAirDem**				Mandatory ☐ Optional ☐
Description:							
This datapoint contains the percent value for the fresh air demand.							
DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8	

Field	Description	Sup.	Range	Unit	COV	Default
Fan position	Percent value for the fresh air demand	M	0...100	%	5	cs
COMMAND	Enumeration for commands 0 = NormalWrite all other commands	 M NA	enum			0

Communication:				
Binding Group:				
Class	Type		Default	
Geographical ☒	Apartment.Room.Sub_Zone		1.1.1	
Application Specific ☐				
Unassigned ☐	Broadcast ☐	Configurable ☐		
DP Address:	IO Type(ID):	261 (VAVCDA)	Property ID:	57
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
Write ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Power-up: Stored Value ☐		Act Value ☒	Default Value ☐
Exception Handling:				Save at Powerdown ☐

Special Features:				

List of Functional Blocks, **Output ValueFreshAirDem** is used in:

Name of FB	Abbreviation	Mandatory Optional
VAV Control Discharge Air	VAVCDA	O

3.9.4 Detailed Specification of the Zone Parameters (LTE)

See following pages

3.9.4.1 Parameter Apartment_x

FB:	see table below	Property Name (Server):	Apartment	Mandatory ☐ Optional ☐

Description:

Number of the apartment zone (effective space zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the apartment zone	M	(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	101
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
If Apartment is 'OutOfService' Room and SubZone automatically are 'OutOfService'

List of Functional Blocks, **Zone Apartment_x** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M
VAV Control Extract Air	VAVCEA	262	M

3.9.4.2 Parameter Room_y

FB:	see table below	Property Name (Server):	Room	Mandatory ☐ Optional ☐

Description:

Number of the room zone (effective space zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the room zone	M	(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	102
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone Room_y** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M
VAV Control Extract Air	VAVCEA	262	M

3.9.4.3 Parameter SubZone_z

FB: see table below	Property Name (Server): SubZone	Mandatory ☐ Optional ☐

Description:

Number of the sub zone (effective space zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the SubZone	M	(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	103
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone SubZone_z** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M
VAV Control Extract Air	VAVCEA	262	M

3.9.4.4 Parameter Apartment_u

FB:	see table below	Property Name (Server):	Apartment	Mandatory ☐ Optional ☐

Description:

Number of the apartment zone (scheduler zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the apartment zone	M	(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	104
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
If Apartment is 'OutOfService' Room and SubZone automatically are 'OutOfService'

List of Functional Blocks, **Zone Apartment_u** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
Water Heat Pump control	WHPC	259	O
Split Unit Control	SPUC	260	O
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
Radiator Room Control TU	RRCTU	256	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.5 Parameter Room_v

FB:	see table below	Property Name (Server):	Room	Mandatory ☐ Optional ☐

Description:

Number of the room zone (scheduler zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the room zone	M	(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	105
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone Room_v** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
Water Heat Pump control	WHPC	259	O
Split Unit Control	SPUC	260	O
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
Radiator Room Control TU	RRCTU	256	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.6 Parameter SubZone_w

FB:	see table below	Property Name (Server):	SubZone	Mandatory ☐ Optional ☐

Description:

Number of the sub zone (scheduler zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the SubZone	M	(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	106
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone SubZone_w** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
Water Heat Pump control	WHPC	259	O
Split Unit Control	SPUC	260	O
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
Radiator Room Control TU	RRCTU	256	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.7 Parameter Apartment_m

FB:	see table below	Property Name (Server):	Apartment	Mandatory ☐ Optional ☐

Description:

Number of the apartment zone (management zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the apartment zone	M	(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	107
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
If Apartment is 'OutOfService' Room and SubZone automatically are 'OutOfService'

List of Functional Blocks, **Zone Apartment_m** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M

3.9.4.8 Parameter Room_n

FB: see table below	Property Name (Server): Room	Mandatory ☐ Optional ☐

Description:

Number of the room zone (management zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the room zone	M	(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	108
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone Room_n** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M

3.9.4.9 Parameter SubZone_o

FB:	see table below	Property Name (Server):	SubZone	Mandatory ☐ Optional ☐

Description:

Number of the sub zone (management zone).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the SubZone	M	(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	109
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'
'OutOfService' is taken over from Apartment

List of Functional Blocks, **Zone SubZone_o** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	M
Water Heat Pump control	WHPC	259	M
Split Unit Control	SPUC	260	M
Radiator and Chilled Ceiling Room Control	RCCRC	257	M
Radiator Room Control TU	RRCTU	256	M
VAV Control Discharge Air	VAVCDA	261	M

3.9.4.10 Parameter OutsideSensorZone_f

FB:	see table below	Property Name (Server):	OutsideSensorZone	Mandatory ☐ Optional ☐

Description:

Number of the outside sensor zone.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Sensor Zone	Number of the sensor zone	M	1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	110
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Zone = 0 (wildcard) NOT allowed

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'

List of Functional Blocks, **Zone OutsideSensorZone_f** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
Water Heat Pump control	WHPC	259	O
Split Unit Control	SPUC	260	O
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
Radiator Room Control TU	RRCTU	256	O

3.9.4.11 Parameter OutsideSensorZone_g

FB:	see table below	Property Name (Server):	OutsideSensorZone	Mandatory ☐ Optional ☐

Description:

Number of the outside sensor zone.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Sensor Zone	Number of the sensor zone	M	1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	111
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Zone = 0 (wildcard) NOT allowed

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'

List of Functional Blocks, **Zone OutsideSensorZone_g** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
Water Heat Pump Control	WHPC	259	O
Split Unit Control	SPUC	260	O

3.9.4.12 Parameter DistrSegmC_c

FB:	see table below	Property Name (Server):	DistrSegmC	Mandatory ☐ Optional ☐

Description:

Number of the cooling distribution segment (chilled ceiling).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the Cooling Segment	M	(0) 1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	112
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

List of Functional Blocks, **Zone DistrSegmC_c** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.13 Parameter DistrSegmC_d

FB:	see table below	Property Name (Server):	DistrSegmC	Mandatory ☐ Optional ☐

Description:

Number of the cooling distribution segment (air cooler).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the Cooling Segment	M	(0) 1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	113
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

List of Functional Blocks, **Zone DistrSegmC_d** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.14 Parameter DistrSegmH_a

FB:	see table below	**Property Name (Server):**	**DistrSegmH**			Mandatory ☐ Optional ☐	
Description:							
Number of the heating distribution segment (radiator).							
DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8	
Field	Description			Sup.	Range	Unit	Default
Zone	Number of the Heating Segment			M	(0) 1...31		1
STATUS						Bitset	
- OutofService	zone active / inactive			O	true/false		false
- all other bits	not supported, fixed to '0'			NA		bool	false
COMMAND					enum		cs
- NormalWrite				M			
- SetOSV & ResetOSV	Set zone inactive / active			O			
- all other commands	not supported			NA			
Communication:							
DP Address: (in the server)	IO Type(ID):	see table below		Property ID:	114		
	Start-Index:	1		N° of elements	1		
Property access:	Read only ☐		Read/Write ☒				
Protection	Read level	-		Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							
The device is not LTE communicating in this zone if zone is 'OutOfService'.							

List of Functional Blocks, **Zone DistrSegmH_a** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Radiator and Chilled Ceiling Room Control	RCCRC	257	O
Radiator Room Control TU	RRCTU	256	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.15 Parameter DistrSegmH_b

FB:	see table below	Property Name (Server):	DistrSegmH	Mandatory ☐ Optional ☐

Description:

Number of the heating distribution segment (air heater).

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the Heating Segment	M	(0) 1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA		bool	false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	115
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

List of Functional Blocks, **Zone DistrSegmH_b** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
Fan Coil Control	FCC	258	O
VAV Control Discharge Air	VAVCDA	261	O

3.9.4.16 Parameter DistrSegmV_e

FB:	see table below	Property Name (Server):	DistrSegmV	Mandatory ☐ Optional ☐

Description:

Number of the ventilation distribution segment.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the Ventilation Segment	M	1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false		false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M			
- SetOSV & ResetOSV	Set zone inactive / active	O			
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	116
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

List of Functional Blocks, **Zone DistrSegmV_e** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional
VAV Control Discharge Air	VAVCDA	261	O

3.9.5 Detailed Specification of the Parameters

3.9.5.1 Parameter AirFlowDelta

FB:	see table below	Property Name (Server):	AirFlowDelta			Mandatory ☐ Optional ☐
Description:						
Delta value in percent for generating over or underpressure.						
DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
Value	Delta value	M	full	%	cs

Communication:				
DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level	-	Write level	-
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐

Special Features:				

List of Functional Blocks, **Parameter AirFlowDelta** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Extract Air	VAVCEA	262	O	145

3.9.5.2 Parameter BUSActuatorCP_ON/OFF

FB:	see table below	Property Name (Server):	BUSActuatorCP_ON/OFF			Mandatory ☐ Optional ☐
Description:						
Parameter for switching ON/OFF the bus information for the compressor actuator.						
DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = OFF 1 = ON	M	0 / 1	Bit	cs

Communication:				
DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level	-	Write level	-
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐

Special Features:				

List of Functional Blocks, **Parameter BUSActuatorCP_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Water Heat Pump Control	WHPC	259	O	122
Split Unit Control	SPUC	260	O	122

3.9.5.3 Parameter BUSActuatorCSA_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorCSA_ON/OFF	Mandatory ☐ Optional ☐

Description:

Parameter for switching ON/OFF the bus information for the cool stage A actuator.

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = OFF 1 = ON	M	0 / 1	Bit	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter BUSActuatorCSA_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	121
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	121
VAV Control Discharge Air	VAVCDA	261	O	121

3.9.5.4 Parameter BUSActuatorCSB_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorCSB_ON/OFF	Mandatory ☐ Optional ☐

Description:

Parameter for switching ON/OFF the bus information for the cool stage B actuator.

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = OFF 1 = ON	M	0 / 1	Bit	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter BUSActuatorCSB_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	122
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	122
VAV Control Discharge Air	VAVCDA	261	O	122

3.9.5.5 Parameter BUSActuatorDA_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorDA_ON/OFF					Mandatory ☐ Optional ☐
Description:						
Parameter for switching ON/OFF the bus information for the discharge air actuator.						
DPT: Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1	
Field	Description		Sup.	Range	Unit	Default
	0 = OFF 1 = ON		M	0 / 1	Bit	cs
Communication:						
DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below		
	Start-Index:	1	N° of elements	1		
Property access:	Read only ☐		Read/Write ☒			
Protection	Read level	-	Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐		

Special Features:						

List of Functional Blocks, **Parameter BUSActuatorDA_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	123

3.9.5.6 Parameter BUSActuatorEA_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorEA_ON/OFF					Mandatory ☐ Optional ☐
Description:						
Parameter for switching ON/OFF the bus information for the extract air actuator.						
DPT: Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1	
Field	Description		Sup.	Range	Unit	Default
	0 = OFF 1 = ON		M	0 / 1	Bit	cs
Communication:						
DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below		
	Start-Index:	1	N° of elements	1		
Property access:	Read only ☐		Read/Write ☒			
Protection	Read level	-	Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐		

Special Features:						

List of Functional Blocks, **Parameter BUSActuatorEA_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Extract Air	VAVCEA	262	O	124

3.9.5.7 Parameter BUSActuatorFA_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorFA_ON/OFF					Mandatory ☐ Optional ☐
Description:						
Parameter for switching ON/OFF the bus information for the fresh air actuator.						
DPT: Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1	
Field	Description		Sup.	Range	Unit	Default
	0 = OFF 1 = ON		M	0 / 1	Bit	cs
Communication:						
DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below		
	Start-Index:	1	N° of elements	1		
Property access:	Read only ☐		Read/Write ☒			
Protection	Read level	-	Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐		

Special Features:						

List of Functional Blocks, **Parameter BUSActuatorFA_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	123
Water Heat Pump Control	WHPC	259	O	123
Split Unit Control	SPUC	260	O	123

3.9.5.8 Parameter BUSActuatorFS_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorFS_ON/OFF					Mandatory ☐ Optional ☐
Description:						
Parameter for switching ON/OFF the bus information for the fan speed actuator.						
DPT: Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1	
Field	Description		Sup.	Range	Unit	Default
	0 = OFF 1 = ON		M	0 / 1	Bit	cs
Communication:						
DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below		
	Start-Index:	1	N° of elements	1		
Property access:	Read only ☐		Read/Write ☒			
Protection	Read level	-	Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐		

Special Features:						

List of Functional Blocks, **Parameter BUSActuatorFS_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	124
Water Heat Pump Control	WHPC	259	O	124
Split Unit Control	SPUC	260	O	124

3.9.5.9 Parameter BUSActuatorHSA_ON/OFF

FB: see table below	Property Name (Server): BUSActuatorHSA_ON/OFF	Mandatory ☐ Optional ☐

Description:

Parameter for switching ON/OFF the bus information for the heat stage A actuator.

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = OFF 1 = ON	M	0 / 1	Bit	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter BUSActuatorHSA_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	125
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	125
Radiator Room Control TU	RRCTU	256	O	125
VAV Control Discharge Air	VAVCDA	261	O	125

3.9.5.10 Parameter BUSActuatorHSB_ON/OFF

FB:	see table below	Property Name (Server):	BUSActuatorHSB_ON/OFF	Mandatory ☐ Optional ☐

Description:

Parameter for switching ON/OFF the bus information for the heat stage B actuator.

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = OFF 1 = ON	M	0 / 1	Bit	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter BUSActuatorHSB_ON/OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	126
Water Heat Pump Control	WHPC	259	O	126
Split Unit Control	SPUC	260	O	126
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	126
VAV Control Discharge Air	VAVCDA	261	O	126

3.9.5.11 Parameter ControlSequence

FB: see table below	Property Name (Server): ControlSequence	Mandatory ☐ Optional ☐

Description:

Parameter for defining the possible sequences (heating, cooling, both).

DPT:	Name	DPT_ChangeoverMode	DPT ID	20.107	Datatype format	N_8

Field	Description	Sup.	Range	Unit	Default
	0 = automatic (heating or cooling) 1 = cooling only 2 = heating only	M	0 ... 2	enum.	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter ControlSequence** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	127
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	127
VAV Control Discharge Air	VAVCDA	261	O	127

3.9.5.12 Parameter FanDwellTimeDeadZone

FB: see table below	Property Name (Server): FanDwellTimeDeadZone	Mandatory ☐ Optional ☐

Description:

Parameter for the fan dwell time in the deadzone in case of return air control.

DPT:	Name	DPT_TimePeriodMin	DPT ID	7.006	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
	Period	M	full	Min	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanDwellTimeDeadZone** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	133
Water Heat Pump Control	WHPC	259	O	133
Split Unit Control	SPUC	260	O	133

3.9.5.13 Parameter FanInDeadZone

FB: see table below	Property Name (Server): FanInDeadZone	Mandatory ☐ Optional ☐

Description:

Parameter for defining the fan behaviour in case of return air control.

DPT:	Name	DPT_FanMode	DPT ID	20.111	Datatype format	N_8

Field	Description	Sup.	Range	Unit	Default
	0 = nor running 1 = permanently running 2 = running in intervalls	M	0 ... 2	enum.	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanInDeadZone** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	134
Water Heat Pump Control	WHPC	259	O	134
Split Unit Control	SPUC	260	O	134

3.9.5.14 Parameter FanRunTimeDeadZone

FB: see table below	Property Name (Server): FanRunTimeDeadZone	Mandatory ☐ Optional ☐

Description:

Parameter for the fan run time in the deadzone in case of return air control.

DPT:	Name	DPT_TimePeriodMin	DPT ID	7.006	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
	Period	M	full	Min	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanRunTimeDeadZone** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	135
Water Heat Pump Control	WHPC	259	O	135
Split Unit Control	SPUC	260	O	135

3.9.5.15 Parameter FanSpeed#1OFF

FB: see table below	Property Name (Server): FanSpeed#1OFF	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 1 to switch off.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch off level for fan speed 1	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#1OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	136
Water Heat Pump Control	WHPC	259	O	136
Split Unit Control	SPUC	260	O	136

3.9.5.16 Parameter FanSpeed#1ON

FB: see table below	Property Name (Server): FanSpeed#1ON	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 1 to switch on.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch on level for fan speed 1	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#1ON** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	137
Water Heat Pump Control	WHPC	259	O	137
Split Unit Control	SPUC	260	O	137

3.9.5.17 Parameter FanSpeed#2OFF

FB: see table below	Property Name (Server): FanSpeed#2OFF	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 2 to switch off.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch off level for fan speed 2	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#2OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	138
Water Heat Pump Control	WHPC	259	O	138
Split Unit Control	SPUC	260	O	138

3.9.5.18 Parameter FanSpeed#2ON

FB: see table below	Property Name (Server): FanSpeed#2ON	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 2 to switch on.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch on level for fan speed 2	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#2ON** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	139
Water Heat Pump Control	WHPC	259	O	139
Split Unit Control	SPUC	260	O	139

3.9.5.19 Parameter FanSpeed#3OFF

FB: see table below	Property Name (Server): FanSpeed#3OFF	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 3 to switch off.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch off level for fan speed 3	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#3OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	140
Water Heat Pump Control	WHPC	259	O	140
Split Unit Control	SPUC	260	O	140

3.9.5.20 Parameter FanSpeed#3ON

FB: see table below	Property Name (Server): FanSpeed#3ON	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 3 to switch on.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch on level for fan speed 3	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#3ON** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	141
Water Heat Pump Control	WHPC	259	O	141
Split Unit Control	SPUC	260	O	141

3.9.5.21 Parameter FanSpeed#4OFF

FB: see table below	Property Name (Server): FanSpeed#4OFF	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 4 to switch off.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch off level for fan speed 4	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#4OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	142
Water Heat Pump Control	WHPC	259	O	142
Split Unit Control	SPUC	260	O	142

3.9.5.22 Parameter FanSpeed#4ON

FB: see table below	Property Name (Server): FanSpeed#4ON	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 4 to switch on.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch on level for fan speed 4	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#4ON** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	143
Water Heat Pump Control	WHPC	259	O	143
Split Unit Control	SPUC	260	O	143

3.9.5.23 Parameter FanSpeed#5OFF

FB: see table below	Property Name (Server): FanSpeed#5OFF	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 5 to switch off.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch off level for fan speed 5	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#5OFF** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	144
Water Heat Pump Control	WHPC	259	O	144
Split Unit Control	SPUC	260	O	144

3.9.5.24 Parameter FanSpeed#5ON

FB: see table below	Property Name (Server): FanSpeed#5ON	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed 5 to switch on.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Switch on level for fan speed 5	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeed#5ON** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	145
Water Heat Pump Control	WHPC	259	O	145
Split Unit Control	SPUC	260	O	145

3.9.5.25 Parameter FanSpeedDeadZone

FB: see table below	Property Name (Server): FanSpeedDeadZone	Mandatory ☐ Optional ☐

Description:

Parameter for the fan speed running in dead zone in case of return air control.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Fan speed level	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FanSpeedDeadZone** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	146
Water Heat Pump Control	WHPC	259	O	146
Split Unit Control	SPUC	260	O	146

3.9.5.26 Parameter FreshAirMinValue

FB: see table below	Property Name (Server): FreshAirMinValue	Mandatory ☐ Optional ☐

Description:

Parameter for the value for the minumum fresh air.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Minumum fresh air percentage	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter FreshAirMinValue** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	128
Water Heat Pump Control	WHPC	259	O	128
Split Unit Control	SPUC	260	O	128

3.9.5.27 Parameter MaxAirFlowCool

FB: see table below	Property Name (Server): MaxAirFlowCool					Mandatory ☐ Optional ☐
Description:						
Parameter for the maximum air flow in cooling mode (comfort).						
DPT: Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$	
Field	Description	Sup.	Range	Unit	Default	
Value	Air flow level for cooling	M	full	m^3/h	cs	
Z_8	not supported	NA				
Communication:						
DP Address: (in the server)	IO Type(ID): see table below Start-Index: 1		Property ID: see table below N° of elements 1			
Property access:	Read only ☐	Read/Write ☒				
Protection	Read level -		Write level -			
Exception Handling:	Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐					

Special Features:						

List of Functional Blocks, **Parameter MaxAirFlowCool** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	136

3.9.5.28 Parameter MaxAirFlowHeat

FB: see table below	Property Name (Server): MaxAirFlowHeat					Mandatory ☐ Optional ☐
Description:						
Parameter for the maximum air flow in heating mode (comfort).						
DPT: Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$	
Field	Description	Sup.	Range	Unit	Default	
Value	Air flow level for heating	M	full	m^3/h	cs	
Z_8	not supported	NA				
Communication:						
DP Address: (in the server)	IO Type(ID): see table below Start-Index: 1		Property ID: see table below N° of elements 1			
Property access:	Read only ☐	Read/Write ☒				
Protection	Read level -		Write level -			
Exception Handling:	Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐					

Special Features:						

List of Functional Blocks, **Parameter MaxAirFlowHeat** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	137

3.9.5.29 Parameter MinAirFlowCool

FB: see table below	Property Name (Server): MinAirFlowCool	Mandatory ☐ Optional ☐

Description:

Parameter for the minimum air flow in cooling mode (comfort).

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level for cooling	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter MinAirFlowCool** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	138

3.9.5.30 Parameter MinAirFlowEconomy

FB: see table below	Property Name (Server): MinAirFlowEconomy	Mandatory ☐ Optional ☐

Description:

Parameter for the minimum air flow in economy mode.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level for economy mode	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter MinAirFlowEconomy** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	139

3.9.5.31 Parameter MinAirFlowHeat

FB: see table below	Property Name (Server): MinAirFlowHeat					Mandatory ☐ Optional ☐
Description:						
Parameter for the minimum air flow in heating mode (comfort).						
DPT: Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$	

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level for heating mode	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:				
DP Address: (in the server)	IO Type(ID): see table below Start-Index: 1	Property ID: see table below N° of elements 1		
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level -	Write level -		
Exception Handling:	Value after Power-up: Stored Value ☒	Act Value ☐	Default Value ☐	

Special Features:				

List of Functional Blocks, **Parameter MinAirFlowHeat** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	140

3.9.5.32 Parameter MinAirFlowStandby

FB: see table below	Property Name (Server): MinAirFlowStandby					Mandatory ☐ Optional ☐
Description:						
Parameter for the minimum air flow in standby mode.						
DPT: Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$	

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level for standby mode	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:				
DP Address: (in the server)	IO Type(ID): see table below Start-Index: 1	Property ID: see table below N° of elements 1		
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level -	Write level -		
Exception Handling:	Value after Power-up: Stored Value ☒	Act Value ☐	Default Value ☐	

Special Features:				

List of Functional Blocks, **Parameter MinAirFlowStandby** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	141

3.9.5.33 Parameter NominalDischargeAirFlow

FB: see table below	Property Name (Server): NominalDischargeAirFlow	Mandatory ☐ Optional ☐

Description:

Parameter for the nominal value of discharge air flow.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Nominal discharge air flow	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter NominalDischargeAirFlow** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	M	142

3.9.5.34 Parameter NominalExtractAirFlow

FB: see table below	Property Name (Server): NominalExtractAirFlow	Mandatory ☐ Optional ☐

Description:

Parameter for the nominal value of extract air flow.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Nominal extract air flow	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter NominalExtractAirFlow** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Extract Air	VAVCEA	262	M	143

3.9.5.35 Parameter RatioExtractDischarge

FB: see table below	Property Name (Server): RatioExtractDischarge	Mandatory ☐ Optional ☐

Description:

Parameter for the ratio between extract and discharge air.

DPT:	Name	DPT_DecimalFactor	DPT ID	5.005	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
Value	Ratio, extract air divided by discharge air	M	full	ratio	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter RatioExtractDischarge** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Extract Air	VAVCEA	262	O	144

3.9.5.36 Parameter SplitCoolDefValue

FB: see table below	Property Name (Server): SplitCoolDefValue	Mandatory ☐ Optional ☐

Description:

Parameter for the split value of the cooling energy demand for stage A and stage B.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	Default
	Percentage of energy demand for splitting	M	full	%	cs

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Parameter SplitCoolDefValue** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	129
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	129
VAV Control Discharge Air	VAVCDA	261	O	129

3.9.5.37 Parameter SplitHeatDefValue

FB:	see table below	Property Name (Server):	SplitHeatDefValue				Mandatory ☐ Optional ☐
Description:							
Parameter for the split value of the heating energy demand for stage A and stage B.							
DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8	
Field	Description			Sup.	Range	Unit	Default
	Percentage of energy demand for splitting			M	full	%	cs
Communication:							
DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1		Property ID: N° of elements	see table below 1		
Property access:	Read only ☐		Read/Write ☒				
Protection	Read level	-		Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							

List of Functional Blocks, **Parameter SplitHeatDefValue** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	130
Water Heat Pump Control	WHPC	259	O	130
Split Unit Control	SPUC	260	O	130
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	130
VAV Control Discharge Air	VAVCDA	261	O	130

3.9.5.38 Parameter TempDischargeAirMin

FB:	see table below	Property Name (Server):	TempDischargeAirMin				Mandatory ☐ Optional ☐
Description:							
Parameter for the minimum temperature of the discharge air.							
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$	
Field	Description			Sup.	Range	Unit	Default
Value	Minimum temperature of discharge air			M	full	°C	cs
Z_8	not supported			NA			
Communication:							
DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1		Property ID: N° of elements	see table below 1		
Property access:	Read only ☐		Read/Write ☒				
Protection	Read level	-		Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							

List of Functional Blocks, **Parameter TempDischargeAirMin** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	132
VAV Control Discharge Air	VAVCDA	261	O	132

3.9.5.39 Parameter TempFrostAlarm

FB:	see table below	**Property Name (Server):**	**TempFrostAlarm**			Mandatory ☐ Optional ☐	
Description:							
Parameter for the frost temperature.							
DPT:	Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$	
Field	Description			Sup.	Range	Unit	Default
Value	Frost temperature			M	full	°C	cs
Z_8	not supported			NA			
Communication:							
DP Address: (in the server)	IO Type(ID):	see table below		Property ID:	see table below		
	Start-Index:	1		N° of elements	1		
Property access:	Read only ☐		Read/Write ☒				
Protection	Read level	-		Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							

List of Functional Blocks, **Parameter TempFrostAlarm** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	131
Water Heat Pump Control	WHPC	259	O	131
Split Unit Control	SPUC	260	O	131
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	131
Radiator Room Control TU	RRCTU	256	O	131
VAV Control Discharge Air	VAVCDA	261	O	131

3.9.6 Detailed Specification of the Diagnostic Data

3.9.6.1 Diagnostic Data AirFlowDischarge

FB: see table below	**Property Name (Server):** **AirFlowDischarge**	Mandatory ☐ Optional ☐

Description:

Value of dischage air volume.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level of discharge air	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☒		Read/Write ☐	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Diagnostic Data AirFlowDischarge** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Discharge Air	VAVCDA	261	O	148

3.9.6.2 Diagnostic Data AirFlowExtract

FB: see table below	**Property Name (Server):** **AirFlowExtract**	Mandatory ☐ Optional ☐

Description:

Value of extract air volume.

DPT:	Name	DPT_HVACAirFlow_Z	DPT ID	203.104	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Value	Air flow level of extract air	M	full	m^3/h	cs
Z_8	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☒		Read/Write ☐	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Diagnostic Data AirFlowExtract** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
VAV Control Extract Air	VAVCEA	262	O	149

3.9.6.3 Diagnostic Data ContrModeAct

FB:	see table below	Property Name (Server):	ContrModeAct	Mandatory ☐ Optional ☐

Description:

Active value of the ContrMode.

DPT:	Name	DPT_HVACContrMode	DPT ID	20.105	Datatype format	N_8

Field	Description	Sup.	Range	Unit	Default
ContrMode		M	0...20	enum.	cs
	0 = Auto	O			
	1 = Heat	O			
	2 = Mng Wrmup	O			
	3 = Cool	O			
	4 = Night Purge	O			
	5 = Precool	O			
	6 = Off	O			
	7 = Test	O			
	8 = Emerg Heat	O			
	9 = Fan Only	O			
	10 = Free Cool	O			
	11 = Ice	O			
	20 = No Demand	O			
	all other enumerations	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below
	Start-Index:	1	N° of elements	1
Property access:	Read only ☒		Read/Write ☐	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Diagnostic Data ContrModeAct** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	150
Water Heat Pump Control	WHPC	259	O	150
Split Unit Control	SPUC	260	O	150
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	150
Radiator Room Control TU	RRCTU	256	O	150
VAV Control Discharge Air	VAVCDA	261	O	150

3.9.6.4 Diagnostic Data HeatCoolMode

FB: see table below	Property Name (Server): HeatCoolMode	Mandatory ☐ Optional ☐

Description:

Active HeatCoolMode.

DPT:	Name	DPT_Heat/Cool	DPT ID	1.100	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	0 = cooling 1 = heating	M	0 / 1	Bit	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☒		Read/Write ☐	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Diagnostic Data HeatCoolMode** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	151
Water Heat Pump Control	WHPC	259	O	151
Split Unit Control	SPUC	260	O	151
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	151
VAV Control Discharge Air	VAVCDA	261	O	151

3.9.6.5 Diagnostic Data HVACModeAct

FB: see table below	Property Name (Server): HVACModeAct	Mandatory ☐ Optional ☐

Description:

Active value of the HVACMode.

DPT:	Name	DPT_HVACMode	DPT ID	20.102	Datatype format	N_8

Field	Description	Sup.	Range	Unit	Default
HVACMode	0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = BuildProt all other enumerations	M NA M M NA	1...4	enum.	cs

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	see table below 1	Property ID: N° of elements	see table below 1
Property access:	Read only ☒		Read/Write ☐	
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

List of Functional Blocks, **Diagnostic Data HVACModeAct** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	152
Water Heat Pump Control	WHPC	259	O	152
Split Unit Control	SPUC	260	O	152
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	152
Radiator Room Control TU	RRCTU	256	O	152
VAV Control Discharge Air	VAVCDA	261	O	152

3.9.6.6 Diagnostic Data TempRoomSetpAct

FB: see table below	Property Name (Server): TempRoomSetpAct						Mandatory ☐ Optional ☐
Description:							
Active room temperature setpoint.							
DPT: Name	DPT_TempHVACAbs_Z	DPT ID	205.100	Datatype format	$V_{16}Z_8$		
Field	Description			Sup.	Range	Unit	Default
Value	Room temperature setpoint			M	full	°C	cs
Z_8	not supported			NA			
Communication:							
DP Address: (in the server)	IO Type(ID):	see table below		Property ID:	see table below		
	Start-Index:	1		N° of elements	1		
Property access:	Read only ☒		Read/Write ☐				
Protection	Read level	-		Write level	-		
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							

List of Functional Blocks, **Diagnostic Data TempRoomSetpAct** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	153
Water Heat Pump Control	WHPC	259	O	153
Split Unit Control	SPUC	260	O	153
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	153
Radiator Room Control TU	RRCTU	256	O	153
VAV Control Discharge Air	VAVCDA	261	O	153

3.9.6.7 Diagnostic Data ValueEnergyDem

FB:	see table below	Property Name (Server):	ValueEnergyDem				Mandatory ☐ Optional ☐
Description:							
Active room temperature setpoint.							
DPT:	Name	DPT_Percent_V8	DPT ID	6.001	Datatype format	V_8	
Field	Description			Sup.	Range	Unit	Default
Value	Energy demand in percent –100% = full heating demand +100% = full cooling demand			M	full	%	cs
Communication:							
DP Address: (in the server)	IO Type(ID):	see table below	Property ID:	see table below			
	Start-Index:	1	N° of elements	1			
Property access:	Read only ☒		Read/Write ☐				
Protection	Read level	-	Write level	-			
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐			

Special Features:							

List of Functional Blocks, **Diagnostic Data ValueEnergyDem** is used in:

Name of FB	Abbreviation	IO Type (ID)	Mandatory Optional	Property ID
Fan Coil Control	FCC	258	O	154
Water Heat Pump Control	WHPC	259	O	154
Split Unit Control	SPUC	260	O	154
Radiator and Chilled Ceiling Room Control	RCCRC	257	O	154
Radiator Room Control TU	RRCTU	256	O	154
VAV Control Discharge Air	VAVCDA	261	O	154

3.9.7 Detailed Specification of the Alarms

3.9.7.1 Alarm FrostRoom

To be defined.

3.9.7.2 Alarm LowDischargeAir

To be defined.

3.9.7.3 Alarm SecurityStop

To be defined.

