Application Descriptions

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HVAC General Functional Blocks

HVAC Common Functional Blocks

Summary:

This Approved Standard is a part of the HVAC Application Interworking Standard for HVAC applications. This Chapter describes the HVAC Common Functional Blocks.

Version 02.05.02 is WGI approved

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

Document updates

Version	Date	Modifications
2.4 AS	2008.09.10	• AN106 "Phasing out TP0" integrated. • AN107 "Phasing out LT-R" integrated. • AN108 "Phasing out LT-S" integrated. • AN109 "Phasing out PL132" integrated. • AN110 "Phasing out A-Mode" integrated.
2.4 AS	2009.05.06	Editorial update in view of publication in the KNX Specifications v2.4.
2.5 Draft	1013.10.07	• ComfortProlongEff, TempRoomSetpUserOffsetEff, TempRoomSetpAbsEff added to FB RSMHD • HumRelSetpUserEff, HumDehumMode added to FB SMRH → new DPT_HumDehumMode 20.114 • AQSetpUserEff added to FB SMAQ • FBs PMC, HVACOPT, BOS: Enumerations of inputs and outputs with DPT_HVACContrMode / DPT_HVACContrMode_Z updated according updated DPT specifications, see [1]. • Editorial
2.5.01 Draft	2012.10.14	• Editorial
02.05.02	2013.10.28	• Editorial updates for the publication of KNX Specifications 2.1.

Copies with the same version number but newer save date contain small corrections without impact on the content.

References

References, relevant for this document.

[1] Chapter 3/7/2 “Datapoint Types”
[2] Chapter 7/10/1 “HVAC Sensor Functional Blocks”
[3] Chapter 7/10/2 “HVAC HMI Functional Blocks”
[4] Chapter 7/10/3 “HVAC Actuator Functional Blocks”
[5] Chapter 7/10/4 “HVAC Common Functional Blocks”
[6] Chapter 7/10/5 “HVAC Scheduler Functional Blocks”
[7] Part 7/11 “Hot Water Heating” (all Chapters)
[8] Part 7/12 “Direct Electrical Heating” (planned)
[9] Part 7/13 “Terminal Units”
[10] Part 7/14 “Ventilation, Air Conditioning and Cold Water”
[11] Part 10/1 “LTE Specificatio”

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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 Sensor Functional Blocks used for HVAC applications.

Other general purpose Functional Blocks used for HVAC applications such as 'HVAC HMI' [3], 'HVAC Actuators' [4], 'HVAC Common Functions' [5] and 'HVAC Schedulers' [6] are described in separate documents.

Functional Block specification for the applications 'Hot Water Heating' (HWH) [7], 'Direct Electrical Heating' (DEH) [8], 'Terminal Units' (TU) [9] and 'Ventilation & Air Conditioning' (VAC) [10] are described in separate documents.

1.2 Objectives

This document includes the information necessary to build interoperable HVAC sensor products using the KNX system. 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 ‘E-Mode installation’ system (LTE-HEE Mode [11]).

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, 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 sensor 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

1.3.1 Focus

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, and
- for the implementation of mandatory objects used for runtime interworking in standard mode (Basic Functional Block)

1.3.2 Runtime Interworking

Configuration Mode dependent (S-Mode, Ctrl-Mode, PB-Mode) implementation of optional runtime interworking objects is not specified in this document, e.g. “E-Mode Channel” definitions.

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

			STANDARD MODE	**EXTENDED MODE**	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**HEE**
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.

1.3.3 Parameters and Diagnostic Data

LTE implementation

- Parameters and Diagnostic Data of a Functional Block shall be implemented as Properties of the corresponding Interface Object that are accessed using point-to-point communication.
- 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 point-to-point communication mode. This document does not lay down how to implement Parameters and Diagnostic Data in S-Mode, Ctrl-Mode and PB-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. E-Mode Channel definition).
- In case of Properties, the implementation of HVAC specific DPT with extended features may be a problem (depending on the available microcontroller resources). 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:

    $\text{IO Type}^{\text{used}} = \text{IO Type}^{\text{standardDPT}} = \text{IO Type}^{\text{HVAC-LTE}} + 10\,000\text{d}$

    EXAMPLE $\text{BUC}^{\text{HVAC-LTE}} = 128 \Rightarrow \text{BUC}^{\text{standardDPT}} = 10\,128$
  - 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 IO TypestandardDPT 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 [1].

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.

1.5 Abbreviations

1.5.1 Functional Blocks

1.5.1.1 Sensors [2], HMI [3], Actuators [4], Common Controller Functions [5]

Abbreviation	[Doc]	Description
BOS	[5]	Building/Occ-Mode Source
HVACEMS	[5]	HVAC Emergency Source
HVACOPT	[5]	HVAC Optimiser
PMC	[5]	Programme to HVAC-Mode Conversion
PRD	[2]	Presence Detector
RSMHD	[5]	Room Setpoint Manager HVAC-Mode Driven
RSMTD	[5]	Room Setpoint Manager Temperature Driven
RTSA	[5]	Room Temperature Setpoint Absolute
SMAQ	[5]	Setpoint Manager Air quality
SMRH	[5]	Setpoint Manager Relative Humidity
SSLSTA	[5]	Setpoint Shift by Loadshedding & Tariff
UAQSS	[3]	User Air Quality Setpoint Setting
UEARTS	[3]	User Enable Alternative Room Temperature Setpoint
UHRS	[3]	User HVAC Room Settings
UPS	[3]	User Presence Setting
URHSS	[3]	User Relative Humidity Setpoint setting
WOS	[2]	Window Switch

1.5.1.2 Schedulers [6]

As far as relevant in this document.

Abbreviation	Description
ARTSS	Absolute Room Temperature Setpoint Scheduler
HVACS	HVAC Scheduler

1.5.2 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

Abbreviation	Description
HEE	HVAC Easy Extension
HVAC	Heating Ventilation Air Conditioning
LTE	Logical Tag Extended

Abbreviation	Description
IR	LTE-Service InfoReport
W	LTE-Service Write

Abbreviation	Description
DEH	Direct Electric Heating
DHW	Domestic Hot Water
TU	Terminal Unit
VAC	Ventilation and Air Conditioning

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 an overview of the functionality of the Functional Block, as well as possibly 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.

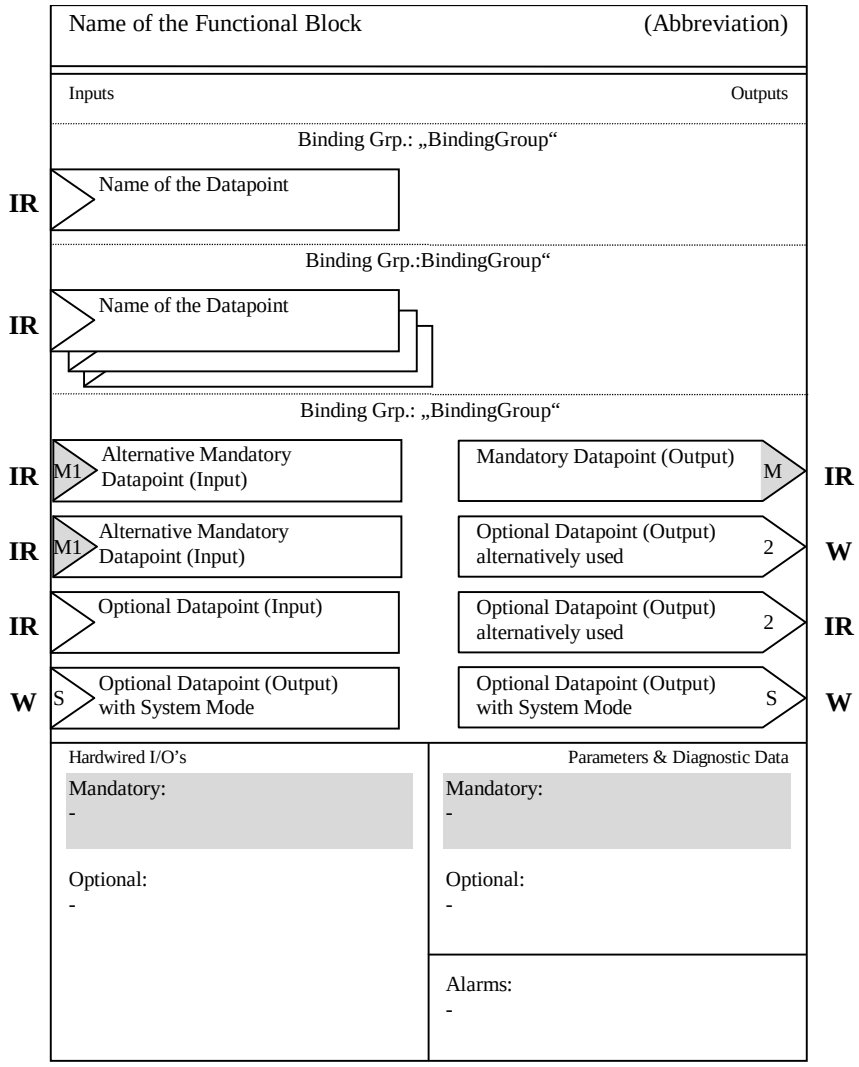
The Inputs / Outputs are grouped in Binding Groups, according to LTE (Logical Tag Extended).

Mandatory Inputs / Outputs have a grey arrow with the letter M.
They also have to be available in the Standard 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 Standard 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

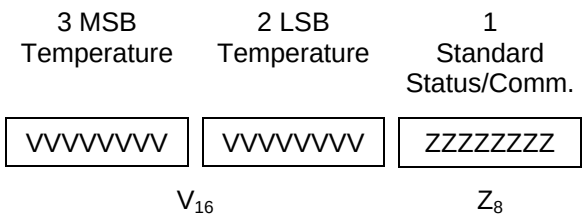
Detailed description of the Datapoints is given in a separate document [1].

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; $V_{16}Z_8$



Encoding: See below

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

Standard Status/Command Information

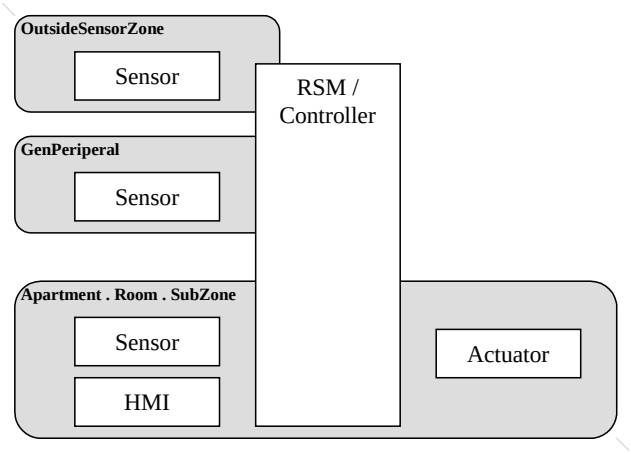
Some of the Datapoints are combined with Standard Status/Command Information.
For further information see [1].

3 Common HVAC Functional Blocks

3.1 Introduction to Common HVAC Functional Blocks

This document contains some HVAC common Functional Blocks.

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



3.2 Programme to HVAC-Mode Conversion (PMC)

3.2.1 Aims and objectives

The purpose of the Functional Block 'Programme to HVAC-Mode Conversion' is to extract from general programme information the present and the next ‘HVACMode’ as well as the time to the latter. In addition the ‘EnableComfort’ and the 'ContrMode' may be determined.

In parallel to this Functional Block there may be similar Functional Blocks for other ‘installations’ as e.g. light, shutter, security etc., all basing on the same programme information.
This solution is e.g. used in larger building automation systems. For smaller systems refer to the schedulers, described in [6].
Here only the HVAC part is defined.

3.2.2 Functional specification

According to TC247 for the outputs HVACMode and HVACModeNext the following HVAC-Modes are used: Comfort, Standby, Economy and Building Protection

In the LTE-Mode the Outputs support the LTE zoning "Apartment . Room . SubZone".

Inputs

- BuildingMode: Current/present building mode (Used, Not Used, Protection) being provided by a “supervisor”.
- BuildingModeNext: Next mode (Used, Not Used, Protection) and the delay to it being provided by a “supervisor”.
- OccMode: Current/present occupancy mode (Occupied, Standby, Not Occupied) being provided by a “supervisor”.
- OccModeNext: Next mode (Occupied, Standby, Not Occupied) and the delay to it being provided by a “supervisor”.
- ContrModeBO: The Controlling mode defines all special HVAC functions and is provided by a “supervisor”.

Outputs

- HVACMode Current/present mode (Comfort, Standby, Economy, Building Protection) for the room setpoint manager.
- HVACModeNext Next mode (comfort, standby, economy, building protection) and the delay to it for the room setpoint manager.
- EnableComfort This output can be used to inhibit the Room Setpoint Manager to go to comfort when the 'local influences' e.g. HMI ask for it. This inhibit may be necessary e.g. due to lack of hot water etc.
- ContrMode This output defines all special HVAC functions which may be demanded by a supervisor. It is delivered to the controller.

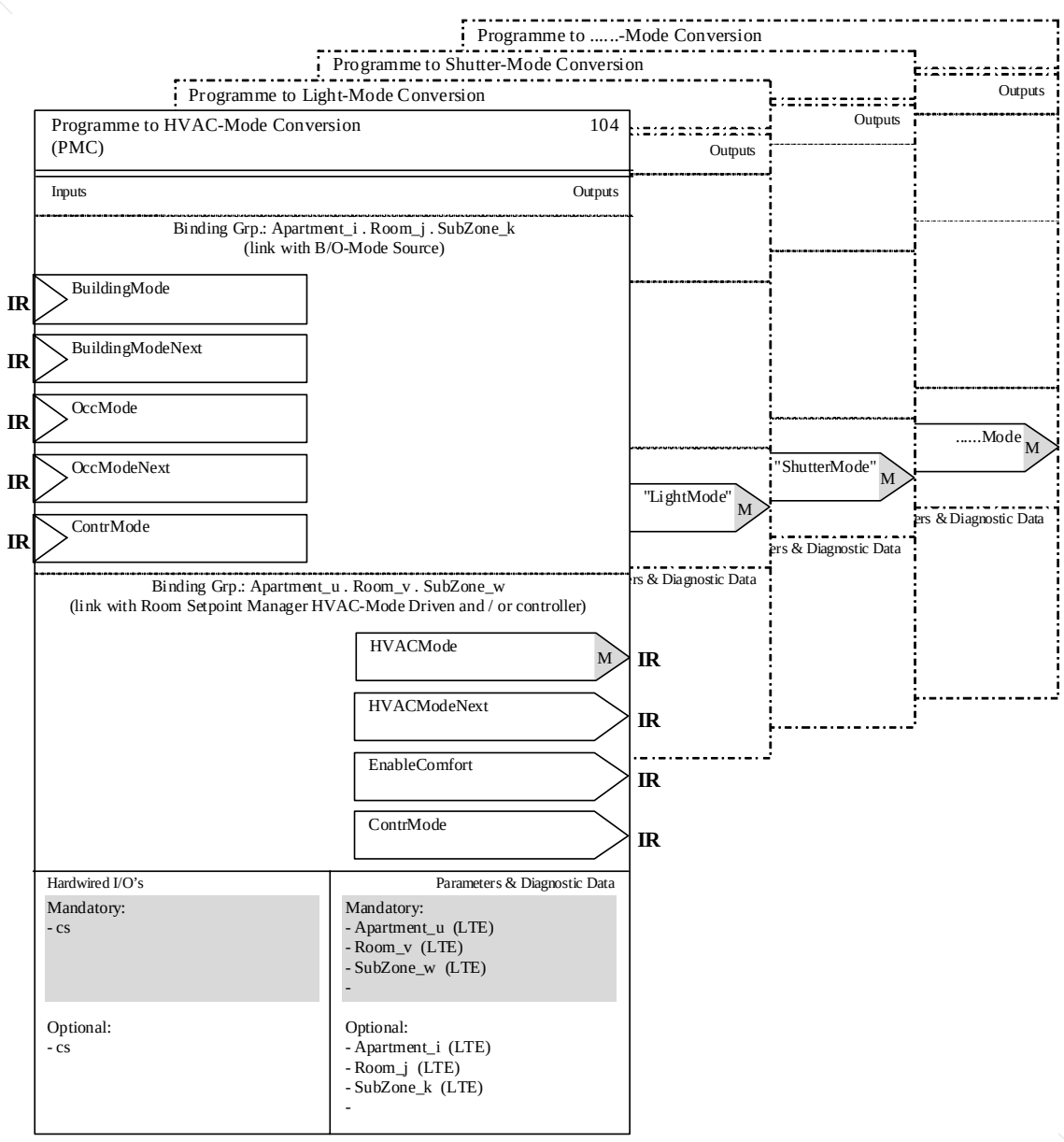
Binding Groups (LTE)

- Binding group i, j, k This binding group is used for the BuildingMode and the OccMode (mostly part of a supervisor).
- Binding group u.v.w This binding group is used for the time programmes. (see 'Room Setpoint Manager HVAC Mode Driven'.)

3.2.3 Constraints

None.

3.2.4 Functional Block diagram



3.2.5 Datapoint description

Overview

Datapoints	Description / remarks	Datapoint Type	Additional info
Inputs			
Building Mode	Present Building Mode with: - COV and RepPer - Z_8 STATUS supported from FB Building/Occ-Mode Source	LTE: 201.107 DPT_BuildingMode_Z N_8Z_8 S: 20.002 DPT_BuildingMode N_8	LTE: O S: (GO) 0 = Building in Use 1 = Building not Used 2 = Building Protection
Building Mode Next	Next Building Mode plus time to next mode with: - COV and RepPer from FB Building/Occ-Mode Source Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.105 DPT_BuildingModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = Building in Use 1 = Building not Used 2 = Building Protection
Occ Mode	Present Occupancy Mode with: - COV and RepPer - Z_8 STATUS supported from FB Building/Occ-Mode Source	LTE: 201.108 DPT_OccMode_Z N_8Z_8 S: 20.003 DPT_OccMode N_8	LTE: O S: (GO) 0 = Building Occupied 1 = Building Standby 2 = Building not Occupied
Occ Mode Next	Next Occupancy Mode plus time to next mode with: - COV and RepPer from FB Building/Occ-Mode Source Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.104 DPT_OccModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = Building Occupied 1 = Building Standby 2 = Building not Occupied time = min
Contr ModeBO	HVAC Controlling Mode with: - COV and RepPer - Z_8 STATUS supported from FB Building/Occ-Mode Source	LTE: 201.104 DPT_HVACContrMode_Z N_8 S: 20.105 DPT_HVACContrMode N_8	LTE: O S: (GO) see DP description

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
HVAC Mode	Present HVAC Mode with: - COV and RepPer - Z_8 STATUS supported to FB 'Room Setpoint Manager HVAC Mode Driven'	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: M S: GO 0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = Building Protection
HVAC Mode Next	Next HVAC Mode plus time to next mode with: - COV and RepPer to FB 'Room Setpoint Manager HVAC Mode Driven' Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.100 DPT_HVACModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = Building Protection
Enable Comfort	Local comfort is possible (1) or not possible (0) with: - COV and RepPer to FB 'Room Setpoing Manager HVAC Mode Driven'	LTE: 1.003 DPT_Enable B_1 S: 1.003 DPT_Enable B_1	LTE: O S: (GO) 0 = disabled 1 = enabled
Contr Mode	HVAC Controlling Mode with: - COV and RepPer - Z_8 STATUS supported to FB various controllers	LTE: 201.104 DPT_HVACContrMode_Z N_8 S: 20.105 DPT_HVACContrMode N_8	LTE: O S: (GO) see DP description

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameter			
Apartment_u	LTE zoning number for Apartment	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	M Programme zone
Room_v	LTE zoning number for Room	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	M Programme zone
SubZone_w	LTE zoning number for SubZone	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	M Programme zone
Apartment_i	LTE zoning number for Apartment	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	O Building/Occ mode zone
Room_j	LTE zoning number for Room	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	O Building/Occ mode zone
SubZone_k	LTE zoning number for SubZone	202.002 DPT_UcountValue8_ZU$_8$Z$_8$	O Building/Occ mode zone

PMC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**HEE**
Inputs	BuildingMode	**(GO$_b$)**		(GO)	**O**
	BuildingModeNext	**NA$_b$**	NA	NA	**O**
	OccMode	**(GO$_b$)**		(GO)	**O**
	OccModeNext	**NA$_b$**	NA	NA	**O**
	ContrModeBO	**(GO$_b$)**		(GO)	**O**
Outputs	HVACMode	**GO$_b$**		GO	**M**
	HVACModeNext	**(GO$_b$)**		(GO)	**O**
	EnableComfort	**(GO$_b$)**		(GO)	**O**
	ContrMode	**(GO$_b$)**		(GO)	**O**

PMC LTE specific Properties

		Support
Parameter	Apartment_u	**M**
	Room_v	**M**
	SubZone_w	**M**
	Apartment_i	**O**
	Room_j	**O**
	SubZone_k	**O**

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

		Support
Parameter		

3.2.6 Detailed specification of the Datapoints

3.2.6.1 Input BuildingMode

Standard Mode

DP Name:	BuildingMode	Abbr.:	---	Mandatory	☐
FB Name:	PMC			Can be internal	☐

Description

This information is provided by a supervisor and defines the building mode.

Datapoint Type

DPT_Name:	DPT_BuildingMode				
DPT Format:	N_8	DPT_ID:	20.002		
Field	Description	Supp.	Range	Unit	Default
BuildingMode	0 = Building in Use 1 = Building not used 2 = Building Protection all other enumeration	 M M M NA	0...2	enum.	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode

FB: **PMC**	**LTE Client Input Name:** **BuildingMode**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor and defines the building mode.

DPT:	Name	DPT_BuildingMode_Z	DPT ID	201.107	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
BuildingMode			enum.	cs
	0 = Building in Use	M		
	1 = Building not used	M		
	2 = Building Protection	M		
	all other enumeration	NA		
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	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:

3.2.6.2 Input BuildingModeNext

Standard Mode: NA

LTE-HEE Mode

FB: PMC	**LTE Client Input Name:**	**BuildingModeNext**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor and defines the next building mode and the time to it. If the next mode is not available the time is set to zero.

DPT:	Name	DPT_BuildingModeNext	DPT ID	206.105	Datatype format	$U_{16}N_8$

Field	Description	Sup.	Unit	Default
Time	Time to next Building Mode in minutes 0 = Next mode undefined		min	0
BuildingModeNext	 0 = Building in Use 1 = Building not Used 2 = Building Protection all other enumeration	 M M M NA	enum	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 109 (BOS)	Property ID:	52
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:

3.2.6.3 Input OccMode

Standard Mode

DP Name:	OccMode	Abbr.:	---	Mandatory	☐
FB Name:	PMC			Can be internal	☐

Description

This information is provided by a supervisor and defines the occupancy mode.

Datapoint Type

DPT_Name:	DPT_OccMode				
DPT Format:	N_8	DPT_ID:	20.003		
Field	Description	Supp.	Range	Unit	Default
OccMode	0 = Building Occupied 1 = Building Standby 2 = Building not Occupied all other enumeration	M M M NA	0...2	enum.	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode

FB: **PMC**	**LTE Client Input Name:** **OccMode**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor and defines the occupancy mode.

DPT:	Name	DPT_OccMode_Z	DPT ID	201.108	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
OccMode			enum.	cs
	0 = Building Occupied	M		
	1 = Building Standby	M		
	2 = Building not Occupied	M		
	all other enumeration	NA		
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	53
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:

3.2.6.4 Input OccModeNext

Standard Mode: NA

LTE-HEE Mode

FB: **PMC**	**LTE Client Input Name:** **OccModeNext**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor and defines the next occupancy mode and the time to it. If the next mode is not available the time is set to zero.

DPT:	Name	DPT_OccModeNext	DPT ID	206.104	Datatype format	$U_{16}N_8$

Field	Description	Sup.	Unit	Default
Time	Time to next Occupancy Mode in minutes 0 = Next mode undefined		min	0
OccModeNext			enum	cs
	0 = Building Occupied	M		
	1 = Building Standby	M		
	2 = Building not Occupied	M		
	all other enumeration	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 109 (BOS)	Property ID:	54
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:

3.2.6.5 Input ContrModeBO

Standard Mode

DP Name:	ContrModeBO	Abbr.:	---	Mandatory	☐
FB Name:	PMC			Can be internal	☐

Description

This information is provided by a supervisor and defines the controlling mode.

Datapoint Type

DPT_Name:	DPT_HVACContrMode		
DPT Format:	N_8	DPT_ID:	20.105

Field	Description	Supp.	Range	Unit	Default
ContrMode			0...20	enum.	cs
	0 = Auto	O			
	1 = Heat / 2 = Mrng Wmup	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 / 12 = Max. Heating Mode	O			
	13 = Eco. H/C Mode / 14 = Dehumidification	O			
	15 = Calibration Mode / 16= Emerg Cool Mode	O			
	17 = Emerg Steam / 20 = No Demand	O			
	all other enumeration	NA			

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode

FB: PMC	**LTE Client Input Name:** ContrModeBO	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor and defines the controlling mode.

DPT:	Name	DPT_HVACContrMode_Z	DPT ID	201.104	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
ContrMode			enum.	cs
	0 = Auto	O		
	1 = Heat	O		
	2 = Mrng Wmup	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		
	12 = Max. Heating Mode	O		
	13 = Eco. H/C Mode	O		
	14 = Dehumidification	O		
	15 = Calibration Mode	O		
	16= Emerg Cool Mode	O		
	17 = Emerg Steam	O		
	20 = No Demand	O		
	all other enumeration	NA		
STATUS			Bitset	
Bit 0 - OutOfService	Function out of Service	O	t/f	false
Bit 1 - Fault	Information is corrupted	O	t/f	false
Bit 2 - Overridden	Information is temporarily overridden	O	t/f	false
Bit 3 - InAlarm	Information with alarm	O	t/f	false
Bit 4 - AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 109 (BOS)	Property ID:	55
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:

3.2.6.6 Output HVACMode

Standard Mode

DP Name:	HVACMode	Abbr.:	---	Mandatory	☒
FB Name:	PMC			Can be internal	☐

Description

This output contains the HVAC mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: PMC	**LTE Server Output Name:** HVACMode	Mandatory ☒ Optional ☐

Description:

This output contains the HVAC mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
HVACMode			1...4	enum.	yes	cs
	0 = Auto	NA				
	1 = Comfort	M				
	2 = Standby	M				
	3 = Economy	M				
	4 = BuildingProtection	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false		Y	false
- Fault	Value is corrupted	O	true/false		Y	false
- Overridden	RSM is temporarily overridden	O	true/false		Y	false
- InAlarm	RSM is in alarm	O	true/false		Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false		Y	false
- all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 104 (PMC)		Property ID: 51	
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.2.6.7 Output HVACModeNext

Standard Mode: NA

LTE-HEE Mode

FB: PMC	**LTE Server Output Name:** HVACModeNext	Mandatory ☐ Optional ☒

Description:

This output contains the next HVAC mode and the time to it. If the next mode is not available the time is set to zero.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

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

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next HVAC mode in minutes, 0 = no next mode [1]		full	min	15 [2]	0
Next HVACMode			0...4	enum.	yes	cs
	0 = Mode undefined [1]	M				
	1 = Comfort 2 = Standby	M				
	3 = Economy 4 = Build.Prot.	M				
	all other enumeration	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 104 (PMC)	Property ID: 52
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min
	Output per default communicating ☐	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
(LTE Read-Response polling of the output shall always be supported)	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:

[1] encoding of special conditions, see table below
[2] COV value is identical to heart beat time (15 min).

Interpretation of Time and HVACMode fields

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

3.2.6.8 Output EnableComfort

Standard Mode

DP Name:	EnableComfort	Abbr.:	---	Mandatory	☐
FB Name:	PMC			Can be internal	☐

Description

This output contains the enable/disable for the local comfort mode (HMI).

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB:	**PMC**	**LTE Server Output Name:**	**EnableComfort**			Mandatory ☐ Optional ☒	
Description:							
This output contains the enable/disable for the local comfort mode (HMI).							
DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1	
Field	Description		Sup.	Range	Unit	COV	Default
				0/1	Bit	yes	cs

Communication:			
Binding Group:			
Class	Type		Default
Geographical ☒	Apartment . Room . SubZone		1.1.1
Application Specific ☐			
Peripheral ☐	Broadcast ☐ Configurable ☐		
DP Address:	IO Type(ID): 104 (PMC)	Property ID: 53	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:			

3.2.6.9 Output ContrMode

Standard Mode

DP Name:	ContrMode	Abbr.:	---	Mandatory	☐
FB Name:	PMC			Can be internal	☐

Description

This output contains the controlling mode.

Datapoint Type

DPT_Name:	DPT_HVACContrMode		
DPT Format:	N_8	DPT_ID:	20.105

Field	Description	Supp.	Range	Unit	Default
ContrMode			0...20	enum.	cs
	0 = Auto	O			
	1 = Heat / 2 = Mrng Wmup	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 / 12 = Max. Heating Mode	O			
	13 = Eco. H/C Mode / 14 = Dehumidification	O			
	15 = Calibration Mode / 16= Emerg Cool Mode	O			
	17 = Emerg Steam / 20 = No Demand	O			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **PMC**	**LTE Server Output Name:** **ContrMode**	Mandatory ☐ Optional ☒

Description:

This output contains the Controlling mode.

DPT:	Name	DPT_HVACContrMode_Z	DPT ID	201.104	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
ContrMode			0...20	enum.	yes	cs
	0 = Auto	O				
	1 = Heat 2 = M Wmup	O				
	3 = Cool 4 = Ngt Prge	O				
	5 = Precool 6 = Off	O				
	7 = Test 8 = EmgHeat	O				
	9 = Fan only 10 = Free Cool	O				
	11 = Ice 12 = Max. Heating Mode	O				
	13 = Eco. H/C Mode 14 = Dehumidification	O				
	15 = Calibration Mode 16= Emerg Cool Mode	O				
	17 = Emerg Steam 20 = No Demand	O				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false	Bit 0	Y	false
- Fault	Value is corrupted	O	true/false	Bit 1	Y	false
- Overridden	RSM is temporarily overridden	O	true/false	Bit 2	Y	false
- InAlarm	RSM is in alarm	O	true/false	Bit 3	Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false	Bit 4	Y	false
- all other bits		NA		Bit 5-7		

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 104 (PMC)	Property ID: 54	
LTE-Services (event):	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.2.6.10 Parameter Apartment_u

FB: PMC	Property Name (Server): Apartment_u	Mandatory ☒ Optional ☐

Description:

Number of the apartment zone. (schedule)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 for the schedule.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_u is 'OutOfService' Room_v and SubZone_w automatically are 'OutOfService' too.

3.2.6.11 Parameter Room_v

FB: PMC	Property Name (Server): Room_v	Mandatory ☒ Optional ☐

Description:

Number of the room zone. (schedule)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 for the schedule.
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_u.

3.2.6.12 Parameter SubZone_w

FB: PMC	Property Name (Server): SubZone_w	Mandatory ☒ Optional ☐

Description:

Number of the SubZone. (schedule)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 for the schedule.
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_u.

3.2.6.13 Parameter Apartment_i

FB: PMC	Property Name (Server): Apartment_i	Mandatory ☐ Optional ☒

Description:

Number of the apartment zone. (BuildingMode and OccMode)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.2.6.14 Parameter Room_j

FB: PMC	Property Name (Server): Room_j	Mandatory ☐ Optional ☒

Description:

Number of the room zone. (BuildingMode and OccMode)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 of the controller itself.
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_x.

3.2.6.15 Parameter SubZone_k

FB: PMC	Property Name (Server): SubZone_k	Mandatory ☐ Optional ☒

Description:

Number of the SubZone. (BuildingMode and OccMode)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	104 (PMC)	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 of the controller itself.
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_x.

3.3 HVAC Optimiser (HVACOPT)

3.3.1 Aims and objectives

The Functional Block 'HVAC Optimiser' is typically part of a supervisor. It optimises the HVAC installation, such as heating/cooling and domestic hot water preparation.

This Functional Block provides the information for these purposes. The inputs and the algorithms are company specific.

3.3.2 Functional specification

The information of this Functional Block is delivered to the TU controller FB's [9] and/or to the 'Domestic Hot Water Controller' [7] as well as to other HWH or VAC controllers [7], [10].

In the LTE-Mode the outputs for TU, HWH or VAC support the LTE zoning "Apartment . Room . SubZone" and for DHW the "DHW_Zone".

Inputs

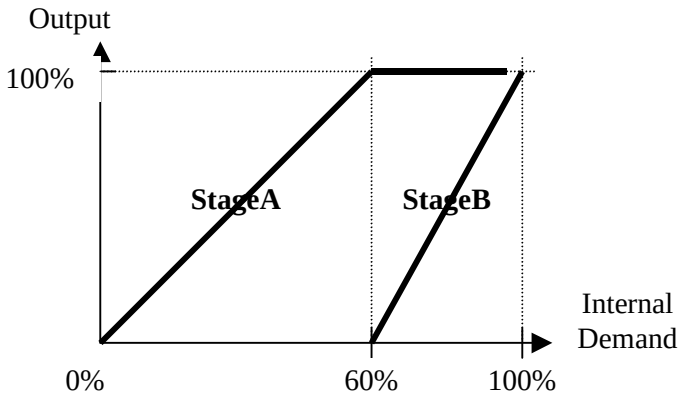
- Inputs company specific

Outputs

- HVACModeOptim: Optimised HVAC mode (Comfort, Standby, Economy, Building Protection) for the controller (higher priority than HVACModeEff).
- TempRoomSetpOptimHeatShift: This shift value is used for adjusting the heating setpoint according to the optimisation. It is delivered to the controller and is added to the effective value coming from the room setpoint manager.
- TempRoomSetpOptimCoolShift: This shift value is used for adjusting the cooling setpoint according to the optimisation. It is delivered to the controller and is added to the effective value coming from the room setpoint manager.
- TempRoomSetpSetHeatShift: These three shift values (Comfort, Standby and Economy) are used for adjusting the heating setpoints according to the optimisation. They are delivered to the controller and are added to the effective values coming from the room setpoint manager.
- TempRoomSetpSetCoolShift: These three shift values (Comfort, Standby and Economy) are used for adjusting the cooling setpoints according to the optimisation. They are delivered to the controller and are added to the effective values coming from the room setpoint manager.
- ContrMode: This output defines all special HVAC functions which may be demanded by a supervisor. It is delivered to the controller FB’s.
- EnableHeat: There are applications with two heating stages (A and B). They even may depend on different energies (e.g. A = water, B = electrical). The optimiser may now decide (based on different other information - cs), which stages should be active. The information is given by this Datapoint.

- SplitHeat: The split of stage A and stage B may be different from 50%. The optimiser may calculate an optimal split. The SplitHeat value defines at which percentage of the demand the split is made.

EXAMPLE 60%



- EnableCool: There are applications with two cooling stages (A and B). They even may depend on different energies (e.g. A = water, B = chiller). The optimiser may now decide (based on different other information - cs), which stages should be active. The information is given by this Datapoint.
- SplitCool: The split of stage A and stage B may be different from 50%. The optimiser may calculate an optimal split. The SplitCool value defines at which percentage of the demand the split is made. (see also SplitHeat)
- DisableDamper: The optimiser can disable a fresh air damper in the controller.
- DHWModeOptim: Optimised DHW mode (LegioProtect, Normal, Reduced, Off/FrostProtect) for the domestic hot water controller (higher priority than DHWModeEff).
- TempDHWSetpOptimShift: This shift value is used for adjusting the DHW setpoint according to the optimisation. It is delivered to the controller and is added to the effective, active value delivered from the DHW setpoint manager.

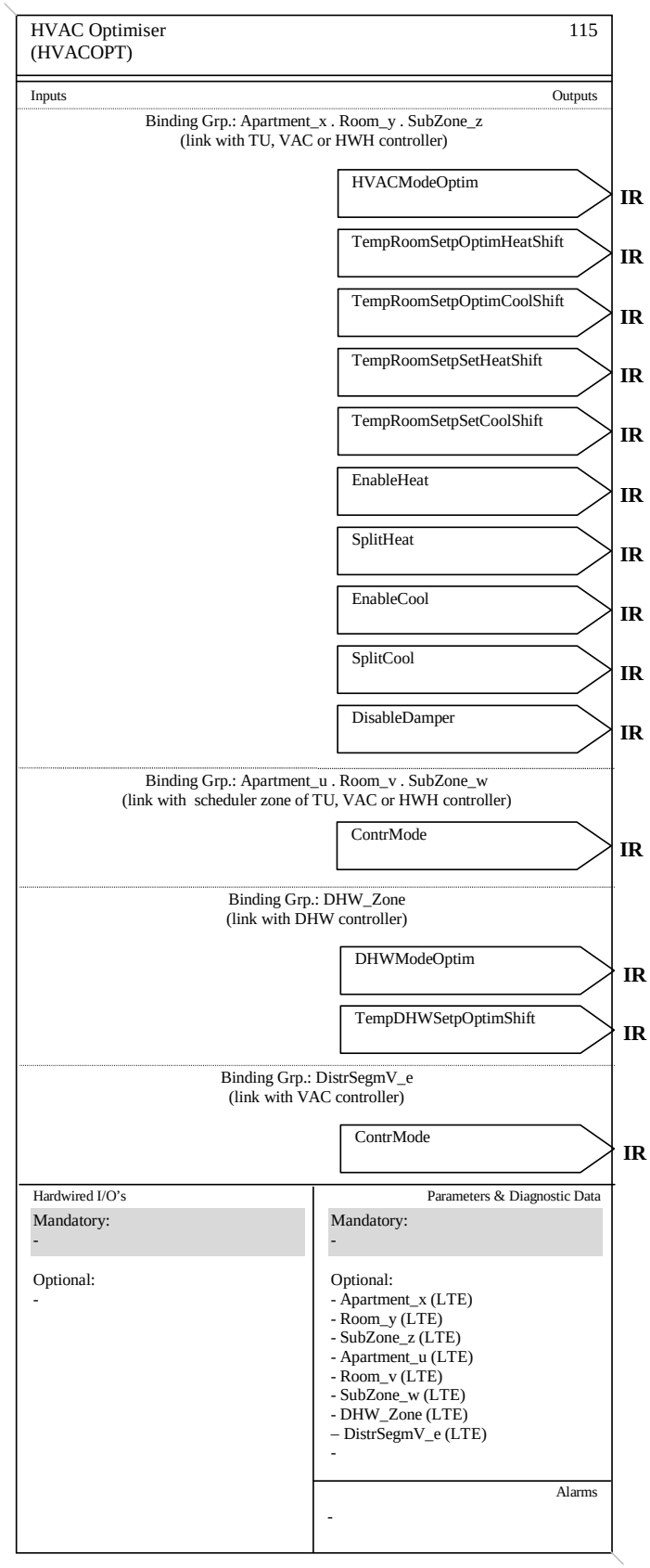
Binding Groups (LTE)

- Binding group x.y.z: This binding group corresponds with the room / zone to which the TU controller belongs. (See TU controller Functional Blocks [9], HWH [7], VAC [10].)
- Binding group u.v.w: This binding group corresponds with the scheduler zone to which the TU controller belongs. (See TU controller Functional Blocks [9], HWH [7], VAC [10].)
- Binding group DHW_Zone: This binding group is used for the domestic hot water. (See 'Domestic Hot Water Controller [7]'.)
- Binding group DistrSegmV: This binding group is used for additional distribution of the ContrMode to the VAC controller.

3.3.3 Constraints

None.

3.3.4 Functional Block diagram



3.3.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
HVACModeOptim	Optimised HVAC Mode with: - COV and RepPer - Z_8 STATUS supported to FB various controller	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: O S: (GO) 0 = Auto 1 = Comfort 2 = Standby 3 = Economy 4 = Build.Prot.
TempRoomSetp-OptimHeatShift	Setpoint shift value heating with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K
TempRoomSetp-OptimCoolShift	Setpoint shift value cooling - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K
TempRoomSetp-SetHeatShift	Setpoint shift values (3) heating with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 212.100 DPT_TempRoomSetpSetShift $V_{16}V_{16}V_{16}$ S: 222.101 DPT_TempRoomSetpSetShiftF16 $F_{16}F_{16}F_{16}$	LTE: O S: (GO) K, K, K
TempRoomSetp-SetCoolShift	Setpoint shift values (3) cooling - COV and RepPer - Z_8 not supported to FB various controller	LTE: 212.100 DPT_TempRoomSetpSetShift $V_{16}V_{16}V_{16}$ S: 222.101 DPT_TempRoomSetpSetShiftF16 $F_{16}F_{16}F_{16}$	LTE: O S: (GO) K, K, K
ContrMode	HVAC Controlling Mode with: - COV and RepPer - Z_8 STATUS supported to FB various controller	LTE: 201.104 DPT_HVACContrMode_Z N_8 S: 20.105 DPT_HVACContrMode N_8	LTE: O S: (GO) see DP description

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
EnableHeat	Control of the different heat stages with: - COV and RepPer - Z_8 not supported to FB various TU controller	LTE: 201.105 DPT_ EnableH/CStage_Z N_8Z_8 S: NA	LTE: O S: NA 0 = disabled 1 = enable stage A 2 = enable stage B 3 = enable both stages
SplitHeat	Percentage of energy demand at which heating stage B will start to FB various TU controller	LTE: 5.004 DPT_Percent_U8 U_8 S: NA	LTE: O S: NA 0...100%
EnableCool	Control of the different cool stages - COV and RepPer - Z_8 not supported to FB various TU controller	LTE: 201.105 DPT_ EnableH/CStage_Z N_8Z_8 S: NA	LTE: O S: NA 0 = disabled 1 = enable stage A 2 = enable stage B 3 = enable both stages
SplitCool	Percentage of energy demand at which cooling stage B will start to FB various TU controller	LTE: 5.004 DPT_Percent_U8 U_8 S: NA	LTE: O S: NA 0...100%
DisableDamper	Disable local damper with: - COV and RepPer to FB various TU controller	LTE: 1.003 DPT_Enable B_1 S: 1.003 DPT_Enable B_1	LTE: O S: (GO) 0 = disabled 1 = enabled
DHWModeOptim	Optimised DHW Mode with: - COV and RepPer - Z_8 STATUS supported to FB Domestic Hot Water Control	LTE: 201.102 DPT_DHWMode_Z N_8Z_8 S: 20.103 DPT_DHWMode N_8	LTE: O S: (GO) 0 = Auto 1 = LegioProtect 2 = Normal 3 = Reduced 4 = Off/FrostProtect
TempDHWSetp-OptimShift	Setpoint shift value for DHW with: - COV and RepPer - Z_8 STATUS supported to FB Domestic Hot Water Control	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameter			
Apartment_x	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O Controller zone
Room_y	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O Controller zone
SubZone_z	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O Controller zone
Apartment_u	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O Scheduler zone
Room_v	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O Scheduler zone
SubZone_w	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O Scheduler zone
DHW_Zone	LTE zoning number for DHW_Zone	202.002 DPT_UcountValue8_Z U_8Z_8	O DHW zone

HVACOPT Runtime Interworking - dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	HEE
Inputs					
Outputs	HVACModeOptim	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpOptimCoolShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpSetHeatShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpSetCoolShift	**(GO_b)**		(GO)	**O**
	ContrMode	**(GO_b)**		(GO)	**O**
	EnableHeat	**NA_b**	NA	NA	**O**
	SplitHeat	**NA_b**	NA	NA	**O**
	EnableCool	**NA_b**	NA	NA	**O**
	SplitCool	**NA_b**	NA	NA	**O**
	DisableDamper	**(GO_b)**		(GO)	**O**
	DHWModeOptim	**(GO_b)**		(GO)	**O**
	TempDHWSetpOptimShift	**(GO_b)**		(GO)	**O**

HVACOPT LTE specific Properties

		Support
Parameter	Apartment_x	**O**
	Room_y	**O**
	SubZone_z	**O**
	Apartment_u	**O**
	Room_v	**O**
	SubZone_w	**O**
	DistrSegmV	**O**
	DHW_Zone	**O**

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

		Support
Parameter		

3.3.6 Detailed specification of the Datapoints

3.3.6.1 Output HVACModeOptim

Standard Mode

DP Name:	HVACModeOptim	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the optimised HVAC mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

DPT_Name:	DPT_HVACMode		
DPT Format:	N_8	DPT_ID:	20.102

Field	Description	Supp.	Range	Unit	Default
HVAC Mode			1...4	enum.	cs
	0 = Auto	NA			
	1 = Comfort	M			
	2 = Standby	M			
	3 = Economy	M			
	4 = BuildingProtection	M			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **HVACModeOptim**	Mandatory ☐ Optional ☒

Description:

This output contains the optimised HVAC mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
HVACMode			0...4	enum.	yes	cs
	0 = Auto (no optimised HVACMode)	M				
	1 = Comfort	M				
	2 = Standby	M				
	3 = Economy	M				
	4 = BuildingProtection	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	HVACOPT out of service (no optimised HVACMode)	O	true/false		yes	false
- all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)		Property ID: 51	
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.2 Output TempRoomSetpOptimHeatShift

Standard Mode

DP Name:	TempRoomSetpOptimHeatShift	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the heating setpoint shift.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **TempRoomSetpOptimHeatShift**	Mandatory ☐ Optional ☒

Description:

This output contains heating setpoint shift.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective heating setpoint		full	K	0.2	cs
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	52
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.3 Output TempRoomSetpOptimCoolShift

Standard Mode

DP Name:	TempRoomSetpOptimCoolShift	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains cooling setpoint shift.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **TempRoomSetpOptimCoolShift**	Mandatory ☐ Optional ☒

Description:

This output contains the cooling setpoint shift.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective heating setpoint		full	K	0.2	cs
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	55
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.4 Output TempRoomSetpSetHeatShift

Standard Mode

DP Name:	TempRoomSetpSetHeatShift	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains three heating setpoint shifts.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetShiftF16				
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.101		
Field	Description	Supp.	Range	Unit	Default
Comfort	shift value for comfort heat	M	full	K	cs
Standby	shift value for standby heat	M	full	K	cs
Economy	shift value for economy heat	M	full	K	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **TempRoomSetpSetHeatShift**	Mandatory ☐ Optional ☒

Description:

This output contains three heating setpoint shifts.

DPT:	Name	DPT_TempRoomSetpSetShift	DPT ID	212.100	Datatype format	$V_{16}V_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Comfort	shift value for comfort heat	M	full	K	0.2	cs
Standby	shift value forstandby heat	M	full	K	0.2	cs
Economy	shift value foreconomy heat	M	full	K	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)	Property ID: 62
LTE-Services (event): InfoReport ☒ (LTE Read-Response polling of the output shall always be supported)	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 ☐	
Property-Service (individual access):	Read only ☐ Read/Write ☒	

Exception Handling: Save at Powerdown ☐

Special Features:

3.3.6.5 Output TempRoomSetpSetCoolShift

Standard Mode

DP Name:	TempRoomSetpSetCoolShift	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains three cooling setpoint shifts.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetShiftF16				
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.101		
Field	Description	Supp.	Range	Unit	Default
Comfort	shift value for comfort cool	M	full	K	cs
Standby	shift value for standby cool	M	full	K	cs
Economy	shift value for economy cool	M	full	K	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **TempRoomSetpSetCoolShift**	Mandatory ☐ Optional ☒

Description:

This output contains three colling setpoint shifts.

DPT:	Name	DPT_TempRoomSetpSetShift	DPT ID	212.100	Datatype format	$V_{16}V_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Comfort	shift value for comfort cool	M	full	K	0.2	cs
Standby	shift value forstandby cool	M	full	K	0.2	cs
Economy	shift value foreconomy cool	M	full	K	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)	Property ID: 63
LTE-Services (event): InfoReport ☒ (LTE Read-Response polling of the output shall always be supported)	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 ☐	
Property-Service (individual access):	Read only ☐ Read/Write ☒	

Exception Handling: Save at Powerdown ☐

Special Features:

3.3.6.6 Output ContrMode

Standard Mode

DP Name:	ContrMode	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the controlling mode.

Datapoint Type

DPT_Name:	DPT_HVACContrMode		
DPT Format:	N_8	DPT_ID:	20.105

Field	Description	Supp.	Range	Unit	Default
ContrMode			0...20	enum.	cs
	0 = Auto	O			
	1 = Heat / 2 = Mrng Wmup	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 / 12 = Max. Heating Mode	O			
	13 = Eco. H/C Mode / 14 = Dehumidification	O			
	15 = Calibration Mode / 16= Emerg Cool Mode	O			
	17 = Emerg Steam / 20 = No Demand	O			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **ContrMode**	Mandatory ☐ Optional ☒

Description:

This output contains the Controlling mode.

DPT:	Name	DPT_HVACContrMode_Z	DPT ID	201.104	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
ContrMode	0 = Auto 1 = Heat 2 = M Wmup 3 = Cool 4 = Ngt Prge 5 = Precool 6 = Off 7 = Test 8 = EmgHeat 9 = Fan only 10 = Free Cool 11 = Ice 12 = Max. Heating Mode 13 = Eco. H/C Mode 14 = Dehumidification 15 = Calibration Mode 16= Emerg Cool Mode 17 = Emerg Steam 20 = No Demand all other enumeration	O O O O O O O O O O O NA	0...20	enum.	yes	cs
STATUS - OutOfService - all other bits	For LTE-Service InfoReport and Property-Service Response only HVACOPT out of service	O NA	true/false	Bitset Bit 0	Y	false

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)	Property ID: 56
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min
	Output per default communicating ☐	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.7 Output EnableHeat

Standard Mode: NA

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **EnableHeat**	Mandatory ☐ Optional ☒

Description:

This output contains the control for the different heating stages.

DPT:	Name	DPT_EnableH/Cstage_Z	DPT ID	201.105	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Mode			0...3	enum.	yes	cs
	0 = disabled	M				
	1 = enable stage A	M				
	2 = enable stage B	M				
	3 = enable both stages	M				
	all other enumeration	NA				
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	57		
LTE-Services (event):	COV ☒	MinRepTime:	10 sec	Heartbeat:	15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒	Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.8 Output SplitHeat

Standard Mode: NA

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **SplitHeat**	Mandatory ☐ Optional ☒

Description:

This output contains the split value for the different heating stages.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	COV	Default
Split value	start value for stage B		0...100	%	yes	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	58
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
	Output per default communicating ☐		Binding Group Wildcard allowed ☐	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.9 Output EnableCool

Standard Mode

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **EnableCool**	Mandatory ☐ Optional ☒

Description:

This output contains the control for the different cooling stages.

DPT:	Name	DPT_EnableH/Cstage_Z	DPT ID	201.105	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Mode			0...3	enum.	yes	cs
	0 = disabled	M				
	1 = enable stage A	M				
	2 = enable stage B	M				
	3 = enable both stages	M				
	all other enumeration	NA				
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	59		
LTE-Services (event):	COV ☒	MinRepTime:	10 sec	Heartbeat:	15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒	Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.10 Output SplitCool

Standard Mode: NA

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **SplitCool**	Mandatory ☐ Optional ☒

Description:

This output contains the split value for the different cooling stages.

DPT:	Name	DPT_Percent_U8	DPT ID	5.004	Datatype format	U_8

Field	Description	Sup.	Range	Unit	COV	Default
Split value	start value for stage B		0...100	%	yes	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)	Property ID: 60	
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.11 Output DisableDamper

Standard Mode

DP Name:	DisableDamper	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the enable/disable for a local damper.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **HVACOPT**	**LTE Server Output Name:** **DisableDamper**	Mandatory ☐ Optional ☒

Description:

This output contains the enable/disable for a local damper.

DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
			0/1	Bit	yes	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	61
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.12 Output DHWModeOptim

Standard Mode

DP Name:	DHWModeOptim	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the optimesed DHW mode.

Datapoint Type

DPT_Name:	DPT_DHWMode		
DPT Format:	N_8	DPT_ID:	20.103

Field	Description	Supp.	Range	Unit	Default
DHW Mode			1...4	enum.	cs
	0 = Auto	NA			
	1 = LegioProtect	M			
	2 = Normal	M			
	3 = Reduced	M			
	4 = Off/FrostProtect	M			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **DHWModeOptim**	Mandatory ☐ Optional ☒

Description:

This output contains the optimised DHW mode.

DPT:	Name	DPT_DHWMode_Z	DPT ID	201.102	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
HVACMode			0...4	enum.	yes	cs
	0 = Auto (no optimised DHWMode)	M				
	1 = LegioProtect	M				
	2 = Normal	M				
	3 = Reduced	M				
	4 = Off/FrostProtect	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	HVACOPT out of service (no optimised DHWMode)	O	true/false		yes	false
all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	53
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.13 Output TempDHWSetpOptimShift

Standard Mode

DP Name:	TempDHWSetpOptimShift	Abbr.:	---	Mandatory	☐
FB Name:	HVACOPT			Can be internal	☐

Description

This output contains the DHW setpoint shift.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

LTE-HEE Mode

FB: **HVACOPT**	**LTE Server Output Name:** **TempDHWSetpOptimShift**	Mandatory ☐ Optional ☒

Description:

This output contains the DHW setpoint shift.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective heating setpoint		full	°C	0.2	cs
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 115 (HVACOPT)		Property ID: 54	
LTE-Services (event):	COV ☒	MinRepTime: 10 sec		Heartbeat: 15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.3.6.14 Parameter Apartment_x

FB: HVACOPT	Property Name (Server): Apartment_x	Mandatory ☐ Optional ☒

Description:

Number of the apartment zone. (controller itself)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.3.6.15 Parameter Room_y

FB: HVACOPT	Property Name (Server): Room_y	Mandatory ☐ Optional ☒

Description:

Number of the room zone. (controller itself)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the controller itself.
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_x.

3.3.6.16 Parameter SubZone_z

FB: HVACOPT	Property Name (Server): SubZone_z	Mandatory ☐ Optional ☒

Description:

Number of the SubZone. (controller itself)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the controller itself.
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_x.

3.3.6.17 Parameter Apartment_u

FB: HVACOPT	Property Name (Server): Apartment_u	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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the scheduler.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.3.6.18 Parameter Room_v

FB: HVACOPT	Property Name (Server): Room_v	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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the scheduler.
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_x.

3.3.6.19 Parameter SubZone_w

FB: HVACOPT	Property Name (Server): SubZone_w	Mandatory ☐ Optional ☒

Description:

Number of the SubZone. (scheduler)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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 of the scheduler.
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_x.

3.3.6.20 Parameter DHW_Zone

FB: HVACOPT	Property Name (Server): DHW_Zone	Mandatory ☐ Optional ☒

Description:

Number of the DHW_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 DHW_Zone		1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

3.3.6.21 Parameter DistrSegmV

FB: HVACOPT	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 ventialtion segment		(0) 1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	115 (HVACOPT)	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:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

3.4 Room Setpoint Manager HVAC-Mode Driven (RSMHD)

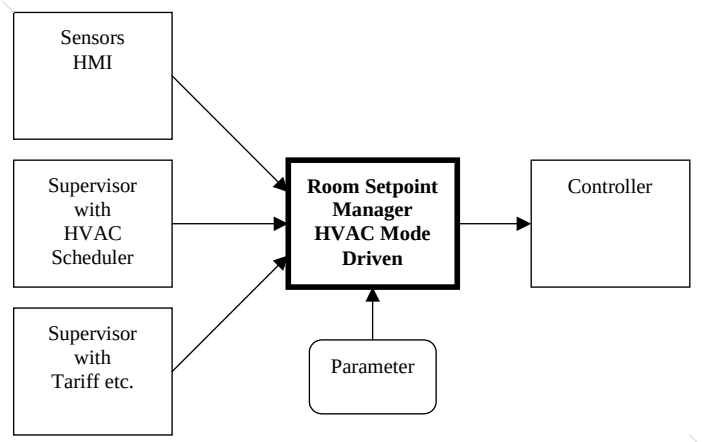
3.4.1 Aims and objectives

See also Room Setpoint Manager Temperature Driven in clause 3.5.

The Functional Block 'Room Setpoint Manager HVAC-Mode Driven' provides the HVAC facilities with the necessary temperature setpoints as well as the information about the present and the next operating mode with it's delay.

This information is built from the present and the next HVAC mode, delivered from a supervisor and the local influences given by HMI.

According to TC247 the following HVAC-Modes are used:
Comfort, Standby, Economy and Building Protection.



3.4.2 Functional specifications

Inputs

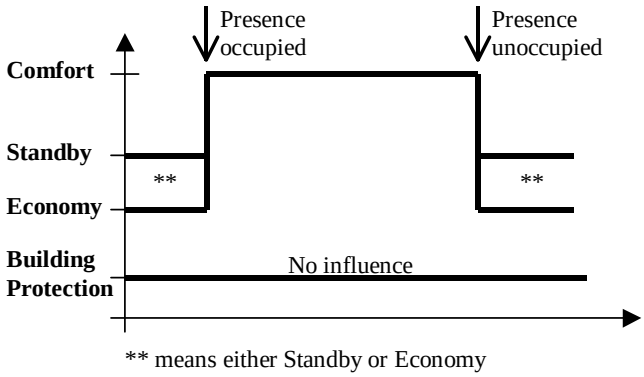
- HVACMode: Current/present mode (Comfort, Standby, Economy, Building Protection) being provided by a "supervisor". Normally this input is used as a basic information. Although it is possible to have an implementation, only using HVACModeUser (see below).
- HVACModeNext: Next mode (No Next Mode, Comfort, Standby, Economy, Building Protection) and the delay to it being provided by a "supervisor".
- EnableComfort: This input can be used to inhibit the Room Setpoint Manager to go to comfort when the 'local influences' e.g. HMI ask for it. This inhibit may be necessary e.g. due to lack of hot water etc.

  This function may be inhibited by means of a parameter.
- TempRoomSetpTariffShift: This input allows to shift the setpoint according to the demands of a tariff information.
- TempRoomSetpLoadShedShift: This input allows to shift the setpoint according to the demands of load shedding.
- HVACModeUser: HVACMode (Comfort, Standby, Economy, Building Protection or AUTO) being provided by a HMI unit, in order to be able to change the mode manually (see also 'EnableComfort').
- WindowStatus: Information that can be used to change the 'HVACMode' in case of an open window.

- PresenceStatus:

Information from a presence detector or switch about the occupation of the room.

The following behaviour is e.g. possible:



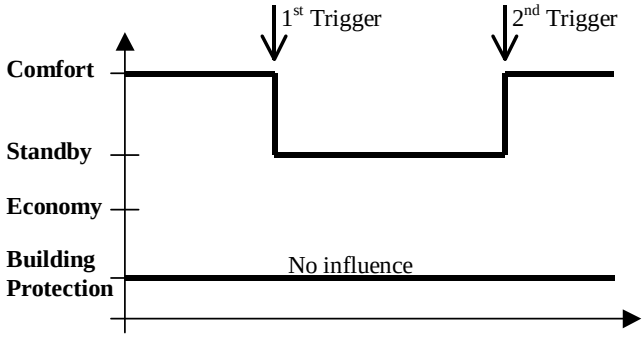
Occupied changes from Economy or from Standby (HVAC Mode from supervisor) to Comfort. Unoccupied changes back to the mode from the supervisor (Standby or Economy). This functionality can be locked by means of the input 'EnableComfort'

- ComfortPushbutton:

The following examples may be realised:

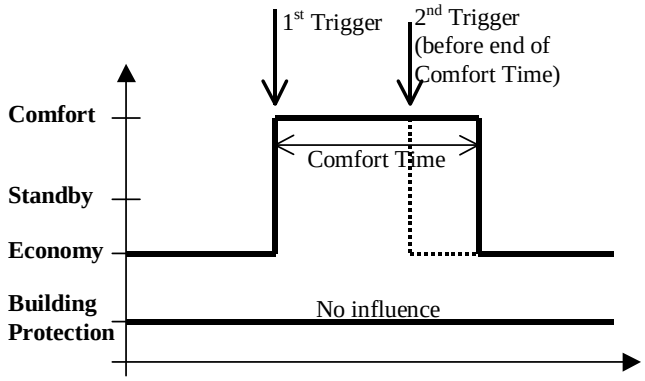
Functionality A:

'ComfortPushbutton' form 'Comfort':
If the controller is in the 'Comfort' mode the trigger information changes the mode to 'Standby'.
The next trigger changes back to 'Comfort'. If the HVAC mode from the supervisor changes this function is deleted and the new HVAC mode is active.



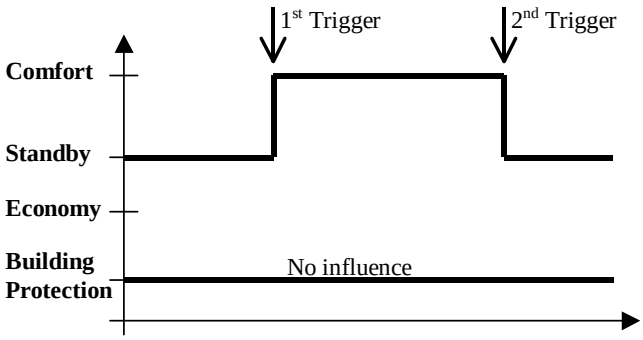
Functionality B:

'ComfortPushbutton' from 'Economy':
If the controller is in the 'Economy' mode the trigger information changes the mode to 'Comfort' for a defined period (e.g .parameter 3h) then falls back to the HVAC Mode defined above (normally 'Economy').
If a second trigger occurs before the time has elapsed the controller changes back to 'Economy'. If the HVAC mode from the supervisor changes this function is deleted and the new HVAC mode is active.
This functionality can be locked by means of the input 'EnableComfort'.



Functionality C:

'ComfortPushbutton' from 'Standby':
If the controller is in the 'Standby' mode the trigger information changes the mode to 'Comfort'. A second trigger brings the controller back to 'Standby'.
If the HVAC mode from the supervisor changes this function is deleted and the new HVAC mode is active.
This functionality can be locked by means of the input 'EnableComfort'



- ComfortProlongUser:

The following example may be realised.

- *'ComfortProlongUser' TRUE during 'Comfort'*

  If 'ComfortProlongUser' is set to TRUE during a 'Comfort' period, the following behaviour is possible.

  a. The prolongation period will be added at the end of the 'Comfort' period.

  b. The prolongation period will start immediately.

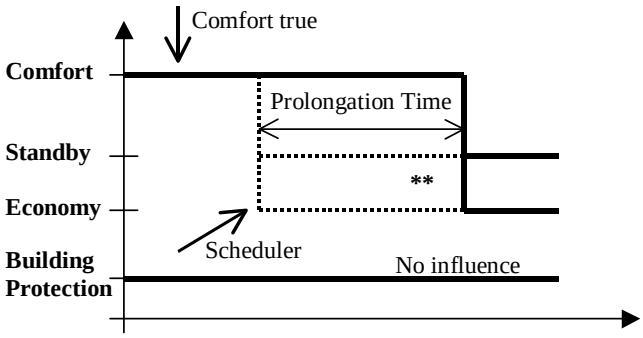
- *'ComfortProlongUser' TRUE during not 'Comfort':*

  If 'ComfortProlongUser' is set to TRUE outside the 'Comfort' period, the prolongation period will start immediately.

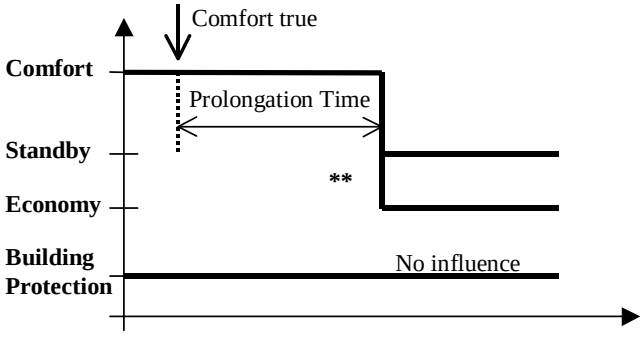
- *'ComfortProlongUser' also my be set to FALSE anytime.*

  In this case the prolongation is cancelled.

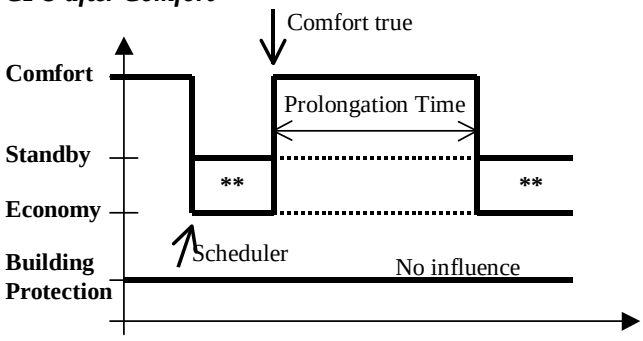
CPU during Comfort (A)



CPU during Comfort (B)



CPU after Comfort



** means either Standby or Economy

- TempRoomSetpUserAbs: One absolute setpoint value (e.g. ‘Comfort’ or ‘BasicSetpoint’) from a HMI.
- TempRoomSetpUserOffset: One offset value for shifting e.g. the ‘Comfort’ setpoints or the ‘BasicSetpoint’.
- TempRoomSetpSetHeat: Three values for the heating setpoints ‘Comfort’, ‘Standby’ and ‘Economy’. (Only in the S-Mode available, in LTE-Mode = property.)
- TempRoomSetpSetCool: Three values for the cooling setpoints ‘Comfort’, ‘Standby’ and ‘Economy’. (Only in the S-Mode available, in LTE-Mode = property.)
- TempRoomSetpSetHeatShift: Three delta values for shifting the heating ‘Comfort’, ‘Standby’ and the ‘Economy’ setpoints. This input may be used for e.g. economising purposes.
- TempRoomSetpSetCoolShift: Three delta values for shifting the cooling ‘Comfort’, ‘Standby’ and the ‘Economy’ setpoints. This input may be used for e.g. economising purposes.

Outputs

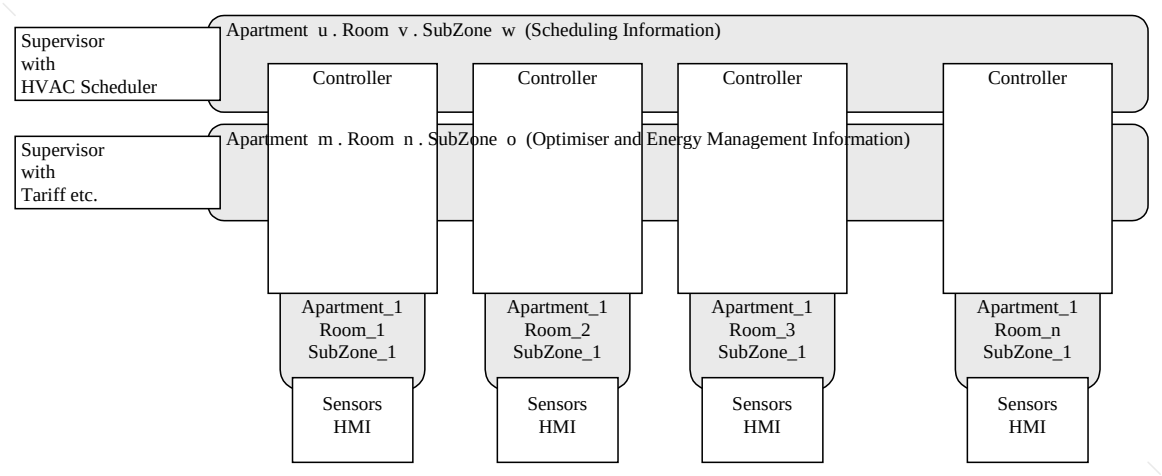
- HVACModeEff: Contains the effective ‘HVACMode’ (result out of all inputs) for the controller. Also to be used for HMI and supervisor.
- HVACModeEffNext: Contains the effective next ‘HVACMode’ and the delay to it (result out of all inputs) for the controller.
- HVACModeUserEff: This output provides the result of HVACModeUser and RSMHD internal settings. It is delivered e.g. to the FB ‘User HVAC Display’
- ComfortProlongEff: This output provides the information if comfort prolongation is active or not. It is delivered e.g. to FB ‘User HVAC Display’
- TempRoomSetpSetHeatEff: The effective temperature setpoints (4) for heating for ‘Comfort’, ‘Standby’, ‘Economy’ and ‘BuildingProtection’ for the controller.
- TempRoomSetpSetCoolEff: The effective temperature setpoints (4) for cooling for ‘Comfort’, ‘Standby’, ‘Economy’ and ‘BuildingProtection’ for the controller.
- TempRoomSetpHeatEff: The effective actual temperature setpoint for heating for the controller.

  (For simple heating only applications.)
- TempRoomSetpCoolEff: The effective actual temperature setpoint for cooling for the controller.

  (For simple cooling only applications.)
- TempRoomSetpAbsEff The effective absolute temperature setpoint, as RSMHD’s result of all TempRoomSetpUserAbs inputs to RSMHD. It is delivered e.g. to FB ‘User HVAC Display’
- TempRoomSetpUserOffsetEff The effective relative temperature setpoint, as RSMHD’s result of all TempRoomSetpUserOffset inputs to RSMHD. It is delivered e.g. to FB ‘User HVAC Display’

Binding Groups (LTE)

The Functional Block shows 3 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 is used to get the 'programme information' from the supervisor. This information is bound to a specific room / zone from where the other zones get the information. It may be identical to x.y.z.

  EXAMPLE

  There are four rooms / zones with the same 'programme':

  3.1.1 3.2.1 3.3.1 3.4.1

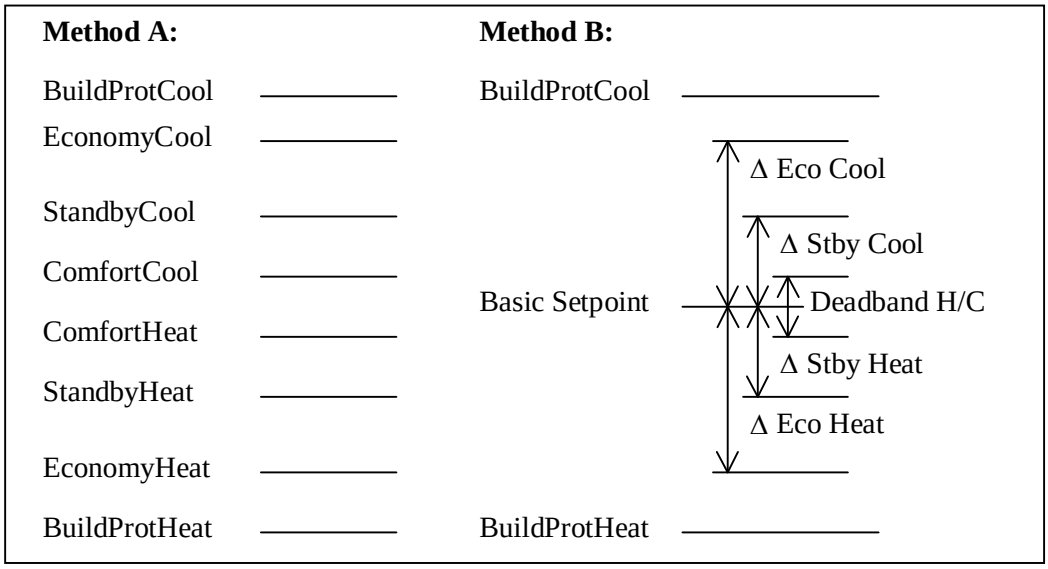
  The supervisor is bound to 3.1.1.

  So in this room / zone both binding groups x.y.z and u.v.w have the address 3.1.1.

  In the other three rooms / zones the binding group x.y.z corresponds to the proper zone, whereas the binding group u.v.w is 3.1.1 (programme).
- 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'.

Parameters

- Temperature Setpoints: The room temperature setpoints may be defined in two different ways. Method A should be preferred.



- TimeComfort — This parameter defines the time period for the comfort prolongation.
- DisableEnableComfort — With this parameter the input EnableComfort can be disabled. In this case a local change to comfort always is possible.
- LimitLowerTempRoomSetp — This parameter defines a lower limit for the room temperature setpoint. If this value is violated, an alarm can be created.
- LimitUpperTempRoomSetp — This parameter defines a upper limit for the room temperature setpoint. If this value is violated, an alarm can be created.

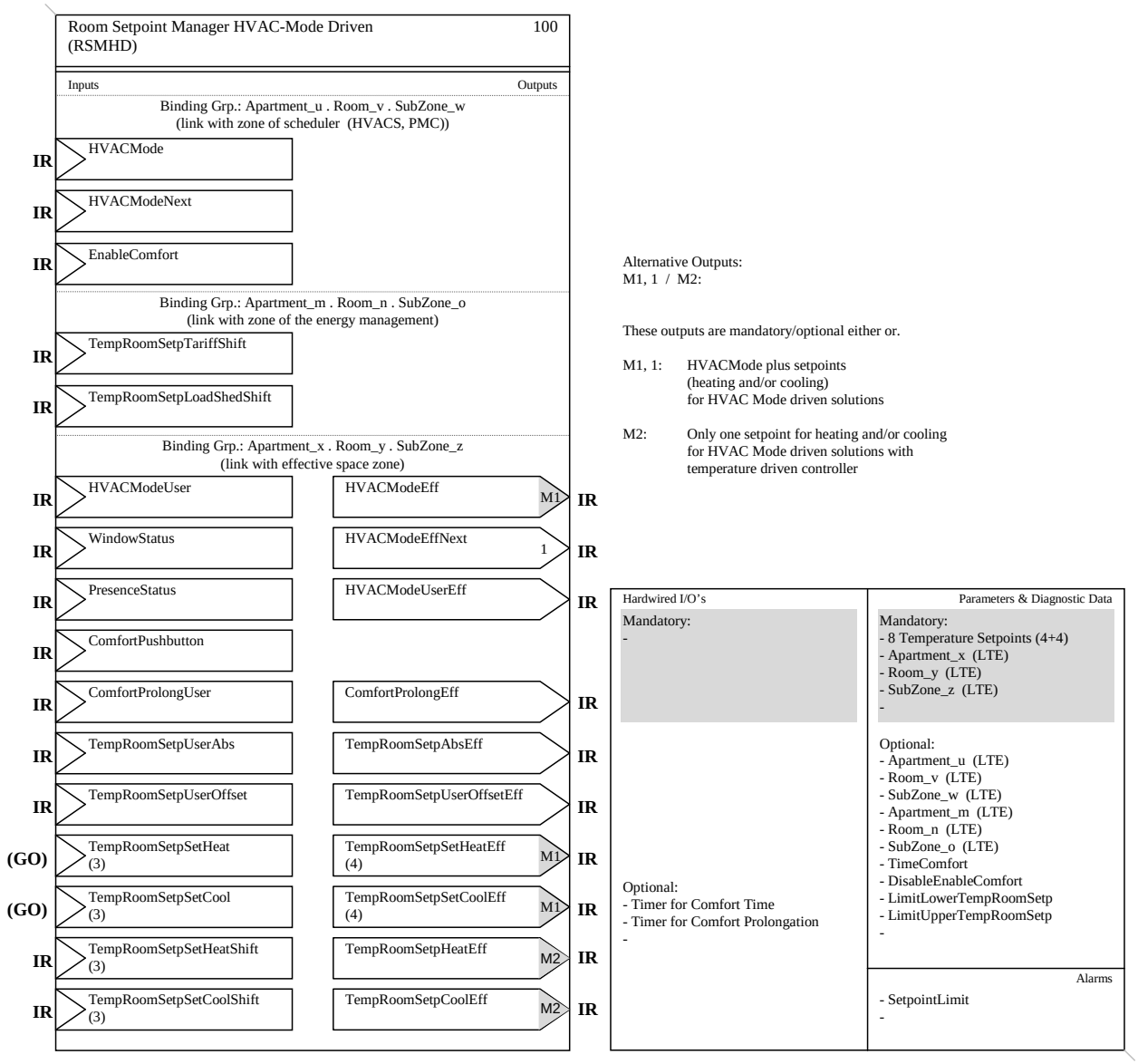
Alarms

- SetpointLimit — This alarm is created if the setpoint violated the setpoint limits.

3.4.3 Constraints

The functionality of this Functional Block is based on HVAC-Modes.
Another Room Setpoint Manager, based on temperatures is described in clause 3.5 of this document.

3.4.4 Functional Block diagram



3.4.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
HVAC Mode	Present HVAC Mode with: - COV and RepPer - Z_8 STATUS supported from FB Programm to HVAC-Mode Conversion, HVAC Scheduler	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: O S: (GO) 0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = Bld.Prot.
HVAC Mode Next	Next HVAC Mode plus time to next mode with: - COV and RepPer from FB Programm to HVAC-Mode Conversion, HVAC Scheduler Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.100 DPT_HVACModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = No Next Mode 1 = Comfort 2 = Standby 3 = Economy 4 = Bld.Prot. time = min
Enable Comfort	Local comfort is possible (1) or not possible (0) with: - COV and RepPer from FB Programm to HVAC-Mode Conversion, HVAC Scheduler	LTE: 1.003 DPT_Enable B_1 S: 1.003 DPT_Enable B_1	LTE: O S: (GO) 0 = disabled 1 = enabled
Temp Room Setp Tariff Shift	Temperature setpoint shift value with: - COV and RepPer - Z_8 STATUS supported from FB tariff calculation.	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K
Temp Room Setp LoadShed Shift	Temperature setpoint shift value with: - COV and RepPer - Z_8 STATUS supported from FB load management.	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K
HVAC Mode User	User HVAC Mode with: - COV and RepPer - Z_8 STATUS supported from FB User HVAC Room Setting	LTE: 201.100 DPT_HVACModeUser_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: O S: (GO) 0 = Auto 1 = Comfort 2 = Standby 3 = Economy 4 = Bld.Prot.
Window Status	Window status with: - COV and RepPer from FB Window Switch	LTE: 1.019 DPT_Window_Door B_1 S: 1.019 DPT_Window_Door B_1	LTE: O S: (GO) 0 = closed 1 = open

Datapoints	Description / Remarks	Datapoint Type	Additional info
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	LTE: O S: (GO) 0 = not occupied 1 = occupied
Comfort Pushbutton	Comfort pushbutton trigger with: - COV and NO RepPer from FB User HVAC Room Settings see Functional specifications	LTE: 1.017 DPT_Trigger B_1 S: 1.017 DPT_Trigger B_1	LTE: O S: (GO) 1= Trigger (0 not used)
Comfort Prolong User	Comfort prolongation trigger with: - COV and NO RepPer from FB User HVAC Room Settings see Functional specifications	LTE: 1.017 DPT_Trigger B_1 S: 1.017 DPT_Trigger B_1	LTE: O S: (GO) 1= Trigger (0 not used)
Temp Room Setp User Abs	One temperature value, normally for comfort with: - COV and NO RepPer - Z_8 STATUS supported from FB User HVAC Room Settings	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: O S: (GO) °C
Temp Room Setp User Offset	One temperature offset value, normally for comfort values or for Basic Setpoint with: - COV and NO RepPer - Z_8 STATUS supported from FB User HVAC Room Settings	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K
Temp Room SetpSet Heat (3)	Three heating setpoint values (for comfort, standby and economy) with: - NO RepPer from FB supervisor	LTE: NA S: 222.100 DPT_TempRoomSetpSetF16 $F_{16}F_{16}F_{16}$	LTE: NA S: (GO) 3 x °C
Temp Room SetpSet Cool (3)	Three cooling setpoint values (for comfort, standby and economy) with: - NO RepPer from FB supervisor	LTE: NA S: 222.100 DPT_TempRoomSetpSetF16 $F_{16}F_{16}F_{16}$	LTE: NA S: (GO) 3 x °C
Temp Room SetpSet Heat Shift (3)	Three heating shift values (for comfort, standby and economy) with: - COV and RepPer from FB supervisor	LTE: 212.100 DPT_ TempRoomSetpSetShift[3] $V_{16}V_{16}V_{16}$ S: 222.101 DPT_ TempRoomSetpSetShiftF16 $F_{16}F_{16}F_{16}$	LTE: O S: (GO) 3 x K

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
Temp Room SetpSet Cool Shift (3)	Three cooling shift values (for comfort, standby and economy) with: - COV and RepPer from FB supervisor	LTE: 212.100 DPT_ TempRoomSetpSetShift[3] $V_{16}V_{16}V_{16}$ S: 222.101 DPT_ TempRoomSetpSetShiftF16 $F_{16}F_{16}F_{16}$	LTE: O S: (GO) 3 x K

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
HVAC Mode Eff	Effective HVAC Mode with: - COV and RepPer - Z_8 STATUS and - Z_8 COMMAND supported to FB various controller, HMI and supervisor	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: M1 S: GO1 0 = NA 1 = Comfort 2 = Standby 3 = Economy 4 = Bldg.Prot.
HVAC Mode Eff Next	Next HVAC Mode plus time to next mode with: - COV and RepPer to FB various controller, HMI and supervisor Time = 0: Next mode undefined	LTE: 206.100 DPT_HVACModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = No Next Mode 1 = Comfort 2 = Standby 3 = Economy 4 = Bld.Prot. time = min
HVAC Mode User Eff	Effective user HVAC Mode with: - COV and RepPer - Z_8 not supported to FB User HVAC Display	LTE: 201.100 DPT_HVACMode_Z N_8Z_8 S: 20.102 DPT_HVACMode N_8	LTE: O S: (GO) 0 = Auto 1 = Comfort 2 = Standby 3 = Economy 4 = Bldg.Prot.
Comfort Prolong Eff	Effective state of comfort prolongation (active/inactive) with: - COV and RepPer - Z_8 not supported to FB User HVAC Display	LTE: 1.011 DPT_State B_1 S: 1.011 DPT_State B_1	LTE: O S: (GO) 0 = not active 1 = active
Temp Room SetpSet Heat Eff (4)	4 temperature values for heating for: 'Comfort', 'Standby' 'Economy', 'BuildingProtection' with - COV and RepPer to FB various controller	LTE: 213.100 DPT_TempRoomSetpSet[4] $V_{16}V_{16}V_{16}V_{16}$ S: NA	LTE: M1 S: NA 4 x °C
Temp Room SetpSet Cool Eff (4)	4 temperature values for cooling for: 'Comfort', 'Standby' 'Economy', 'BuildingProtection' with - COV and RepPer to FB various controller	LTE: 213.100 DPT_TempRoomSetpSet[4] $V_{16}V_{16}V_{16}V_{16}$ S: NA	LTE: M1 S: NA 4 x °C

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Temp Room Setp Heat Eff	1 temperature value for heating for simple heating only applications with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: M2 S: (GO2) °C
Temp Room Setp Cool Eff	1 temperature value for cooling for simple cooling only applications with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: M2 S: (GO2) °C
Temp Room Setp Abs Eff	Effective absolute temperature setpoint (result of all TempRoomSetpUserAbs inputs) with - COV and RepPer - Z_8 STATUS supported to FB User HVAC Display	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: O S: (GO) °C
Temp Room Setp User Offset Eff	Effective relative temperature setpoint (result of all TempRoomSetpUserOffset inputs) with - COV and RepPer - Z_8 STATUS supported to FB User HVAC Display	LTE: 205.101 DPT_TempHVACRel_Z V16Z8 S: 9.002 DPT_Value_Tempd F16	LTE: O S: (GO) K

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameter			
Apartment_x	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
Room_y	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
SubZone_z	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
Apartment_u	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O Programme zone
Room_v	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O Programme zone
SubZone_w	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O Programme zone
Apartment_m	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameter			
Room_n	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone
SubZone_o	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone
Temperature Setpoints	**Method A:** 8 values: heating and cooling for each of: 'Comfort' 'Standby' 'Economy' 'BuildingProtection' with: Z_8 not supported		M °C / K
	- TempRoomSetpHeatBuildProt - TempRoomSetpHeatEconomy - TempRoomSetpHeatStandby - TempRoomSetpHeatComfort - TempRoomSetpCoolComfort - TempRoomSetpCoolStandby - TempRoomSetpCoolEconomy - TempRoomSetpCoolBuildProt	8 times 1) 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$	12°C 15°C 19°C 21°C 24°C 28°C 35°C 40°C
	Method B: - 'BasicSetpoint' (center of 'Comfort') - 'DeadBand' for 'Comfort' - 'ReductionValue' for 'Standby' - 'IncreaseValue' for 'Standby' - 'ReductionValue' for 'Economy' - 'IncreaseValue' for 'Economy' - 'AbsoluteHeatValue' for 'BuildingProtection' - 'AbsoluteCoolValue' for 'BuildingProtection'		
Time Comfort	Time for comfort period in connection with the pushbutton 0 = no prolongation	7.006 1) DPT_TimePeriodMin U_{16}	O min
Disable Enable Comfort	Disable the input EnableComfort	1.003 1) DPT_Enable B_1	O 0 = disabled 1 = enabled
Limit Lower Temp Room Setp	Lower limit for internal setpoint with: - Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Limit Upper Temp Room Setp	Upper limit for internal setpoint with: - Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C

[1] Implementation of Properties using standard DPT see 1.3.2.

RSMHD Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**HEE**
Inputs	HVACMode	**(GO_b)**		(GO)	**O**
	HVACModeNext	**NA_b**	NA	NA	**O**
	EnableComfort	**(GO_b)**		(GO)	**O**
	TempRoomSetpTariffShift	**(GO_b)**		(GO)	**O**
	TempRoomSetpLdShedShift	**(GO_b)**		(GO)	**O**
	HVACModeUser	**(GO_b)**		(GO)	**O**
	WindowStatus	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	ComfortPushbutton	**(GO_b)**		(GO)	**O**
	ComfortProlongUser	**(GO_b)**		(GO)	**O**
	TempRoomSetpUserAbs	**(GO_b)**		(GO)	**O**
	TempRoomSetpUserOffset	**(GO_b)**		(GO)	**O**
	TempRoomSetpSetHeat(3)	**(GO_b)**		(GO)	**NA**
	TempRoomSetpSetCool(3)	**(GO_b)**		(GO)	**NA**
	TempRoomSetpSetHeatShift(3)	**(GO_b)**		(GO)	**O**
	TempRoomSetpSetCoolShift(3)	**(GO_b)**		(GO)	**O**
Outputs	HVACModeEff	**(GO_b)**		(GO)	**M1**[1)]
	HVACModeEffNext	**NA_b**	NA	NA	**O**
	HVACModeUserEff	**(GO_b)**		(GO)	**O**
	ComfortProlongEff	**(GO_b)**		(GO)	**O**
	TempRoomSetpSetHeatEff(4)	**NA_b**	NA	NA	**M1**[1)]
	TempRoomSetpSetCoolEff(4)	**NA_b**	NA	NA	**M1**[1)]
	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M2**[1)]
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**[1)]
	TempRoomSetpAbsEff	**(GO_b)**		(GO)	**O**
	TempRoomSetpUserOffsetEff	**(GO_b)**		(GO)	**O**

[1)] See Functional Block diagram

RSMHD LTE specific Properties

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

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

		Support
Parameter	TempRoomSetpHeatBuildProt	**M**[1)]
	TempRoomSetpHeatEconomy	**M**[1)]
	TempRoomSetpHeatStandby	**M**[1)]
	TempRoomSetpHeatComfort	**M**[1)]
	TempRoomSetpCoolComfort	**M**[1)]
	TempRoomSetpCoolStandby	**M**[1)]
	TempRoomSetpCoolEconomy	**M**[1)]
	TempRoomSetpCoolBuildProt	**M**[1)]
	TimeComfort	**O**
	DisableEnableComfort	**O**
	LimitLowerTempRoomSetp	**O**
	LimitUpperTempRoomSetp	**O**

[1)] Alternatively values according to method B (see Datapoint description Overview).

3.4.6 Detailed specification of the Datapoints

3.4.6.1 Input HVACMode

Standard Mode:

DP Name:	HVACMode	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a scheduler or a supervisor and defines the actual HVAC operating mode. According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

DPT_Name:	DPT_HVACMode		
DPT Format:	N_8	DPT_ID:	20.102

Field	Description	Supp.	Range	Unit	Default
HVAC Mode			1...4	enum.	cs
	0 = Auto	NA			
	1 = Comfort	M			
	2 = Standby	M			
	3 =Economy	M			
	4 = BuildingProtection	M			
	all other enumeration	NA			

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **HVACMode**	Mandatory ☐ Optional ☒

Description:

This information is provided by a scheduler or a supervisor and defines the actual HVAC operating mode. According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
HVACMode			enum.	cs
	0 = Auto	NA		
	1 = Comfort	M		
	2 = Standby	M		
	3 = Economy	M		
	4 = BuildingProtection	M		
	all other enumeration	NA		
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	110 (HVACS) 104 (PMC)	Property ID:	51 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:

3.4.6.2 Input HVACModeNext

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **HVACModeNext**	Mandatory ☐ Optional ☒

Description:

This information is provided by a scheduler or a supervisor and defines the next HVAC operating mode and the time to it. If the next mode is not available the time is set to zero.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

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)]		min	0
HVACModeNext			enum	cs
	0 = No Next Mode [1)]	M		
	1 = Comfort 2 = Standby	M		
	3 = Economy 4 = Build.Prot.	M		
	all other enumeration	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	110 (HVACS) 104 (PMC)	Property ID:	52 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:

[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 is 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

3.4.6.3 Input EnableComfort

Standard Mode:

DP Name:	EnableComfort	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a scheduler or a supervisor and enables / disables a local comfort mode (HMI).

Datapoint Type

DPT_Name:	DPT_Enable		
DPT Format:	B_1	DPT_ID:	1.003

Field	Description	Supp.	Range	Unit	Default
	0 = disabled, 1 = enabled			Bit	1

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB:	**RSMHD**	**LTE Client Input Name:**	**EnableComfort**			Mandatory ☐ Optional ☒	
Description:							
This information is provided by a scheduler or a supervisor and enables / disables a local comfort mode (HMI).							
DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		0 = disabled, 1 = enabled				Bit	1
Communication:							
Binding Group:							
Class		Type			Default		
Geographical ☒		Apartment . Room . SubZone			1.1.1		
Application Specific ☐							
Peripheral ☐		Broadcast ☐	Configurable ☐				
DP Address:		IO Type(ID):	110 (HVACS) 104 (PMC)	Property ID:	53 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:							

3.4.6.4 Input TempRoomSetpTariffShift

Standard Mode:

DP Name:	TempRoomSetpTariffShift	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a supervisor with tariff functionality. The value is added to the comfort and possibly also to the standby, economy and the building protection value.

Datapoint Type

DPT_Name:	DPT_Value_Tempd		
DPT Format:	F_{16}	DPT_ID:	9.002

Field	Description	Supp.	Range	Unit	Default
			full	K	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **TempRoomSetpTariffShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with tariff functionality. The value is added to the comfort and possibly also to the standby, economy and the building protection value.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Relative Temperature	Shift value for the setpoint		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	121 (SSLSTA)	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:

3.4.6.5 Input TempRoomSetpLoadShedShift

Standard Mode:

DP Name:	TempRoomSetpLoadShedShift	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a supervisor with load shedding functionality. The value is added to the comfort and possibly also to the standby, economy and the building protection value.

Datapoint Type

DPT_Name:	DPT_Value_Tempd		
DPT Format:	F_{16}	DPT_ID:	9.002

Field	Description	Supp.	Range	Unit	Default
			full	K	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **TempRoomSetpLoadShedShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with load shedding functionality. The value is added to the comfort and possibly also to the standby, economy and the building protection value.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Relative Temperature	Shift value for the setpoint		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	121 (SSLSTA)	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:

3.4.6.6 Input HVACModeUser

Standard Mode:

DP Name:	HVACModeUser	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a local HMI and defines the local user operating mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

DPT_Name:	DPT_HVACMode				
DPT Format:	N_8	DPT_ID:	20.102		
Field	Description	Supp.	Range	Unit	Default
User HVAC mode			0...4	enum.	cs
	0 = Auto (no manual input)	M			
	1 = Comfort	M			
	2 = Standby	M			
	3 = Economy	M			
	4 = BuildingProtection	M			
	all other enumeration	NA			

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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **HVACModeUser**	Mandatory ☐ Optional ☒

Description:

This information is provided by a local HMI and defines the local user operating mode.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Unit	Default
HVACModeUser			enum.	cs
	0 = Auto (no manual input)	M		
	1 = Comfort	M		
	2 = Standby	M		
	3 = Economy	M		
	4 = BuildingProtection	M		
	all other enumeration	NA		
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	Property ID:	55
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--	
InfoReport ☒	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:

3.4.6.7 Input WindowStatus

Standard Mode:

DP Name:	WindowStatus	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Block window switch.

Datapoint Type

DPT_Name:	DPT_Window_Door				
DPT Format:	B_1	DPT_ID:	1.019		
Field	Description	Supp.	Range	Unit	Default
	0 = closed, 1 = open			Bit	0

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

LTE-HEE Mode:

FB:	**RSMHD**	**LTE Client Input Name:**	**WindowStatus**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block window switch.

DPT:	Name	DPT_Window_Door	DPT ID	1.019	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		0 = closed, 1 = open				Bit	0

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	343 (WOS)	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:

3.4.6.8 Input PresenceStatus

Standard Mode:

DP Name:	PresenceStatus	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Blocks 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
	0 = not occupied, 1 = occupied			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

LTE-HEE Mode:

FB:	**RSMHD**	**LTE Client Input Name:**	**PresenceStatus**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Blocks presence detector or user presence switch.

DPT:	Name	DPT_Occupancy	DPT ID	1.018	Datatype format	B_1	
Field	Description				Sup.	Unit	Default
	0 = not occupied, 1 = occupied					Bit	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	345 (PRD) 391 (UPS)	Property ID:	51 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:

3.4.6.9 Input ComfortPushbutton

Standard Mode:

DP Name:	ComfortPushbutton	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Block user comfort pushbutton.

Datapoint Type

DPT_Name:	DPT_Trigger				
DPT Format:	B_1	DPT_ID:	1.017		
Field	Description	Supp.	Range	Unit	Default
	1 = Trigger			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

* This Datapoint has NO heartbeat (Trigger).

Special Features

LTE-HEE Mode:

FB:	**RSMHD**	**LTE Client Input Name:**	**ComfortPushbutton**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block user comfort pushbutton.

DPT:	Name	DPT_Trigger	DPT ID	1.017	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		1 = Trigger				Bit	cs

Communication:

Binding Group:

Class		Type	Default
Geographical	☒	Apartment . Room . SubZone	1.1.1
Application Specific	☐		
Peripheral	☐	Broadcast ☐ Configurable ☐	
DP Address:		IO Type(ID): 384 (UHRS)	Property ID: 54
LTE-Service (event):		InfoReport Sniffer on Binding Group:	--
InfoReport	☒	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 ☐

* This Datapoint has NO heartbeat (Trigger).

Special Features:

3.4.6.10 Input ComfortProlongUser

Standard Mode:

DP Name:	ComfortProlongUser	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Block user comfort prolongation.

Datapoint Type

DPT_Name:	DPT_Trigger				
DPT Format:	B_1	DPT_ID:	1.017		
Field	Description	Supp.	Range	Unit	Default
	1 = Trigger			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

* This Datapoint has NO heartbeat (Trigger).

Special Features

LTE-HEE Mode:

FB:	**RSMHD**	**LTE Client Input Name:**	**ComfortProlongUser**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block user comfort prolongation.

DPT:	Name	DPT_Trigger	DPT ID	1.017	Datatype format	B_1

Field	Description	Sup.	Unit	Default
	1 = Trigger		Bit	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	Property ID:	53
LTE-Service (event):	InfoReport Sniffer on Binding Group:		--	
InfoReport ☒	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 ☐

* This Datapoint has NO heartbeat (Trigger).

Special Features:

3.4.6.11 Input TempRoomSetpUserAbs

Standard Mode:

DP Name:	TempRoomSetpUserAbs	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Block user room temperature setpoint absolute setting. This value overrides internal setpoint values (company specific).

Datapoint Type

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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:**	**TempRoomSetpUserAbs**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user room temperature setpoint absolute setting. This value overrides internal setpoint values (company specific).

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

Field	Description	Sup.	Unit	Default
Temp	Temperature value		°C	cs
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	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:

3.4.6.12 Input TempRoomSetpUserOffset

Standard Mode:

DP Name:	TempRoomSetpUserOffset	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by the Functional Block user room temperature setpoint relative setting. This value is added to internal setpoint values (company specific).

Datapoint Type

DPT_Name:	DPT_Value_Tempd		
DPT Format:	F_{16}	DPT_ID:	9.002

Field	Description	Supp.	Range	Unit	Default
			full	K	0

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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **TempRoomSetpUserOffset**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user room temperature setpoint relative setting. This value is added to internal setpoint values (company specific).

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temp	Temperature delda value		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	Property ID:	52
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:

3.4.6.13 Input TempRoomSetpSetHeat

LTE-HEE Mode: NA (see parameter)

Standard Mode:

DP Name:	TempRoomSetpSetHeat	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

The three setpoints for heating are provided by a supervisor.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetF16				
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.100		
Field	Description	Supp.	Range	Unit	Default
Temperature	TempComfort (heating)	M	full	°C	cs
Temperature	TempStandby (heating)	M	full	°C	cs
Temperature	TempEconomy (heating)	M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☐ NO	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

This information often is stored in Flash or EEPROM with limited number of write cycles. Therefore there is no heartbeat.

Special Features

3.4.6.14 Input TempRoomSetpSetCool

LTE-HEE Mode: NA (see parameter)

Standard Mode:

DP Name:	TempRoomSetpSetCool	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

The three setpoints for cooling are provided by a supervisor.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetF16		
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.100

Field	Description	Supp.	Range	Unit	Default
Temperature	TempComfort (cooling)	M	full	°C	cs
Temperature	TempStandby (cooling)	M	full	°C	cs
Temperature	TempEconomy (cooling)	M	full	°C	cs

Access Type

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☐ NO	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

This information often is stored in Flash or EEPROM with limited number of write cycles. Therefore there is no heartbeat.

Special Features

3.4.6.15 Input TempRoomSetpSetHeatShift

Standard Mode:

DP Name:	TempRoomSetpSetHeatShift	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a supervisor with e.g. optimising functionality. The heating values are added to the comfort, the standby and the economy setpoint value. The heating values and the cooling values are in separate Datapoints.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetShiftF16				
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.101		
Field	Description	Supp.	Range	Unit	Default
Temperature	TempShiftComfort (heating)	M	full	K	0
Temperature	TempShiftStandby (heating)	M	full	K	0
Temperature	TempShiftEconomy (heating)	M	full	K	0

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **TempRoomSetpSetHeatShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with e.g. optimising functionality. The heating values are added to the comfort, the standby and the economy setpoint value. The heating values and the cooling values are in separate Datapoints.

DPT:	Name	DPT_TempRoomSetpSetShift[3]	DPT ID	212.100	Datatype format	$V_{16}V_{16}V_{16}$

Field	Description	Sup.	Unit	Default
Temperature	TempShiftComfort (heating)	M	K	0
Temperature	TempShiftStandby (heating)	M	K	0
Temperature	TempShiftEconomy (heating)	M	K	0

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	62
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:

3.4.6.16 Input TempRoomSetpSetCoolShift

Standard Mode:

DP Name:	TempRoomSetpSetCoolShift	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This information is provided by a supervisor with e.g. optimising functionality. The cooling values are added to the comfort, the standby and the economy setpoint value. The heating values and the cooling values are in separate Datapoints.

Datapoint Type

DPT_Name:	DPT_TempRoomSetpSetShiftF16				
DPT Format:	$F_{16}F_{16}F_{16}$	DPT_ID:	222.101		
Field	Description	Supp.	Range	Unit	Default
Temperature	TempShiftComfort (cooling)	M	full	K	0
Temperature	TempShiftStandby (cooling)	M	full	K	0
Temperature	TempShiftEconomy (cooling)	M	full	K	0

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:** **TempRoomSetpSetCoolShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with e.g. optimising functionality. The cooling values are added to the comfort, the standby and the economy setpoint value. The heating values and the cooling values are in separate Datapoints.

DPT:	Name	DPT_TempRoomSetpSetShift[3]	DPT ID	212.100	Datatype format	$V_{16}V_{16}V_{16}$

Field	Description	Sup.	Unit	Default
Temperature	TempShiftComfort (cooling)	M	K	0
Temperature	TempShiftStandby (cooling)	M	K	0
Temperature	TempShiftEconomy (cooling)	M	K	0

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	115 (HVACOPT)	Property ID:	63
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:

3.4.6.17 Output HVACModeEff

Standard Mode:

DP Name:	HVACModeEff	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This output contains the effective demanded HVAC mode, manual inputs included.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

DPT_Name:	DPT_HVACMode		
DPT Format:	N_8	DPT_ID:	20.102

Field	Description	Supp.	Range	Unit	Default
HVAC Mode			1...4	enum.	cs
	0 = Auto	NA			
	1 = Comfort	M			
	2 = Standby	M			
	3 = Economy	M			
	4 = BuildingProtection	M			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	2sec [1)]
		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

Support of Datapoint see Functional Block diagram.

Special Features

1) The MinRepTime of 2sec shall be respected it the COV of the signal is the result of a calculation. However the signal may be sent immediately if the COV is the result of a user interaction (locally or by input signal).

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **HVACModeEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective demanded HVAC mode, manual inputs included.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
HVACMode			1...4	enum.	yes	cs
	0 = Auto	NA				
	1 = Comfort	M				
	2 = Standby	M				
	3 = Economy	M				
	4 = BuildingProtection	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false		Y	false
- Fault	Value is corrupted	O	true/false		Y	false
- Overridden	RSM is temporarily overridden	O	true/false		Y	false
- InAlarm	RSM is in alarm	O	true/false		Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false		Y	false
- all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	51		
LTE-Services (event):	COV ☒	MinRepTime:	2 [1)]	sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒	Low ☐		
(LTE Read-Response polling of the output shall always be supported)	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐			
Property-Service (individual access):	Read only ☒	Read/Write ☐				

Exception Handling: Save at Powerdown ☐

Support of Datapoint see Functional Block diagram.

Special Features:

[1)] The MinRepTime of 2sec shall be respected it the COV of the signal is the result of a calculation. However the signal may be sent immediately if the COV is the result of a user interaction (locally or by input signal).

3.4.6.18 Output HVACModeEffNext

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **HVACModeEffNext**	Mandatory ☐ Optional ☒

Description:

This output contains the next effective demanded HVAC mode and the time to it. If the next mode is not available (manual influence etc.) the time is set to zero.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

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

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next HVAC mode in minutes, 0 = no next mode [1]		full	min	15 [2]	0
Next HVACMode			0...4	enum.	yes	cs
	0 = Mode undefined [1]	M				
	1 = Comfort 2 = Standby	M				
	3 = Economy 4 = Build.Prot.	M				
	all other enumeration	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	52	
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min		
	Output per default communicating ☐		Binding Group Wildcard allowed ☒		
	Tx Prio:	High ☐	Normal ☒	Low ☐	
(LTE Read-Response polling of the output shall always be supported)	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐		
Property-Service (individual access):	Read only ☒	Read/Write ☐			

Exception Handling: Save at Powerdown ☐

Support of Datapoint see Functional Block diagram.

Special Features:

[1] encoding of special conditions, see table below
[2] COV value is identical to heart beat time (15 min).

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

3.4.6.19 Output HVACModeUserEff

Standard Mode:

DP Name:	HVACModeUserEff	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This output contains the effective user HVAC mode, internal and Bus.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	2sec [1)]
		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

Support of Datapoint see Functional Block diagram.

Special Features

1) The MinRepTime of 2sec shall be respected it the COV of the signal is the result of a calculation. However the signal may be sent immediately if the COV is the result of a user interaction (locally or by input signal).

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **HVACModeUserEff**	Mandatory ☐ Optional ☒

Description:

This output contains the effective user HVAC mode, internal and Bus.
According to TC247 the following HVAC-Modes are used: Comfort, Standby, Economy, Building Protection.

DPT:	Name	DPT_HVACMode_Z	DPT ID	201.100	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
HVACMode			1...4	enum.	yes	cs
	0 = Auto	M				
	1 = Comfort	M				
	2 = Standby	M				
	3 = Economy	M				
	4 = BuildingProtection	M				
	all other enumeration	NA				
STATUS				Bitset		
- all bits	Not supported	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	57		
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime:	2 [1)]	sec	Heartbeat:	15 min
	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒	Low ☐		
(LTE Read-Response polling of the output shall always be supported)	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐			
Property-Service (individual access):	Read only ☒	Read/Write ☐				

Exception Handling: Save at Powerdown ☐

Support of Datapoint see Functional Block diagram.

Special Features:

1) The MinRepTime of 2sec shall be respected it the COV of the signal is the result of a calculation. However the signal may be sent immediately if the COV is the result of a user interaction (locally or by input signal).

3.4.6.20 Output TempRoomSetpSetHeatEff

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **TempRoomSetpSetHeatEff [4]**	Mandatory ☒ [1] Optional ☐

Description:

This output contains the four effective (after corrections) heating setpoints which are valid for the controller. The heating values and the cooling values are in separate Datapoints.

DPT:	Name	DPT_TempRoomSetpSet[4]	DPT ID	213.100	Datatype format	$V_{16}V_{16}V_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Comfort setpoint heating	M	full	°C	0.2	cs
Temperature	Standby setpoint heating	M	full	°C	0.2	cs
Temperature	Economy setpoint heating	M	full	°C	0.2	cs
Temperature	Building protection setpoint heating	M	full	°C	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	53
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

[1] Support of Datapoint see Functional Block diagram.

3.4.6.21 Output TempRoomSetpSetCoolEff

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **TempRoomSetpSetCoolEff [4]**	Mandatory ☒ [1] Optional ☐

Description:

This output contains the four effective (after corrections) cooling setpoints which are valid for the controller. The heating values and the cooling values are in separate Datapoints.

DPT:	Name	DPT_TempRoomSetpSet[4]	DPT ID	213.100	Datatype format	$V_{16}V_{16}V_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Comfort setpoint cooling	M	full	°C	0.2	cs
Temperature	Standby setpoint cooling	M	full	°C	0.2	cs
Temperature	Economy setpoint cooling	M	full	°C	0.2	cs
Temperature	Building protection setpoint cooling	M	full	°C	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	54
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

[1] Support of Datapoint see Functional Block diagram.

3.4.6.22 Output TempRoomSetpHeatEff

Standard Mode:

DP Name:	TempRoomSetpHeatEff	Abbr.:	---	Mandatory [1]	☒
FB Name:	RSMHD			Can be internal	☐

Description

This output contains the effective (after corrections) heating setpoint which is valid for the controller. This information is used for simple applications (heating only).

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

[1] Support of Datapoint see Functional Block diagram.

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **TempRoomSetpHeatEff**	Mandatory ☒ [1] Optional ☐

Description:

This output contains the effective (after corrections) heating setpoint which is valid for the controller. This information is used for simple applications (heating only).

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

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective heating setpoint		full	°C	0.2	cs
STATUS - all bits	Not supported	NA		Bitset		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	55
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

[1] Support of Datapoint see Functional Block diagram.

3.4.6.23 Output TempRoomSetpCoolEff

Standard Mode:

DP Name:	TempRoomSetpCoolEff	Abbr.:	---	Mandatory [1]	☒
FB Name:	RSMHD			Can be internal	☐

Description

This output contains the effective (after corrections) cooling setpoint which is valid for the controller. This information is used for simple applications (cooling only).

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

[1] Support of Datapoint see Functional Block diagram.

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **TempRoomSetpCoolEff**	Mandatory ☒ [1] Optional ☐

Description:

This output contains the effective (after corrections) cooling setpoint which is valid for the controller. This information is used for simple applications (cooling only).

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

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective cooling setpoint		full	°C	0.2	cs
STATUS - all bits	Not supported	NA		Bitset		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	56
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	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:

[1] Support of Datapoint see Functional Block diagram.

3.4.6.24 Output ComfortProlongEff

Standard Mode:

DP Name:	ComfortProlongEff		Abbr.:	---		Mandatory	☐	
FB Name:	RSMHD					Can be internal	☐	
Description								
This output provides the information if comfort prolongation is active or not.								
Datapoint Type								
DPT_Name:	DPT_HVACMode							
DPT Format:	B_1				DPT_ID:	1.011		
Field	Description				Supp.	Range	Unit	Default
	0 = not active, 1 = active					true/false	bool.	cs
Access Type								
♦ Output								
this → M	☒	this → 1	☐					
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	--- [1]	
		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								
[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.								

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** **ComfortProlongEff**	Mandatory ☐ Optional ☒

Description:

This output provides the information if comfort prolongation is active or not.

DPT:	Name	DPT_State	DPT ID	1.011	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
	0 = not active, 1 = active		true/false	bool.	yes	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID): 100 (RSMHD)	Property ID: 60
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: --- [1] sec	Heartbeat: 15 min
	Output per default communicating ☐	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
(LTE Read-Response polling of the output shall always be supported)	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:

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

3.4.6.25 TempRoomSetpAbsEff

Standard Mode:

DP Name:	TempRoomSetpAbsEff	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This output provides the effective absolute temperature setpoint, as RSMHD's result of all TempRoomSetpUserAbs inputs to RSMHD.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	--- [1]
		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

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** TempRoomSetpAbsEff	Mandatory ☐ Optional ☒

Description:

This output provides the effective absolute temperature setpoint, as RSMHD's result of all TempRoomSetpUserAbs inputs to RSMHD.

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

Field	Description	Sup.	Range	Unit	COV	Default
Temp			Full	°C	yes	cs
STATUS - OutOfService - all other bits	Function Out of Service	O NA	true/false	bool.		false

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	59
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: --- [1] sec	Heartbeat:	15 min
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

3.4.6.26 TempRoomSetpUserOffsetEff

Standard Mode:

DP Name:	TempRoomSetpUserOffsetEff	Abbr.:	---	Mandatory	☐
FB Name:	RSMHD			Can be internal	☐

Description

This output provides the effective relative temperature setpoint, as RSMHD's result of all TempRoomSetpUserAbs inputs to RSMHD.

Datapoint Type

DPT_Name:	DPT_Value_Tempd				
DPT Format:	F_{16}	DPT_ID:	9.001		
Field	Description	Supp.	Range	Unit	Default
			full	K	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	--- [1]
		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

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

LTE-HEE Mode:

FB: **RSMHD**	**LTE Server Output Name:** TempRoomSetpUserOffsetEff	Mandatory ☐ Optional ☒

Description:

This output provides the effective relative temperature setpoint, as RSMHD's result of all TempRoomSetpUserAbs inputs to RSMHD.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Range	Unit	COV	Default
Temperature				K	yes	cs
STATUS - OutOfService - all other bits	Function Out of Service	O NA	true/false	bool.		false

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	58
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: --- [1] sec	Heartbeat:	15 min
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

3.4.6.27 Parameter Apartment_x

FB: RSMHD	Property Name (Server): Apartment_x	Mandatory ☒ Optional ☐

Description:

Number of the apartment zone. (controller itself)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	101
(in the server)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.4.6.28 Parameter Room_y

FB: RSMHD	Property Name (Server): Room_y	Mandatory ☒ Optional ☐

Description:

Number of the room zone. (controller itself)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	102
(in the server)	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 of the controller itself.
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_x.

3.4.6.29 Parameter SubZone_z

FB: RSMHD	Property Name (Server): SubZone_z	Mandatory ☒ Optional ☐

Description:

Number of the SubZone. (controller itself)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 of the controller itself.
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_x.

3.4.6.30 Parameter Apartment_u

FB: RSMHD	Property Name (Server): Apartment_u	Mandatory ☒ Optional ☐

Description:

Number of the apartment zone. (schedule)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for the schedule.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_u is 'OutOfService' Room_v and SubZone_w automatically are 'OutOfService' too.

3.4.6.31 Parameter Room_v

FB: RSMHD	Property Name (Server): Room_v	Mandatory ☒ Optional ☐

Description:

Number of the room zone. (schedule)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for the schedule.
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_u.

3.4.6.32 Parameter SubZone_w

FB: RSMHD	Property Name (Server): SubZone_w	Mandatory ☒ Optional ☐

Description:

Number of the SubZone. (schedule)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for the schedule.
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_u.

3.4.6.33 Parameter Apartment_m

FB: RSMHD	Property Name (Server): Apartment_m	Mandatory ☐ Optional ☒

Description:

Number of the apartment zone. (energy management)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for 'energy management'.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_m is 'OutOfService' Room_n and SubZone_o automatically are 'OutOfService' too.

3.4.6.34 Parameter Room_n

FB: RSMHD	Property Name (Server): Room_n	Mandatory ☐ Optional ☒

Description:

Number of the room zone. (energy management)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for 'energy management'.
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_m.

3.4.6.35 Parameter SubZone_o

FB: RSMHD	Property Name (Server): SubZone_o	Mandatory ☐ Optional ☒

Description:

Number of the SubZone. (energy management)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 for 'energy management'.
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_m.

3.4.6.36 Parameter TempRoomSetpHeatBuildProt

FB: RSMHD	Property Name (Server): TempRoomSetpHeatBuildProt	Mandatory ☒ Optional ☐

Description:

Heating setpoint for building protection.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS					
- all bits	not supported, fixed to '0'	NA			false
COMMAND					
- NormalWrite		M	0		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	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 ☐

Special Features:

3.4.6.37 Parameter TempRoomSetpHeatEconomy

FB: RSMHD	Property Name (Server): TempRoomSetpHeatEconomy	Mandatory ☒ Optional ☐

Description:

Heating setpoint for economy.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	15
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	112
(in the server)	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:

3.4.6.38 Parameter TempRoomSetpHeatStandby

FB: RSMHD	Property Name (Server): TempRoomSetpHeatStandby	Mandatory ☒ Optional ☐

Description:

Heating setpoint for standby.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	19
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	113
(in the server)	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:

3.4.6.39 Parameter TempRoomSetpHeatComfort

FB: RSMHD	Property Name (Server):	TempRoomSetpHeatComfort	Mandatory ☒ Optional ☐

Description:

Heating setpoint for comfort.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	21
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	114
(in the server)	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:

3.4.6.40 Parameter TempRoomSetpCoolComfort

FB: RSMHD	Property Name (Server):	TempRoomSetpCoolComfort	Mandatory ☒ Optional ☐

Description:

Cooling setpoint for comfort.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	24
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	115
(in the server)	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:

3.4.6.41 Parameter TempRoomSetpCoolStandby

FB: RSMHD	Property Name (Server):	TempRoomSetpCool Standby	Mandatory ☒ Optional ☐

Description:

Cooling setpoint for standby.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	28
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	116
(in the server)	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:

3.4.6.42 Parameter TempRoomSetpCoolEconomy

FB: RSMHD	Property Name (Server):	TempRoomSetpCool Economy	Mandatory ☒ Optional ☐

Description:

Cooling setpoint for economy.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	35
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	117
(in the server)	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:

3.4.6.43 Parameter TempRoomSetpCoolBuildProt

FB: RSMHD	Property Name (Server): TempRoomSetpCool BuildProt	Mandatory ☒ Optional ☐

Description:

Cooling setpoint for building protection.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	40
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	118
(in the server)	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:

3.4.6.44 Parameter TimeComfort

FB: RSMHD	Property Name (Server): TimeComfort	Mandatory ☐ Optional ☒

Description:

Time duration for manual comfort.

DPT:	Name	DPT_TimePeriodMin	DPT ID	7.006	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
Time			full	min	0

Communication:

DP Address:	IO Type(ID):	100 (RSMHD)	Property ID:	119
(in the server)	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:

3.4.6.45 Parameter DisableEnableComfort

FB: RSMHD	Property Name (Server): DisableEnableComfort	Mandatory ☐ Optional ☒

Description:

This parameter can disable the input EnableComfort. This means that local comfort always is possible.

DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
			bool		1

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	Property ID:	120
	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:

3.4.6.46 Parameter LimitLowerTempRoomSetp

FB: RSMHD	Property Name (Server): LimitLower TempRoomSetp	Mandatory ☐ Optional ☒

Description:

Lower limit for internally calculated setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	 not supported	M NA	0		

Communication:

DP Address: (in the server)	IO Type(ID):	100 (RSMHD)	Property ID:	121
	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:

3.4.6.47 Parameter LimitUpperTempRoomSetp

FB:	RSMHD	Property Name (Server):	LimitUpper TempRoomSetp	Mandatory ☐ Optional ☒

Description:

Upper limit for internally calculated setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	100 (RSMHD) 1	Property ID: N° of elements	122 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:

3.5 Room Setpoint Manager Temperature Driven (RSMTD)

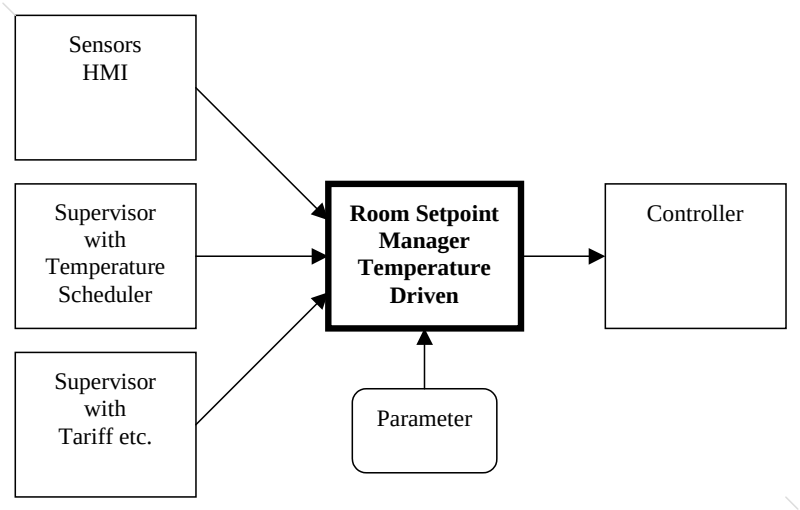
See also Room Setpoint Manager HVAC-Mode Driven 3.4

3.5.1 Aims and objectives

The Functional Block 'Room Setpoint Manager Temperature Driven' provides the HVAC controller with the necessary temperature setpoints. Depending on the realisation there is a present setpoint and a next setpoint with it's delay.

This Functional Block is limited to heating only or cooling only operation. This means that only the corresponding outputs and parameters will be used.

The effective setpoints are built from the present and the next setpoint, delivered from a supervisor and the influences given by external shifts (tariff and load shedding) and the local HMI.



3.5.2 Functional specifications

Inputs

- TempRoomSetpAbs — Actual/present temperature setpoint being provided by a “supervisor” or a HMI.
- TempRoomSetpAbsNext — Next temperature setpoint and the delay to it being provided by a “supervisor”.
- TempRoomSetpTariffShift — This input allows to shift the setpoint according to the demands of a tariff information.
- TempRoomSetpLoadShedShift — This input allows to shift the setpoint according to the demands of load shedding.
- WindowStatus — Information that can be used to change the setpoint in case of an open window (e.g. building protection).
- PresenceStatus — Information from a presence detector or switch about the occupation of the room which can be used to change the setpoint.

- ComfortProlongUser — The following example may be realised: If the RSMTD is working with the input 'TempRoomSetpAbs' the trigger changes it for the defined time to the input 'TempRoomSetpUserAbs'. Another trigger before the elapse of the time changes the operation back to 'TempRoomSetpAbs'. When the time is elapsed, the operation goes back to the value of 'TempRoomSetpAbs'.
- EnableTempRoomSetpAlt — Information from a HMI or a 'clock'. The effective setpoint changes to the parameter value 'TempRoomSetpHeatAltAbs' or 'TempRoomSetpCoolAltAbs'
- TempRoomSetpUserAbs — Actual/present temperature setpoint being provided by the user. This value has higher priority than 'TempRoomSetpAbs'.
- TempRoomSetpUserOffset — User value for shifting the setpoint. Normally not together with 'TempRoomSetpUserAbs'.

Possible behaviour of setpoints:
(only **examples** - to be defined by the manufacturer)

A: Normal setpoint is provided by a supervisor (TempRoomSetpAbs)

Active setpoint values		Temp Room Setp Abs	Temp Room Setp User Offset	Temp Room Setp User Abs	Temp Room Setp He/Co BuildProt	Temp Room Setp He/Co Alt Abs	Temp Room Setp Alt Offset
Inputs X = active	Prio						
None	1	**X**					
Window Status	2				**X**		
Presence Status	3	**X**	**X**				
Comfort Prolong User	4			**X**			
Enable TempRoom SetpAlt	5					**X**	
		X					**X**

B: Normal setpoint is provided by the user (TempRoomSetpUserAbs)

Active setpoint values	Temp Room Setp Abs	Temp Room Setp User Offset	Temp Room Setp User Abs	Temp Room Setp He/Co BuildProt	Temp Room Setp He/Co Alt Abs	Temp Room Setp Alt Offset

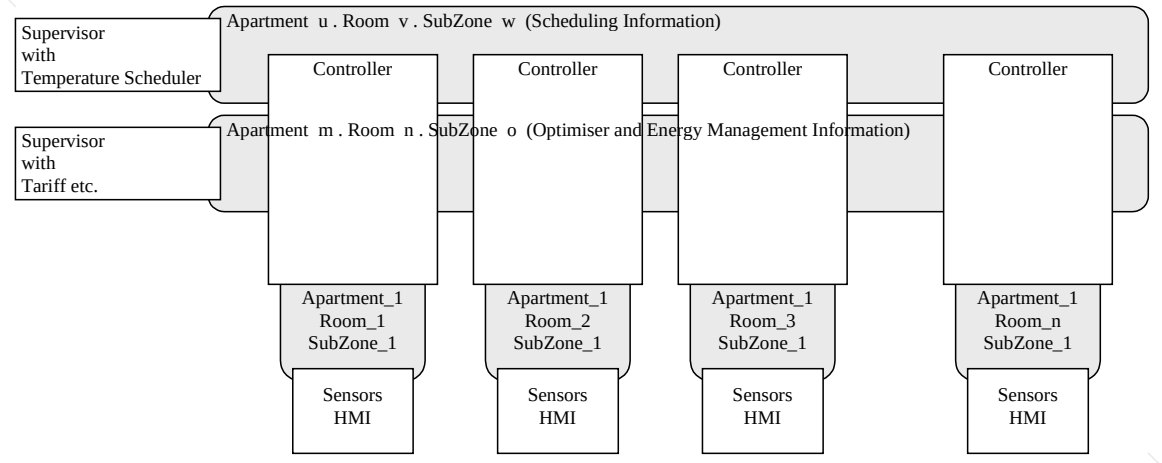
Inputs X = active	Prio	not used	not allowed				
None	1			**X**			
Window Status	2				**X**		
Presence Status	3			**X**			
Comfort Prolong User	4			**X**			
Enable TempRoom SetpAlt	5					**X**	
				X			**X**

Outputs

- TempRoomSetpHeatEff — The effective actual temperature setpoint for heating.
- TempRoomSetpHeatEffNext — The next temperature setpoint for heating plus the time to it.
- TempRoomSetpCoolEff — The effective actual temperature setpoint for cooling.
- TempRoomSetpCoolEffNext — The next temperature setpoint for cooling plus the time to it.
- StatusTempRoomSetpEff — Information about valid setpoint.

Binding Groups (LTE)

The Functional Block shows 3 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 is used to get the 'programme information' from the supervisor. This information is bound to a specific room / zone from where the other zones get the information.
  Example:
  There are four rooms / zones with the same 'programme':
  3.1.1 3.2.1 3.3.1 3.4.1
  The supervisor is bound to 3.1.1.
  So in this room / zone both binding groups x.y.z and u.v.w have the address 3.1.1.
  In the other three rooms / zones the binding group x.y.z corresponds to the proper zone, whereas the binding group u.v.w is 3.1.1 (programme).
- 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'.

Parameters

- TempRoomSetpHeatBuildProt — This value defines the protection value for heating.
- TempRoomSetpCoolBuildProt — This value defines the protection value for cooling.
- TempRoomSetpHeatAltAbs — This value defines the alternative setpoint value for heating. This value is activated by means of the input 'EnableRoomTempSetpAlt'.
- TempRoomSetpCoolAltAbs — This value defines the alternative setpoint value for cooling. This value is activated by means of the input 'EnableRoomTempSetpAlt'.
- TempRoomSetpAltOffset — This value defines the alternative setpoint offset value. This value is activated by means of the input 'EnableRoomTempSetpAlt' and is added to the value of 'TempRoomSetpAbs'.
- TimeComfort — This parameter defines the time period for the comfort prolongation.
- LimitLowerTempRoomSetp — This parameter defines a lower limit for the room temperature setpoint. If this value is violated, an alarm can be created.
- LimitUpperTempRoomSetp — This parameter defines a upper limit for the room temperature setpoint. If this value is violated, an alarm can be created.

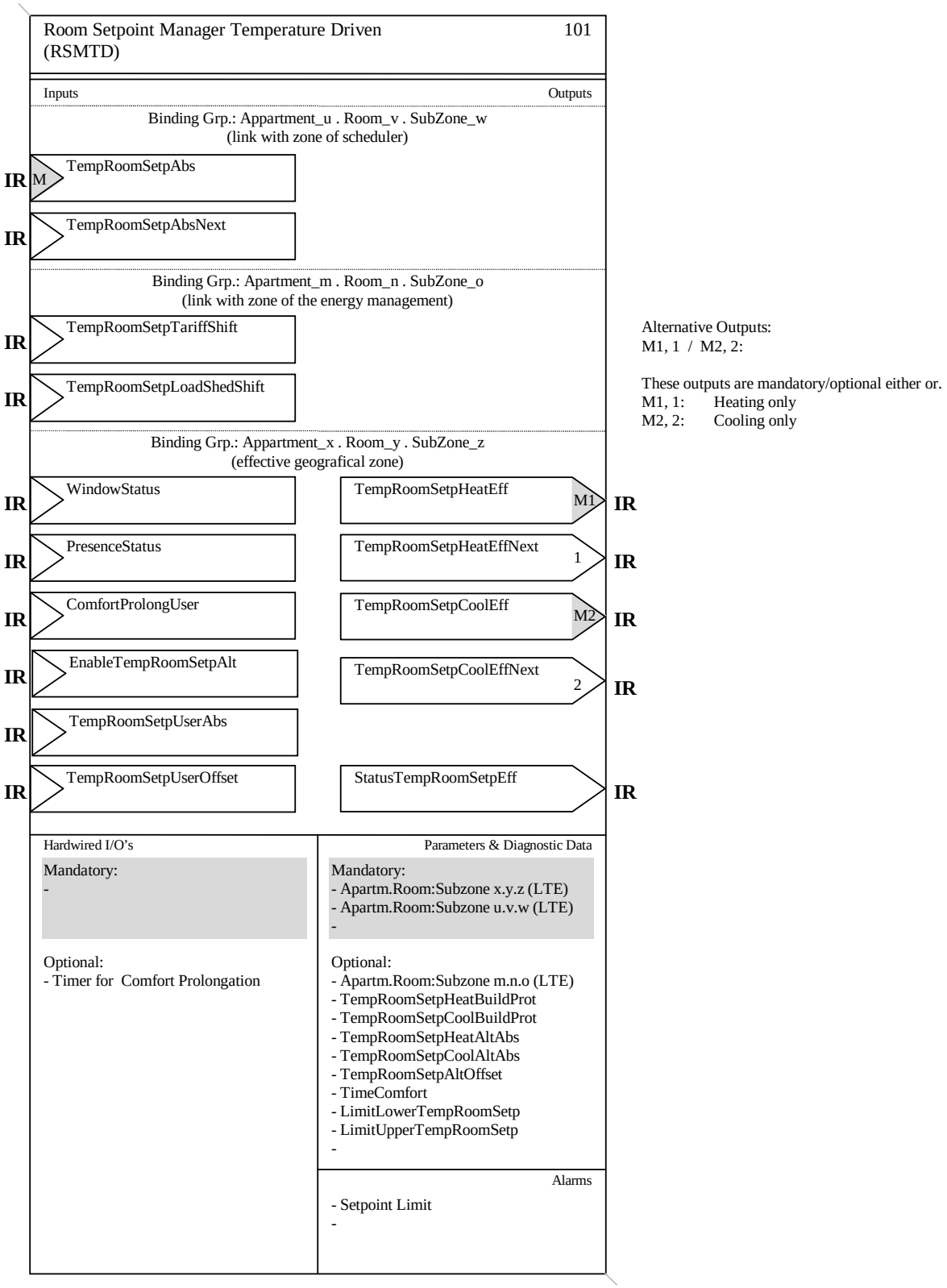
Alarms

- SetpointLimit — This alarm is created if the setpoint violated the setpoint limits.

3.5.3 Constraints

The functionality of this Functional Block is based on setpoint temperatures (no HVAC mode). For this reason it is dedicated to simple heating only or cooling only applications.
Another Room Setpoint Manager, based on HVAC modes is described in Chapter 3.4 of this document.

3.5.4 Functional Block diagram



3.5.5 Datapoints Description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
Temp Room Setp Abs	Present temperature Setpoint with: - COV and RepPer - Z_8 STATUS supported from FB various supervisor or a HMI	LTE: 205.100 DPT_TempHVACAbs_ZV$_{16}$Z$_8$ S: 9.001 DPT_Value_Temp F$_{16}$	LTE: M S: (GO) °C
Temp Room Setp Abs Next	Next temperature setpoint plus time to next temperature setpoint with: - COV and RepPer from FB various supervisor Time = 0: No next mode (as e.g. not valid)	LTE: 220.100 DPT_TempHVACAbsNext U$_{16}$V$_{16}$ S: NA	LTE: O S: NA °C time = min
Temp Room Setp Tariff Shift	Temperature setpoint shift value with: - COV and RepPer - Z_8 STATUS supported from FB tariff calculation.	LTE: 205.101 DPT_TempHVACRel_ZV$_{16}$Z$_8$ S: NA	LTE: O S: NA K
Temp Room Setp LoadShed Shift	Temperature setpoint shift value with: - COV and RepPer - Z_8 STATUS supported from FB load management.	LTE: 205.101 DPT_TempHVACRel_ZV$_{16}$Z$_8$ S: NA	LTE: O S: NA K
Window Status	Window status with: - COV and RepPer from FB Window Switch	LTE: 1.019 DPT_Window_Door B$_1$ S: 1.019 DPT_Window_Door B$_1$	LTE: O S: (GO) 0 = closed 1 = open
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$_1$	LTE: O S: (GO) 0 = not occupied 1 = occupied
Comfort Prolong User	Comfort prolongation trigger with: - COV and NO RepPer from FB User HVAC Room Settings see Functional specifications	LTE: 1.017 DPT_Trigger B$_1$ S: 1.017 DPT_Trigger B$_1$	LTE: O S: (GO) 1= Trigger (0 not used)

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
Enable Temp Room Setp Alt	Enable information for alternative room temperature setpoint with: - COV and RepPer from FB User Enable Alt Room Temperature Setpoint	LTE: 1.003 DPT_Enable B_1 S: 1.003 DPT_Enable B_1	LTE: O S: (GO) 0 = disabled 1 = enabled
Temp Room Setp User Abs	One temperature value, normally for comfort with: - COV and RepPer - Z_8 STATUS supported from FB User HVAC Room Settings	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: O S: (GO) °C
Temp Room Setp User Offset	One temperature offset value, normally for comfort values or for Basic Setpoint with: - COV and RepPer - Z_8 not supported from FB User HVAV Room Settings	LTE: 205.101 DPT_TempHVACRel_Z $V_{16}Z_8$ S: 9.002 DPT_Value_Tempd F_{16}	LTE: O S: (GO) K

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Temp Room Setp Heat Eff	1 temperature value for heating for simple heating only applications with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: M1 S: GO1 °C
Temp Room Setp Heat Eff Next	Next temperature setpoint for heating plus time to it for simple heating only applications with: - COV and RepPer to FB various controller 0 = no next temperature (as e.g. not valid)	LTE: 220.100 DPT_TempHVACAbsNext $U_{16}V_{16}$ S: NA	LTE: O1 S: (GO1) °C time = min
Temp Room Setp Cool Eff	1 temperature value for cooling for simple heating only applications with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: M2 S: GO2 °C

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Temp Room Setp Cool Eff Next	Next temperature setpoint for cooling plus time to it for simple cooling only applications with: - COV and RepPer to FB various controller 0 = no next temperature (as e.g. not valid)	LTE: 220.100 DPT_TempHVACAbsNext $U_{16}V_{16}$ S: NA	LTE: O2 S: (GO2) °C time = min
Status Temp Room Setp Eff	Status information for room temperature setpoint with - COV and RepPer to FB various HMI and supervisor	LTE: 20.113 DPT_StatusRoomSetp N_8 S: 20.113 DPT_ StatusRoomSetp N_8	LTE: O S: (GO) 0 = form HMI / supervisor 1 = alternative 2 = BuildingProtection

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameters			
Apartment_x	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
Room_y	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
SubZone_z	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	M Controller zone
Apartment_u	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone
Room_v	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone
SubZone_w	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone
Apartment_m	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone
Room_n	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone
SubZone_o	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O E-management zone

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameters			
Temp Room Setp Heat BuildProt	Building protection value for heating with: Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Temp Room Setp Cool BuildProt	Building protection value for cooling with: Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Temp Room Setp Heat Alt Abs	Alternative temperature setpoint for heating with: Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Temp Room Setp Cool Alt Abs	Alternative temperature setpoint for cooling with: Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Temp Room Setp Alt Offset	Alternative temperature offset for setpoint with: Z_8 not supported	205.101 1) DPT_TempHVACRel_Z $V_{16}Z_8$	O K
Time Comfort	Time for comfort period in connection with the pushbutton 0 = no prolongation	7.006 1) DPT_TimePeriodMin U_{16}	O min
Limit Lower Temp Room Setp	Lower limit for internal setpoint with: - Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C
Limit Upper Temp Room Setp	Upper limit for internal setpoint with: - Z_8 not supported	205.100 1) DPT_TempHVACAbs_Z $V_{16}Z_8$	O °C

1) Implementation of Properties using standard DPT see chapter 1.3.2

Datapoints	Description / Remarks	Datapoint Type	Additional info
Diagnostic Data			

Alarms	Description / Remarks	Error		Additional info
		Code	Prio	
Setpoint Limit	Setpoint violates limits			

RSMTD Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	HEE
Inputs	TempRoomSetpAbs	**GO_b**	GO	GO	**M**
	TempRoomSetpAbsNext	**NA_b**	NA	NA	**O**
	TempRoomSetpTariffShift	**NA_b**	NA	NA	**O**
	TempRoomSetpLdShedShift	**NA_b**	NA	NA	**O**
	WindowStatus	**(GO_b)**		(GO)	**O**
	PresenceStatus	**(GO_b)**		(GO)	**O**
	ComfortProlongUser	**(GO_b)**		(GO)	**O**
	EnableRoomTempSetpAlt	**(GO_b)**		(GO)	**O**
	TempRoomSetpUserAbs	**(GO_b)**		(GO)	**O**
	TempRoomSetpUserOffset	**(GO_b)**		(GO)	**O**
Outputs	TempRoomSetpHeatEff	**(GO_b)**		(GO)	**M1**[1)]
	TempRoomSetpHeatEffNext	**NA_b**	NA	NA	**O1**[1)]
	TempRoomSetpCoolEff	**(GO_b)**		(GO)	**M2**[1)]
	TempRoomSetpCoolEffNext	**NA_b**	NA	NA	**O2**[1)]
	StatusTempRoomSetpEff	**NA_b**	NA	NA	**O**

[1)] See Functional Block diagram

RSMTD LTE specific Properties

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

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

		Support
Parameter	TempRoomSetpHeatBuildProt	**O**
	TempRoomSetpCoolBuildProt	**O**
	TempRoomSetpHeatAltAbs	**O**
	TempRoomSetpCoolAltAbs	**O**
	TempRoomSetpAltOffset	**O**
	TimeComfort	**O**
	LimitLowerTempRoomSetp	**O**
	LimitUpperTempRoomSetp	**O**

3.5.6 Detailed specification of the Datapoints

3.5.6.1 Input TempRoomSetpAbs

Standard Mode:

DP Name:	TempRoomSetpAbs	Abbr.:	---	Mandatory	☒
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by a supervisor. It contains the actual room temperature setpoint.

Datapoint Type

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

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB: **RSMTD**	**LTE Client Input Name:** **TempRoomSetpAbs**	Mandatory ☒ Optional ☐

Description:

This information is provided by a supervisor. It contains the actual room temperature setpoint.

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

Field	Description	Sup.	Unit	Default
Temp	Temperature setpoint value		°C.	cs
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	113.(ARTSS) 385 (RTSA)	Property ID:	51 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:

3.5.6.2 Input TempRoomSetpAbsNext

Standard Mode: NA

LTE-HEE Mode:

FB: RSMTD	**LTE Client Input Name:** TempRoomSetpAbsNext	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor. It contains the next room temperature setpoint and the time to it.

DPT:	Name	DPT_TempHVACAbsNext	DPT ID	220.100	Datatype format	$U_{16}V_{16}$

Field	Description	Sup.	Unit	Default
Time	Time to next room temperature setpoint in minutes 0 = no next setpoint		min	0
Temp	Next room temperature setpoint		°C.	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	113 (ARTSS)	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:

3.5.6.3 Input TempRoomSetpTariffShift

Standard Mode: NA

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**TempRoomSetpTariffShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with tariff functionality. The value is added to the comfort and eventually also to the standby, economy and the building protection value.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Relative Temperature	Shift value for the setpoint		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	121 (SSLSTA)	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:

3.5.6.4 Input TempRoomSetpLoadShedShift

Standard Mode: NA

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**TempRoomSetpLoadShedShift**	Mandatory ☐ Optional ☒

Description:

This information is provided by a supervisor with load shedding functionality. The value is added to the comfort and eventually also to the standby, economy and the building protection value.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Relative Temperature	Shift value for the setpoint		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	121 (SSLSTA)	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:

3.5.6.5 Input WindowStatus

Standard Mode:

DP Name:	WindowStatus	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Block window switch.

Datapoint Type

DPT_Name:	DPT_Window_Door				
DPT Format:	B_1	DPT_ID:	1.019		
Field	Description	Supp.	Range	Unit	Default
	0 = closed, 1 = open			Bit	0

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

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**WindowStatus**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block window switch.

DPT:	Name	DPT_Window_Door	DPT ID	1.019	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		0 = closed, 1 = open				Bit	0

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	343 (WOS)	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:

3.5.6.6 Input PresenceStatus

Standard Mode:

DP Name:	PresenceStatus	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Blocks 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
	0 = not occupied, 1 = occupied			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

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**PresenceStatus**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Blocks presence detector or user presence switch.

DPT:	Name	DPT_Occupancy	DPT ID	1.018	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		0 = not occupied, 1 = occupied				Bit	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	345 (PRD) 391 (UPS)	Property ID:	51 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:

3.5.6.7 Input ComfortProlongUser

Standard Mode:

DP Name:	ComfortProlongUser	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Block user comfort prolongation.

Datapoint Type

DPT_Name:	DPT_Trigger				
DPT Format:	B_1	DPT_ID:	1.017		
Field	Description	Supp.	Range	Unit	Default
	1 = Trigger			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

* This Datapoint has NO heartbeat (Trigger).

Special Features

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**ComfortProlongUser**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block user comfort prolongation.

DPT:	Name	DPT_Trigger	DPT ID	1.017	Datatype format	B_1

Field	Description	Sup.	Unit	Default
	1 = Trigger		Bit	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	Property ID:	53
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	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 ☐

* This Datapoint has NO heartbeat (Trigger).

Special Features:

3.5.6.8 Input EnableTempRoomSetpAlt

Standard Mode:

DP Name:	EnableTempRoomSetpAlt	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Block enable alternative room temperature setpoint.

Datapoint Type

DPT_Name:	DPT_Enable				
DPT Format:	B_1	DPT_ID:	1.003		
Field	Description	Supp.	Range	Unit	Default
	0 = disabled, 1 = enabled			Bit	1

Access Type

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

LTE-HEE Mode:

FB:	**RSMTD**	**LTE Client Input Name:**	**EnableTempRoomSetpAlt**	Mandatory ☐ Optional ☒	

Description:

This information is provided by the Functional Block enable alternative room temperature setpoint.

DPT:	Name	DPT_Enable	DPT ID	1.003	Datatype format	B_1	
Field		Description			Sup.	Unit	Default
		0 = disabled, 1 = enabled				Bit	1

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	396 (UEARTS)	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:

3.5.6.9 Input TempRoomSetpUserAbs

Standard Mode:

DP Name:	TempRoomSetpUserAbs	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Block user room temperature setpoint absolute setting. This value overrides internal setpoint values (company specific).

Datapoint Type

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

LTE-HEE Mode:

FB: **RSMHD**	**LTE Client Input Name:**	**TempRoomSetpUserAbs**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user room temperature setpoint absolute setting. This value overrides internal setpoint values (company specific).

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

Field	Description	Sup.	Unit	Default
Temp	Temperature value		°C	cs
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	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:

3.5.6.10 Input TempRoomSetpUserOffset

Standard Mode:

DP Name:	TempRoomSetpUserOffset	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This information is provided by the Functional Block user room temperature setpoint relative setting. This value is added to internal setpoint values (company specific).

Datapoint Type

DPT_Name:	DPT_Value_Tempd				
DPT Format:	F_{16}	DPT_ID:	9.002		
Field	Description	Supp.	Range	Unit	Default
			full	K	0

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

LTE-HEE Mode:

FB: **RSMTD**	**LTE Client Input Name:** **TempRoomSetpUserOffset**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user room temperature setpoint relative setting. This value is added to internal setpoint values (company specific).

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Unit	Default
Temp	Temperature delta value		K	0
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	384 (UHRS)	Property ID:	52
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	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:

3.5.6.11 Output TempRoomSetpHeatEff

Standard Mode:

DP Name:	TempRoomSetpHeatEff	Abbr.:	---	Mandatory	☒
FB Name:	RSMTD			Can be internal	☐

Description

This output contains the effective (after corrections) heating setpoint which is valid for the controller. This information is used for simple applications (heating only).

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

Support of Datapoint see Functional Block diagram.

Special Features

LTE-HEE Mode:

FB: **RSMTD**	**LTE Server Output Name:** **TempRoomSetpHeatEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective (after corrections) heating setpoint which is valid for the controller. This information is used for simple applications (heating only).

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

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective heating setpoint		full	°C	0.2	cs
STATUS - all bits	Not supported	NA		Bitset		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	51
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	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 ☐

Support of Datapoint see Functional Block diagram.

Special Features:

3.5.6.12 Output TempRoomSetpHeatEffNext

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMTD**	**LTE Server Output Name:** **TempRoomSetpHeatEffNext**	Mandatory ☐ Optional ☒

Description:

This output contains the effective (after corrections) next heating setpoint which is valid for the controller. This information is used for simple applications (heating only).

DPT:	Name	DPT_TempHVACAbsNext	DPT ID	220.100	Datatype format	$U_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next setpoint in minutes		full	min	15[1)]	0
Temperature	Next heating setpoint		full	°C	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	52	
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime:	10 sec	Heartbeat:	15 min
	Output per default communicating ☐		Binding Group Wildcard allowed ☒		
	Tx Prio:	High ☐	Normal ☒	Low ☐	
(LTE Read-Response polling of the output shall always be supported)	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐		
Property-Service (individual access):	Read only ☐	Read/Write ☒			

Exception Handling: Save at Powerdown ☐

[1)] COV value is identical to heart beat time (15min)

Special Features:

3.5.6.13 Output TempRoomSetpCoolEff

Standard Mode:

DP Name:	TempRoomSetpCoolEff	Abbr.:	---	Mandatory	☒
FB Name:	RSMTD			Can be internal	☐

Description

This output contains the effective (after corrections) cooling setpoint which is valid for the controller. This information is used for simple applications (cooling only).

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec
		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

Support of Datapoint see Functional Block diagram.

Special Features

LTE-HEE Mode:

FB: **RSMTD**	**LTE Server Output Name:** **TempRoomSetpCoolEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective (after corrections) cooling setpoint which is valid for the controller. This information is used for simple applications (cooling only).

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

Field	Description	Sup.	Range	Unit	COV	Default
Temperature	Effective cooling setpoint		full	°C	0.2	cs
STATUS - all bits	Not supported	NA		Bitset		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	53
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	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 ☐

Support of Datapoint see Functional Block diagram.

Special Features:

3.5.6.14 Output TempRoomSetpCoolEffNext

Standard Mode: NA

LTE-HEE Mode:

FB: **RSMTD**	**LTE Server Output Name:** **TempRoomSetpCoolEffNext**	Mandatory ☐ Optional ☒

Description:

This output contains the effective (after corrections) next cooling setpoint which is valid for the controller. This information is used for simple applications (cooling only).

DPT:	Name	DPT_TempHVACAbsNext	DPT ID	220.100	Datatype format	$U_{16}V_{16}$

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next setpoint in minutes		full	min	15[1)]	0
Temperature	Next cooling setpoint		full	°C	0.2	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	54	
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min		
	Output per default communicating ☐		Binding Group Wildcard allowed ☒		
	Tx Prio:	High ☐	Normal ☒	Low ☐	
(LTE Read-Response polling of the output shall always be supported)	Transm after Power-up: Stored Value ☐	Act Value ☒	Default Value ☐		
Property-Service (individual access):	Read only ☐	Read/Write ☒			

Exception Handling: Save at Powerdown ☐

[1)] COV value is identical to heart beat time (15min)

Special Features:

3.5.6.15 Output StatusTempRoomSetpEff

Standard Mode:

DP Name:	StatusTempRoomSetpEff	Abbr.:	---	Mandatory	☐
FB Name:	RSMTD			Can be internal	☐

Description

This output contains the information about the setpoint that is effectivly in operation.

Datapoint Type

DPT_Name:	DPT_StatusRoomSetp				
DPT Format:	N_8	DPT_ID:	20.113		
Field	Description	Supp.	Range	Unit	Default
Status	0 = Setp form HMI / supervisor 1 = internal alternative setpoint 2 = Building Protection setpoint all other enumerations	M M M NA	0...2	enum	cs

Access Type

♦ Output

this → M	☒	this → 1	☐					
Spontaneous	☒	COV:	☒	Delta-Value:	0.2	MinRepTime:	10 sec	
		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

Support of Datapoint see Functional Block diagram.

Special Features

LTE-HEE Mode:

FB: **RSMTD**	**LTE Server Output Name:** **StatusRoomSetpEff**	Mandatory ☐ Optional ☒

Description:

This output contains the information about the setpoint that is effectivly in operation.

DPT:	Name	DPT_StatusRoomSetp	DPT ID	20.113	Datatype format	N_8

Field	Description	Sup.	Range	Unit	COV	Default
Status	0 = Setp form HMI / supervisor 1 = internal alternative setpoint 2 = Building Protection setpoint all other enumerations	M M M NA	0...2	enum	Y	cs

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	55
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
	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 ☐

Support of Datapoint see Functional Block diagram.

Special Features:

3.5.6.16 Parameter Apartment_x

FB: RSMTD	Property Name (Server): Apartment_x	Mandatory ☒ Optional ☐

Description:

Number of the apartment zone. (controller itself)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.5.6.17 Parameter Room_y

FB: RSMTD	Property Name (Server): Room_y	Mandatory ☒ Optional ☐

Description:

Number of the room zone. (controller itself)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this sone if zone is 'OutOfService'.
'OutOfService' is taken over from Apartment_x.

3.5.6.18 Parameter SubZone_z

FB: RSMTD	Property Name (Server): SubZone_z	Mandatory ☒ Optional ☐

Description:

Number of the SubZone. (controller itself)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 of the controller itself.
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_x.

3.5.6.19 Parameter Apartment_u

FB: RSMTD	Property Name (Server): Apartment_u	Mandatory ☒ Optional ☐

Description:

Number of the apartment zone. (schedule)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for the schedule.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_u is 'OutOfService' Room_v and SubZone_w automatically are 'OutOfService' too.

3.5.6.20 Parameter Room_v

FB: RSMTD	Property Name (Server): Room_v	Mandatory ☒ Optional ☐

Description:

Number of the room zone. (schedule)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for the schedule.
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_u.

3.5.6.21 Parameter SubZone_w

FB: RSMTD	Property Name (Server): SubZone_w	Mandatory ☒ Optional ☐

Description:

Number of the SubZone. (schedule)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for the schedule.
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_u.

3.5.6.22 Parameter Apartment_m

FB: RSMTD	Property Name (Server): Apartment_m	Mandatory ☐ Optional ☒

Description:

Number of the apartment zone. (energy management)

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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for 'energy management'.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_m is 'OutOfService' Room_n and SubZone_o automatically are 'OutOfService' too.

3.5.6.23 Parameter Room_n

FB: RSMTD	Property Name (Server): Room_n	Mandatory ☐ Optional ☒

Description:

Number of the room zone. (energy management)

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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for 'energy management'.
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_m.

3.5.6.24 Parameter SubZone_o

FB: RSMTD	Property Name (Server): SubZone_o	Mandatory ☐ Optional ☒

Description:

Number of the SubZone. (energy management)

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 for 'energy management'.
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_m.

3.5.6.25 Parameter TempRoomSetpHeatBuildProt

FB: RSMTD	Property Name (Server): TempRoomSetpHeatBuildProt	Mandatory ☐ Optional ☒

Description:

Heating setpoint for building protection.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS	not supported	NA			
COMMAND	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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 ☐

Special Features:

3.5.6.26 Parameter TempRoomSetpCoolBuildProt

FB: RSMTD	Property Name (Server): TempRoomSetpCoolBuildProt	Mandatory ☐ Optional ☒

Description:

Cooling setpoint for building protection.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	40
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	112
(in the server)	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:

3.5.6.27 Parameter TempRoomSetpHeatAltAbs

FB: RSMTD	Property Name (Server): TempRoomSetpHeatAltAbs	Mandatory ☐ Optional ☒

Description:

Heating value for alternative setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	cs
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	113
(in the server)	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:

3.5.6.28 Parameter TempRoomSetpCoolAltAbs

FB: RSMTD	Property Name (Server): TempRoomSetpCoolAltAbs	Mandatory ☐ Optional ☒

Description:

Cooling value for alternative setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	cs
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	 not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	114
(in the server)	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:

3.5.6.29 Parameter TempRoomSetpAltOffset

FB: RSMTD	Property Name (Server): TempRoomSetpAltOffset	Mandatory ☐ Optional ☒

Description:

Offset value for the alternative setpoint.

DPT:	Name	DPT_TempHVACRel_Z	DPT ID	205.101	Datatype format	$V_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Temperature difference			full	K	0
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	 not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	101 (RSMTD)	Property ID:	115
(in the server)	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:

3.5.6.30 Parameter TimeComfort

FB:	RSMTD	Property Name (Server):	TimeComfort	Mandatory ☐ Optional ☒

Description:

Time duration for manual comfort.

DPT:	Name	DPT_TimePeriodMin	DPT ID	7.006	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
Time			full	min	0

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	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:

3.5.6.31 Parameter LimitLowerTempRoomSetp

FB:	RSMTD	Property Name (Server):	LimitLower TempRoomSetp	Mandatory ☐ Optional ☒

Description:

Lower limit for internally calculated setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	 not supported	M NA	0		

Communication:

DP Address: (in the server)	IO Type(ID):	101 (RSMTD)	Property ID:	117
	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:

3.5.6.32 Parameter LimitUpperTempRoomSetp

FB:	RSMTD	Property Name (Server):	LimitUpper TempRoomSetp	Mandatory ☐ Optional ☒

Description:

Upper limit for internally calculated setpoint.

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

Field	Description	Sup.	Range	Unit	Default
Temperature			full	°C	12
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address: (in the server)	IO Type(ID): Start-Index:	101 (RSMTD) 1	Property ID: N° of elements	118 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:

3.6 Setpoint Manager Air Quality (SMAQ)

3.6.1 Aims and objectives

The Functional Block 'Setpoint Manager Air Quality' provides the HVAC facilities with the necessary AQ setpoint.
AQ control e.g. may be defined to be active in comfort and eventually in standby mode. In the other modes no AQ setpoint is definend (no AQ control).

3.6.2 Functional specifications

In the LTE-Mode the 'Setpoint Manager Air quality' supports the following LTE zoning:
- "Apartment . Room . SubZone"
- "General Peripheral Tag".

Inputs

• AQSetpUser	One absolute AQ setpoint value from a HMI e.g. to override the internal setpoint.

Outputs

• AQSetpEff	The effective AQ setpoint normally valid for ‘Comfort’ It is delivered to various controller FB.
• AQSetpUserEff	The effective air quality setpoint, as SMAQ’s result of all AQSetpUser inputs to SMAQ. It is delivered to user HMI FBs (‘User HVAC Display’, ‘ User Air Quality Setpoint Setting’)

Binding Groups (LTE)

• Binding group x.y.z GenPeripheral	The setpoint manager air quality offers different binding possibilities. When implementing, one of them or both may be realised.

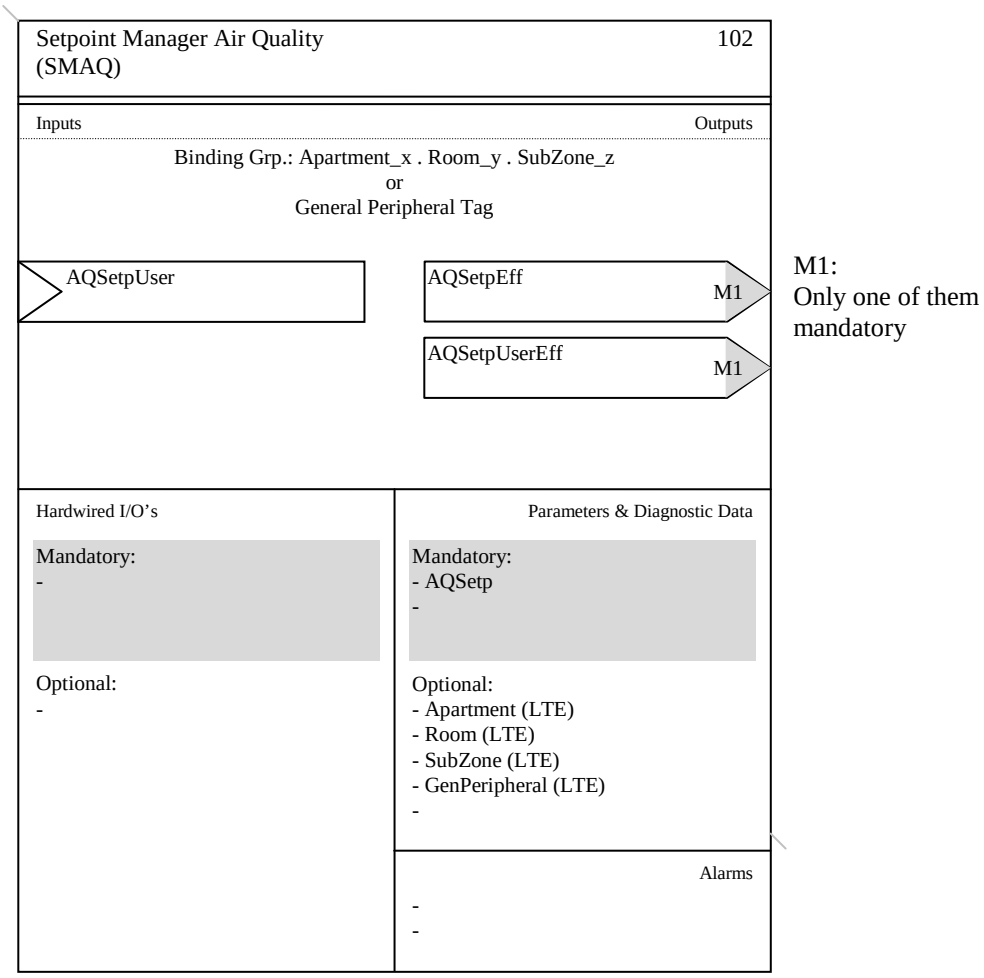
Parameters

• AQSetp	AQ level for comfort

3.6.3 Constraints

None.

3.6.4 Functional Block diagram



3.6.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
AQ Setp User	User air quality setpoint with: - COV and RepPer - Z_8 STATUS supported from FB User Air Quality Setpoint Setting	LTE: 203.100 DPT_HVACAirQual $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	LTE: O S: (GO) ppm
Outputs			
AQ Setp Eff	Air quality setpoint value with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 203.100 DPT_HVACAirQual $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	LTE: M S: GO ppm

Datapoints	Description / Remarks	Datapoint Type	Additional info
AQ Setp User Eff	Effective air quality setpoint value value (result of all AQSetpUser inputs) with: - COV and RepPer - Z_8 STATUS supported to FB User HVAC Display, User Air Quality Setpoint Setting	LTE: 203.100 DPT_HVACAirQual $U_{16}Z_8$ S: 9.008 DPT_Value_AirQuality F_{16}	LTE: M S: GO ppm
Parameters			
Apartment	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
Room	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
SubZone	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
GenPeripheral	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z $U_{16}Z_8$	O 1
AQ Setp	Air quality setpoint for AQ high level (low ppm value)	203.100 DPT_HVACAirQual $U_{16}Z_8$	M cs

SMAQ Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**HEE**
Inputs	AQSetpUser	**$(GO)_b$**		(GO)	**O**
Outputs	AQSetpEff	**$GO1_b$**	GO1	GO1	**M1**
	AQSetpUserEff	**$GO1_b$**	GO1	GO1	**M1**

SMAQ LTE specific Properties

		Support
Parameter	Apartment	**O**
	Room	**O**
	SubZone	**O**
	GenPeripheral	**O**

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

		Support
Parameter	AQSetp	**M**

3.6.6 Detailed specification of the Datapoints

3.6.6.1 Input AQSetpUser

Standard Mode:

DP Name:	AQSetpUser	Abbr.:	---	Mandatory	☐
FB Name:	SMAQ			Can be internal	☐

Description

This information is provided by the Functional Block user air quality setpoint setting. This value overrides one of the internal setpoint values (company specific).

Datapoint Type

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

LTE-HEE Mode:

FB: **SMAQ**	**LTE Client Input Name:** **AQSetpUser**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user air quality setpoint setting. This value overrides one of the internal setpoint values (company specific).

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

Field	Description	Sup.	Unit	Default
Air quality	AQ value		ppm	cs
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	387 (UAQSS)	Property ID:	51
LTE-Service (event):	InfoReport Sniffer on Binding Group:	--		
InfoReport ☒	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:

3.6.6.2 Output AQSetpEff

Standard Mode:

DP Name:	AQSetpEff	Abbr.:	---	Mandatory	☒
FB Name:	SMAQ			Can be internal	☐

Description
This output contains the effective (after corrections) AQ setpoint which is valid for the controller.

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

Access Type							
♦ Output							
this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **SMAQ**	**LTE Server Output Name:** **AQSetpEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective (after corrections) AQ setpoint which is valid for the controller.

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

Field	Description	Sup.	Range	Unit	COV	Default
Air quality	AQ value	M	full	ppm	10	cs
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

Class		Type		Default
Geographical	☒	Apartment . Room . SubZone		1.1.1
Application Specific	☐			
Peripheral	☒	Broadcast ☐	Configurable ☒	1

DP Address:	IO Type(ID):	102 (SMAQ)	Property ID:	51
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.6.6.3 Output AQSetpUserEff

Standard Mode:

DP Name:	AQSetpUserEff	Abbr.:	---	Mandatory	☒
FB Name:	SMAQ			Can be internal	☐

Description

This output contains the effective air quality setpoint, as SMAQ's result of all AQSetpUser inputs to SMAQ.

Datapoint Type

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

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	--- [1]
		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

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

LTE-HEE Mode:

FB: **SMAQ**	**LTE Server Output Name:** **AQSetpUserEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective air quality setpoint, as SMAQ's result of all AQSetpUser inputs to SMAQ. It is delivered to user HMI FBs 'User HVAC Display', ' User Air Quality Setpoint Setting'.

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

Field	Description	Sup.	Range	Unit	COV	Default
Air quality	AQ value	M	full	ppm	10	cs
STATUS - OutOfService	Function Out of Service all other bits	O NA	true/false	bool.		false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID): 102 (SMAQ)	Property ID: 52
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: --- [1] sec	Heartbeat: 15 min
	Output per default communicating ☐	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
(LTE Read-Response polling of the output shall always be supported)	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:

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

3.6.6.4 Parameter Apartment_x

FB: SMAQ	Property Name (Server): Apartment_x	Mandatory ☒ Optional ☐

Description:

Number of the apartment 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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	102 (SMAQ)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.6.6.5 Parameter Room_y

FB: SMAQ	Property Name (Server): Room_y	Mandatory ☒ Optional ☐

Description:

Number of the room 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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	102 (SMAQ)	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 of the controller itself.
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_x.

3.6.6.6 Parameter SubZone_z

FB: SMAQ	Property Name (Server): SubZone_z	Mandatory ☒ Optional ☐

Description:

Number of the SubZone.

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	102 (SMAQ)	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 of the controller itself.
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_x.

3.6.6.7 Parameter GenPeripheral

FB: SMAQ	Property Name (Server): GenPeripheral	Mandatory ☐ Optional ☒

Description:

Number of the general peripheral tag.

DPT:	Name	DPT_UcountValue16_Z	DPT ID	203.012	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the general peripheral tag		full		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	102 (SMAQ)	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:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

3.6.6.8 Parameter AQSetp

FB: SMAQ	Property Name (Server): AQSetp	Mandatory ☒ Optional ☐

Description:

AQ setpoint value.

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

Field	Description	Sup.	Range	Unit	Default
AQ value			full	ppm	cs
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	 not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	102 (SMAQ)	Property ID:	111
(in the server)	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:

3.7 Setpoint Manager Relative Humidity (SMRH)

3.7.1 Aims and objectives

The Functional Block 'Setpoint Manager Relative Humidity' provides the HVAC facilities with the necessary relative humidity setpoint.

3.7.2 Functional specifications

In the LTE-Mode the 'Setpoint Manager Relative Humidity' supports the following LTE zoning:
- "Apartment . Room . SubZone"
- "General Peripheral Tag".

Inputs

- HumRelSetpUser — One absolute relative humidity setpoint value from a HMI e.g. to override the internal setpoint. It is company specific whether the value is used for humidification orm for dehumidification. If both functions are implemented, the delta between the setpoints shall remain (shift both values in parallel).

Outputs

- HumRelSetpHumEff — The effective relative humidity setpoint for humidification normally valid for ‘Comfort’
- HumRelSetpDehumEff — The effective relative humidity setpoint for dehumidification normally valid for ‘Comfort’
- HumRelSetpUserEff — The effective relative humidity setpoint, as SMRH’s result of all HumRelSetpUser inputs to SMRH. It is delivered to user HMI FBs (‘User HVAC Display’, ‘ User Rel. Humidity Setpoint Setting’)
- HumDehumMode — This output provides the information if the room is in humidification or dehumification mode, or none of both. It is delivered e.g. to FB ‘User HVAC Display’.

Binding Groups (LTE)

- Binding group x.y.z GenPeripheral — The setpoint manager air quality offers different binding possibilities. When implementing, one of them or both may be realised.

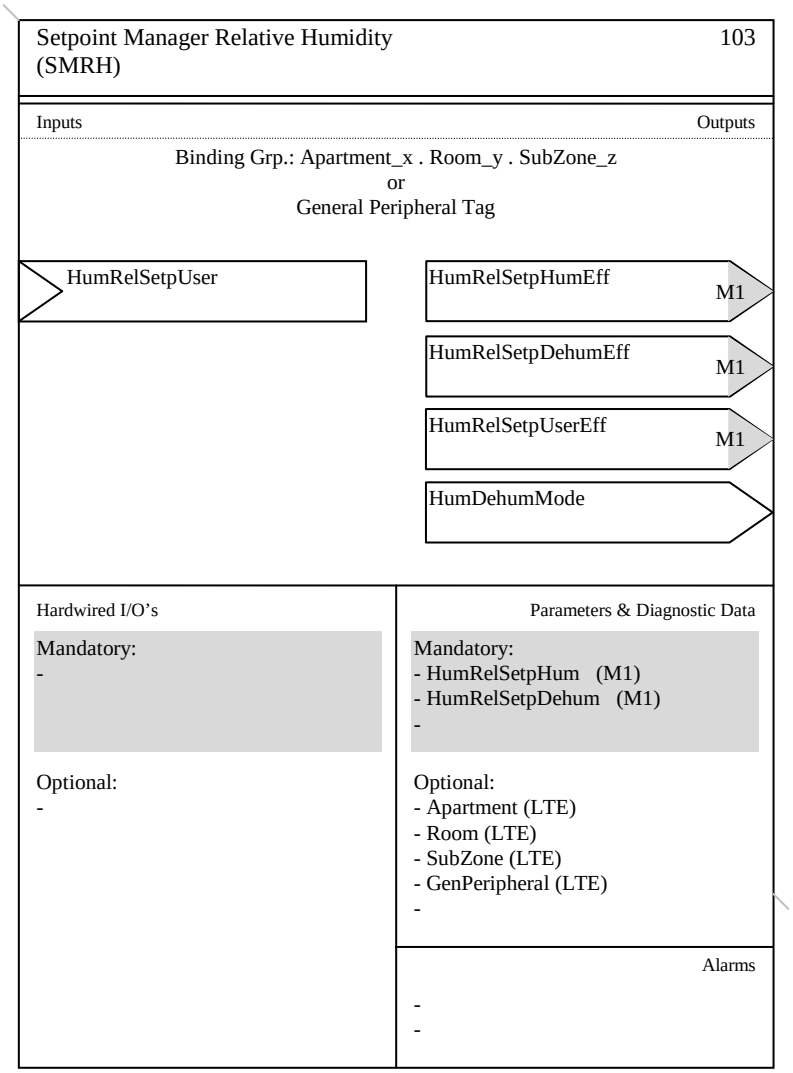
Parameters

- HumRelSetpHum — Relative humidity level for humidification for comfort.
- HumRelSetpDehum — Relative humidity level for dehumidification for comfort.

3.7.3 Constraints

Humidifying / dehumidifying e.g. may be defined to be active in comfort and eventually in standby mode. In the other modes no relative humidity setpoint is definend (no humidity control).

3.7.4 Functional Block diagram



M1:
Only one of them really mandatory

3.7.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
HumRel Setp User	User relative humidity setpoint with: - COV and RepPer - Z_8 STATUS supported from FB User Relative Humidity Setpoint Setting	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 9.007 DPT_Value_Humidity F_{16}	LTE: O S: (GO) %
Outputs			
HumRel Setp Hum Eff	Relative humidity setpoint value for huidifying with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 9.007 DPT_Value_Humidity F_{16}	LTE: M1 *) S: GO1 *) %
HumRel Setp Dehum Eff	Relative humidity setpoint value for dehuidifying with: - COV and RepPer - Z_8 not supported to FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 9.007 DPT_Value_Humidity F_{16}	LTE: M1 *) S: GO1 *) %
HumRel Setp Eff	Effective relative humidity setpoint value (result of all HumRelSetpUser inputs) with: - COV and RepPer - Z_8 STATUS supported to FB User HVAC Display, User Rel. Humidity Setpoint Setting	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 9.007 DPT_Value_Humidity F_{16}	LTE: O S: (GO) %
Hum Dehum Mode	Information if the room is in humidification or dehumification mode, or none of both with: - COV and RepPer to FB User HVAC Display	LTE: 20.114 DPT_HumDehumMode N_8 S: 20.114 DPT_HumDehumMode N_8	LTE: O S: (GO) 0 = inactive 1 = humidification 2 = dehumidification

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameters			
Apartment	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
Room	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
SubZone	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O 1
GenPeripheral	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z $U_{16}Z_8$	O 1
HumRel Setp Hum	Relative humidity setpoint for humidifying	202.001 DPT_RelValue_Z U_8Z_8	M1 *) cs
HumRel Setp Dehum	Relative humidity setpoint for dehumidifying	202.001 DPT_RelValue_Z U_8Z_8	M1 *) cs

*) see Functional Block 3.7.4

SMRH Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	**S-Mode**	**Standard Mode Interface**	**HEE**
Inputs	HumRelSetpUser	**$(GO)_b$**		(GO)	**O**
Outputs	HumRelSetpHumEff	**$GO1_b$**	GO1	GO1	**M1**
	HumRelSetpDehumEff	**$GO1_b$**	GO1	GO1	**M1**
	HumRelSetpUserEff	**$GO1_b$**	GO1	GO1	**M1**
	HumDehumMode	**$(GO)_b$**		(GO)	**O**

SMRH LTE specific Properties

		Support
Parameter	Apartment	**O**
	Room	**O**
	SubZone	**O**
	GenPeripheral	**O**

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

		Support
Parameter	HumRelSetpHum	**M1**
	HumRelSetpDehum	**M1**

3.7.6 Detailed specification of the Datapoints

3.7.6.1 Input HumRelSetpUser

Standard Mode:

DP Name:	HumRelSetpUser	Abbr.:	---	Mandatory	☐
FB Name:	SMHR			Can be internal	☐

Description

This information is provided by the Functional Block user relative humidity setpoint setting. This value overrides one of the internal setpoint values (company specific).

Datapoint Type

DPT_Name:	DPT_Value_Humidity				
DPT Format:	F_{16}	DPT_ID:	9.007		
Field	Description	Supp.	Range	Unit	Default
			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 to existing EIB products.

Special Features

LTE-HEE Mode:

FB: **SMHR**	**LTE Client Input Name:** **HumRelSetpUser**	Mandatory ☐ Optional ☒

Description:

This information is provided by the Functional Block user relative humidity setpoint setting. This value overrides one of the internal setpoint values (company specific).

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Unit	Default
Relative humidity	Relative humidity value		%	cs
STATUS			Bitset	
- OutOfService	Function out of Service	O	t/f	false
- Fault	Information is corrupted	O	t/f	false
- Overridden	Information is temporarily overridden	O	t/f	false
- InAlarm	Information with alarm	O	t/f	false
- AlarmUnAck	Acknowledgement of alarm	O	t/f	false
	all other bits	NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	388 (URHSS)	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:

3.7.6.2 Output HumRelSetpHumEff

Standard Mode:

DP Name:	HumRelSetHumEff	Abbr.:	---	Mandatory	☒
FB Name:	SMRH			Can be internal	☐

Description

This output contains the effective (after corrections) relative humidity setpoint for humidifying which is valid for the controller.

Datapoint Type

DPT_Name:	DPT_Value_Humidity				
DPT Format:	F_{16}	DPT_ID:	9.007		
Field	Description	Supp.	Range	Unit	Default
			full	%	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **SMRH**	**LTE Server Output Name:** **HumRelSetpHumEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective (after corrections) relative humidity setpoint for humidifying which is valid for the controller.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Relative humidity	RH value for humidifying		full	%	5	cs
STATUS - all bits	Not supported	NA				

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID): 103 (SMRH)	Property ID: 51	
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: 10 sec	Heartbeat: 15 min	
	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:

3.7.6.3 Output HumRelSetpDehumEff

Standard Mode:

DP Name:	HumRelSetDehumEff	Abbr.:	---	Mandatory	☒
FB Name:	SMRH			Can be internal	☐

Description

This output contains the effective (after corrections) relative humidity setpoint for dehumidifying which is valid for the controller.

Datapoint Type

DPT_Name:	DPT_Value_Humidity				
DPT Format:	F_{16}	DPT_ID:	9.007		
Field	Description	Supp.	Range	Unit	Default
			full	%	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **SMRH**	**LTE Server Output Name:** **HumRelSetpDehumEff**	Mandatory ☒ Optional ☐

Description:

This output contains the effective (after corrections) relative humidity setpoint for dehumidifying which is valid for the controller.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Relative humidity	RH value for humidifying	M	full	%	5	cs
STATUS - all bits	not supported Not supported	NA NA				

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	103 (SMRH)	Property ID:	52
LTE-Services (event): InfoReport ☒	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.7.6.4 Output HumRelSetpUserEff

Standard Mode:

DP Name:	HumRelSetUserEff	Abbr.:	---	Mandatory	☐
FB Name:	SMRH			Can be internal	☐

Description

This output contains the effective relative humidity setpoint, as SMRH's result of all HumRelSetpUser inputs to SMRH

Datapoint Type

DPT_Name:	DPT_Value_Humidity				
DPT Format:	F_{16}	DPT_ID:	9.007		
Field	Description	Supp.	Range	Unit	Default
			full	%	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	--- [1]
		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

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

LTE-HEE Mode:

FB: **SMRH**	**LTE Server Output Name:** **HumRelSetpUserEff**	Mandatory ☐ Optional ☒

Description:

This output contains the effective relative humidity setpoint, as SMRH's result of all HumRelSetpUser inputs to SMRH. It is delivered to user HMI FBs ('User HVAC Display', ' User Rel. Humidity Setpoint Setting')

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
Relative humidity	Resulting humidity setpoint		full	%	5	cs
STATUS - OutOfService	Function Out of Service all other bits	O NA	true/false	bool.		false

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID): 103 (SMRH)	Property ID: 53
LTE-Services (event): InfoReport ☒ (LTE Read-Response polling of the output shall always be supported)	COV ☒ MinRepTime: --- [1] 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 ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

[1] No minimum repetition time recommended, since change of the value may be caused by user interaction on an HMI. HMI users expect immediate feedback.

3.7.6.5 Output HumDehumMode

Standard Mode:

DP Name:	HumDehumMode	Abbr.:	---	Mandatory	☐
FB Name:	SMRH			Can be internal	☐

Description

This output provides the information if the room is in humidification or dehumification mode, or none of both.

Datapoint Type

DPT_Name:	DPT_HumDehumMode				
DPT Format:	N_8	DPT_ID:	20.114		
Field	Description	Supp.	Range	Unit	Default
	0 = inactive 1 = humidification 2 = dehumidification		[0..2]	ppm	cs

Access Type

♦ Output

this → M	☒	this → 1	☐					
Spontaneous	☒	COV:	☒	Delta-Value:	10	MinRepTime:	---	
		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

LTE-HEE Mode:

FB: **SMRH**	**LTE Server Output Name:** HumDehumMode	Mandatory ☐ Optional ☒

Description:

This output provides the information if the room is in humidification or dehumification mode, or none of both.. It is delivered e.g. to FB 'User HVAC Display'.

DPT:	Name	DPT_HumDehumMode	DPT ID	20.114	Datatype format	N_8

Field	Description	Sup.	Range	Unit	COV	Default
HumDehumMode	0 = inactive 1 = humidification 2 = dehumidification		[0..2]	enum.	1	cs

Communication:

Binding Group:

Class		Type	Default
Geographical	☒	Apartment . Room . SubZone	1.1.1
Application Specific	☐	GenPeripheral	1
Peripheral	☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 103 (SMRH)	Property ID: 54	
LTE-Services (event): InfoReport ☒	COV ☒ MinRepTime: --- sec	Heartbeat: 15 min	
	Output per default communicating ☐	Binding Group Wildcard allowed ☒	
	Tx Prio: High ☐ Normal ☒ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.7.6.6 Parameter Apartment_x

FB: SMRH	Property Name (Server): Apartment_x	Mandatory ☒ Optional ☐

Description:

Number of the apartment 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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	103 (SMRH)	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 of the controller itself.
Zone = 0 (wildcard): Sends to all listeners
The device is not LTE communicating in this zone if zone is 'OutOfService'.
If Apartment_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.7.6.7 Parameter Room_y

FB: SMRH	Property Name (Server): Room_y	Mandatory ☒ Optional ☐

Description:

Number of the room 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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	103 (SMRH)	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 of the controller itself.
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_x.

3.7.6.8 Parameter SubZone_z

FB: SMRH	Property Name (Server): SubZone_z	Mandatory ☒ Optional ☐

Description:

Number of the SubZone.

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	103 (SMRH)	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 of the controller itself.
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_x.

3.7.6.9 Parameter GenPeripheral

FB: SMRH	Property Name (Server): GenPeripheral	Mandatory ☐ Optional ☒

Description:

Number of the general peripheral tag.

DPT:	Name	DPT_UcountValue16_Z	DPT ID	203.012	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the general peripheral tag		full		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	103 (SMRH)	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:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

3.7.6.10 Parameter RelHumSetpHum

FB: SMRH	Property Name (Server): RelHumSetpHum	Mandatory ☒ Optional ☐

Description:

Relative humidity setpoint value for humidifying.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
AQ value			full	ppm	cs
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	103 (SMRH)	Property ID:	111
(in the server)	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:

3.7.6.11 Parameter RelHumSetpDehum

FB: SMRH	Property Name (Server): RelHumSetpDehum	Mandatory ☒ Optional ☐

Description:

Relative humidity setpoint value for dehumidifying.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
AQ value			full	ppm	cs
STATUS - all bits	not supported, fixed to '0'	NA			false
COMMAND - NormalWrite - all other commands	not supported	M NA	0		

Communication:

DP Address:	IO Type(ID):	103 (SMRH)	Property ID:	112
(in the server)	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:

3.8 Setpoint Shift Load Shedding & Tariff (SSLSTA) (to be defined by DEH)

3.9 Building/Occ-Mode Source (BOS)

3.9.1 Aims and objectives

The purpose of the Functional Block 'Building/Occ-Mode Source' is to provide the BuildingMode and the OccMode from a 'supervisor' to known Datapoints, in order to guarantee interworking.

This Functional Block only has standardised outputs. All other features are company specific.

3.9.2 Functional specification

In the LTE-Mode the outputs support the LTE zoning "Apartment . Room . SubZone".

Inputs

- Inputs company specific

Outputs

- BuildingMode — Actual/present building mode (Used, Not Used, Protection) being provided by a “supervisor”.
- BuildingModeNext — Next mode (Used, Not Used, Protection) and the delay to it being provided by a “supervisor”.
- OccMode — Actual/present occupancy mode (Occupied, Standby, Not Occupied) being provided by a “supervisor”.
- OccModeNext — Next mode (Occupied, Standby, Not Occupied) and the delay to it being provided by a “supervisor”.
- ContrModeBO — The Controlling mode defines all special HVAC functions and is provided by a “supervisor”.

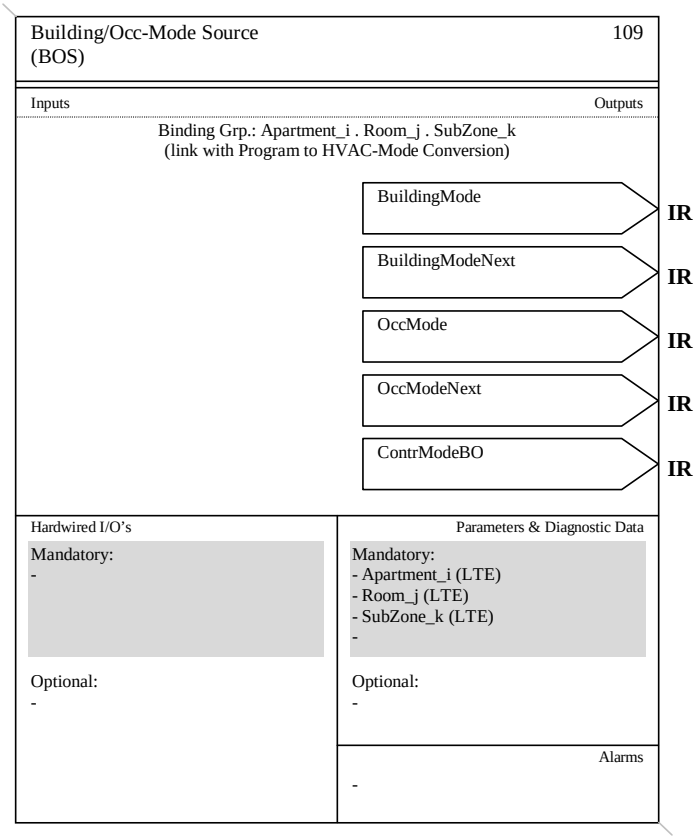
Binding Groups (LTE)

- Binding group i.j.k — This binding group is used for the BuildingMode and the OccMode. (see 'Program to HVAC-Mode Conversion')

3.9.3 Constraints

None.

3.9.4 Functional Block diagram



3.9.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Building Mode	Present Building Mode with: - COV and RepPer - Z_8 STATUS supported to FB Program to HVAC-Mode Conversion	LTE: 201.107 DPT_BuildingMode_Z N_8Z_8 S: 20.002 DPT_BuildingMode N_8	LTE: O S: (GO) 0 = Building in Use 1 = Building not Used 2 = Building Protection
Building Mode Next	Next Building Mode plus time to next mode with: - COV and RepPer to FB Program to HVAC-Mode Conversion Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.105 DPT_BuildingModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = Building in Use 1 = Building not Used 2 = Building Protection time = min
Occ Mode	Present Occupancy Mode with: - COV and RepPer - Z_8 STATUS supported to FB Program to HVAC-Mode Conversion	LTE: 201.108 DPT_OccMode_Z N_8Z_8 S: 20.003 DPT_OccMode N_8	LTE: O S: (GO) 0 = Building Occupied 1 = Building Standby 2 = Building not Occupied
Occ Mode Next	Next Occupancy Mode plus time to next mode with: - COV and RepPer to FB Program to HVAC-Mode Conversion Time = 0: Next mode undefined (as e.g. not valid)	LTE: 206.104 DPT_OccModeNext $U_{16}N_8$ S: NA	LTE: O S: NA 0 = Building Occupied 1 = Building Standby 2 = Building not Occupied time = min
Contr ModeBO	HVAC Controlling Mode with: - COV and RepPer - Z_8 STATUS supported to FB Program to HVAC-Mode Conversion	LTE: 201.104 DPT_HVACContrMode_Z N_8 S: 20.105 DPT_HVACContrMode N_8	LTE: O S: (GO) see DP description
Parameter			
Apartment_i	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone
Room_j	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone
SubZone_k	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	M Programme zone

BOS Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	HEE
Inputs					
Outputs	BuildingMode	**(GO_b)**		(GO)	**O**
	BuildingModeNext	**NA_b**	NA	NA	**O**
	OccMode	**(GO_b)**		(GO)	**O**
	OccModeNext	**NA_b**	NA	NA	**O**
	ContrModeBO	**(GO_b)**		(GO)	**O**

BOS LTE specific Properties

		Support
Parameter	Apartment_i	**M**
	Room_j	**M**
	SubZone_k	**M**

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

		Support
Parameter		

3.9.6 Detailed specification of the Datapoints

3.9.6.1 Output BuildingMode

Standard Mode:

DP Name:	BuildingMode	Abbr.:	---	Mandatory	☐
FB Name:	BOS			Can be internal	☐

Description

This output contains the building mode.

Datapoint Type

DPT_Name:	DPT_BuildingMode				
DPT Format:	N_8	DPT_ID:	20.002		
Field	Description	Supp.	Range	Unit	Default
Mode	0 = Building in Use 1 = Building not Used 2 = BuildingProtection all other enumeration	 M M M NA	0...2	enum.	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **BOS**	**LTE Server Output Name:** **BuildingMode**	Mandatory ☐ Optional ☒

Description:

This output contains the building mode.

DPT:	Name	DPT_BuildingMode_Z	DPT ID	201.107	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
BuildingMode			0...2	enum.	yes	cs
	0 = Building in Use	M				
	1 = Building not Used	M				
	2 = BuildingProtection	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false		Y	false
- Fault	Value is corrupted	O	true/false		Y	false
- Overridden	RSM is temporarily overridden	O	true/false		Y	false
- InAlarm	RSM is in alarm	O	true/false		Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false		Y	false
- all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	51
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.9.6.2 Output BuildingModeNext

Standard Mode: NA

LTE-HEE Mode:

FB: **BOS**	**LTE Server Output Name:** **BuildingModeNext**	Mandatory ☐ Optional ☒

Description:

This output contains the next building mode and the time to it. If the next mode is not available the time is set to zero.

DPT:	Name	DPT_BuildingModeNext	DPT ID	206.105	Datatype format	$U_{16}N_8$

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next building mode in minutes, 0 = no next mode		full	min	15 [1)]	0
Next Building Mode			0...2	enum.	yes	cs
	0 = Building in Use	M				
	1 = Building not Used	M				
	2 = Building Protection	M				
	all other enumeration	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	52		
LTE-Services (event):	COV ☒	MinRepTime:	10 sec	Heartbeat:	15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒	Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

[1)] COV value is identical to heart beat time (15 min).

3.9.6.3 Output OccMode

Standard Mode:

DP Name:	OccMode	Abbr.:	---	Mandatory	☐
FB Name:	BOS			Can be internal	☐

Description

This output contains the occupancy mode.

Datapoint Type

DPT_Name:	DPT_OccMode		
DPT Format:	N_8	DPT_ID:	20.003

Field	Description	Supp.	Range	Unit	Default
Mode			0...2	enum.	cs
	0 = Building Occupied	M			
	1 = Building Standby	M			
	2 = Building not Occupied	M			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **BOS**	**LTE Server Output Name:** **OccMode**	Mandatory ☐ Optional ☒

Description:

This output contains the occupancy mode.

DPT:	Name	DPT_OccMode_Z	DPT ID	201.108	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
BuildingMode			0...2	enum.	yes	cs
	0 = Building Occupied	M				
	1 = Building Standby	M				
	2 = Building not Occupied	M				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false		Y	false
- Fault	Value is corrupted	O	true/false		Y	false
- Overridden	RSM is temporarily overridden	O	true/false		Y	false
- InAlarm	RSM is in alarm	O	true/false		Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false		Y	false
- all other bits		NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	53
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.9.6.4 Output OccModeNext

Standard Mode: NA

LTE-HEE Mode:

FB: **BOS**	**LTE Server Output Name:** **OccModeNext**	Mandatory ☐ Optional ☒

Description:

This output contains the next occupancy mode and the time to it. If the next mode is not available the time is set to zero.

DPT:	Name	DPT_OccModeNext	DPT ID	206.104	Datatype format	$U_{16}N_8$

Field	Description	Sup.	Range	Unit	COV	Default
Time	Time to next building mode in minutes, 0 = no next mode		full	min	15 [1]	0
Next Building Mode			0...2	enum.	yes	cs
	0 = Building Occupied	M				
	1 = Building Standby	M				
	2 = Building not Occupied	M				
	all other enumeration	NA				

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	54		
LTE-Services (event):	COV ☒	MinRepTime:	10	sec	Heartbeat: 15	min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒			
	Tx Prio:	High ☐	Normal ☒		Low ☐	
(LTE Read-Response polling of the output shall always be supported)	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:

[1] COV value is identical to heart beat time (15 min).

3.9.6.5 Output ContrModeBO

Standard Mode:

DP Name:	ContrModeBO	Abbr.:	---	Mandatory	☐
FB Name:	BOS			Can be internal	☐

Description

This output contains the controlling mode.

Datapoint Type

DPT_Name:	DPT_HVACContrMode		
DPT Format:	N_8	DPT_ID:	20.105

Field	Description	Supp.	Range	Unit	Default
ContrMode			0...20	enum.	cs
	0 = Auto	O			
	1 = Heat	O			
	2 = Mrng Wmup	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			
	12 = Max. Heating Mode	O			
	13 = Eco. H/C Mode	O			
	14 = Dehumidification	O			
	15 = Calibration Mode	O			
	16= Emerg Cool Mode	O			
	17 = Emerg Steam	O			
	20 = No Demand	O			
	all other enumeration	NA			

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **BOS**	**LTE Server Output Name:** **ContrModeBO**	Mandatory ☐ Optional ☒

Description:

This output contains the Controlling mode.

DPT:	Name	DPT_HVACContrMode_Z	DPT ID	201.104	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
ContrMode			0...20	enum.	yes	cs
	0 = Auto	O				
	1 = Heat 2 = M Wmup	O				
	3 = Cool 4 = Ngt Prge	O				
	5 = Precool 6 = Off	O				
	7 = Test 8 = EmgHeat	O				
	9 = Fan only 10 = Free Cool	O				
	11 = Ice 12 = Max. Heating Mode	O				
	13 = Eco. H/C Mode 14 = Dehumidification	O				
	15 = Calibration Mode 16= Emerg Cool Mode	O				
	17 = Emerg Steam 20 = No Demand	O				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	RSM out of service	O	true/false	Bit 0	Y	false
- Fault	Value is corrupted	O	true/false	Bit 1	Y	false
- Overridden	RSM is temporarily overridden	O	true/false	Bit 2	Y	false
- InAlarm	RSM is in alarm	O	true/false	Bit 3	Y	false
- AlarmUnAck	Acknowledgement of alarm	O	true/false	Bit 4	Y	false
- all other bits		NA		Bit 5-7		

Communication:

Binding Group:

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

DP Address:	IO Type(ID):	109 (BOS)	Property ID:	55
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.9.6.6 Parameter Apartment

FB: BOS	Property Name (Server): Apartment	Mandatory ☒ Optional ☐

Description:

Number of the apartment 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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	109 (BOS)	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'

3.9.6.7 Parameter Room

FB: BOS	Property Name (Server): Room	Mandatory ☒ Optional ☐

Description:

Number of the room 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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	109 (BOS)	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

3.9.6.8 Parameter SubZone

FB: BOS	Property Name (Server): SubZone	Mandatory ☒ Optional ☐

Description:

Number of the sub 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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	109 (BOS)	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

3.10 HVAC Emergency Source (HVACEMS)

3.10.1 Aims and objectives

The Functional Block 'HVAC Emergency Source' is typically part of a supervisor. It is responsible to transmit the HVAC Emergency Mode for air treatment (pressure, depressure, purge, shutdown, fire) to the zone controllers (TU- or VAC-controllers).

This Functional Block provides the information for these purposes. The inputs and the algorithms are company specific.

3.10.2 Functional specification

The information of this Functional Block is delivered to the TU controller FB's [9] and/or to the VAC controller's [10].

In the LTE-Mode the output for TU or VAC supports the LTE zoning "Apartment . Room . SubZone" or "Ventilation Distribution Segment".

Inputs

- Inputs — Company specific

Outputs

- EmergMode — This output defines all HVAC Emergency functions, which may be demanded by a supervisor. It is delivered to the TU and/or VAC air controllers.

Binding Groups (LTE)

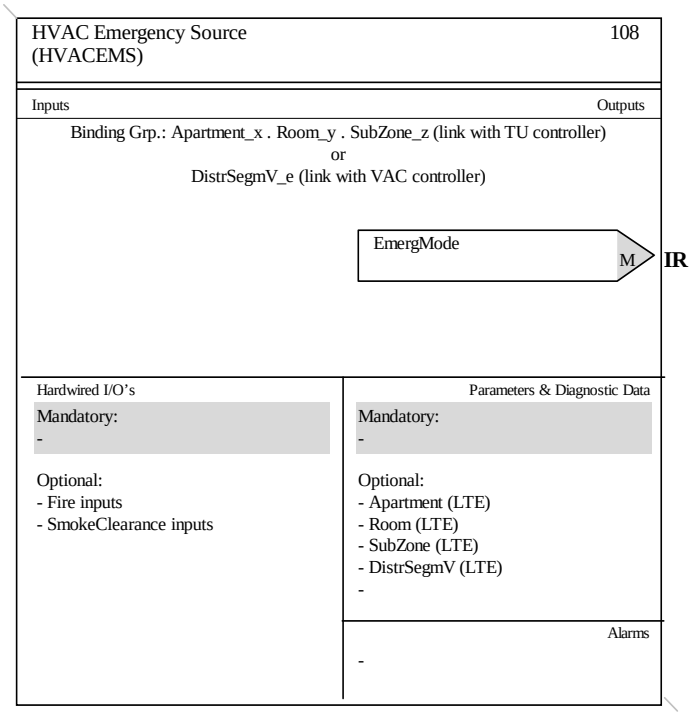
This Functional Block can be used in different applications with different binding groups.
It is possible to implement one or both posibilities into a device. One of them is mandatory.

- Binding group x.y.z — This binding group corresponds with the room / zone to which the TU controller belongs. (see TU controller Functional Blocks [9])
- DistrSegmV — This binding group defines the distribution segment ventilation. (see Ventilation, air Conditioning [10])

3.10.3 Constraints

None.

3.10.4 Functional Block diagram



3.10.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Emerg Mode	HVAC Emergency Mode Source with: - COV and RepPer - Z_8 STATUS supported to FB various controllers	LTE: 201.109 DPT_HVACEmergMode_Z N_8 S: 20.106 DPT_HVACEmergMode N_8	LTE: M S: GO
Parameter			
Apartment_x	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	O *) Controller zone
Room_y	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	O *) Controller zone
SubZone_z	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	O *) Controller zone
Distr SegmV	LTE zoning number for Distribution Segment Ventilation	202.002 DPT_UcountValue8_Z U_8Z_8	O *) 1

*) see Functional specification 3.10.2.

HVACEMS Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	HEE
Inputs	---				
Outputs	EmergMode	**GO_b**	GO	GO	**M**

HVACEMS LTE specific Properties

		Support
Parameter	Apartment_x	**O**
	Room_y	**O**
	SubZone_z	**O**
	DistrSegmV	**O**

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

		Support
Parameter	---	

3.10.6 Detailed specification of the Datapoints

3.10.6.1 Output EmergMode

Standard Mode:

DP Name:	EmergMode	Abbr.:	---	Mandatory	☒
FB Name:	HVACEMS			Can be internal	☐

Description

This output contains the HAVC Emergency Mode.

Datapoint Type

DPT_Name:	DPT_HVACEmergMode				
DPT Format:	N_8	DPT_ID:	20.106		
Field	Description	Supp.	Range	Unit	Default
EmergMode	0 = Normal 1 = EmergPressure 2 = EmergDepressure 3 = EmergPurge 4 = EmergShutdown 5 = EmergFire all other enumeration	O O O NA	0...5	enum.	cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **HVACEMS**	**LTE Server Output Name:** **EmergMode**	Mandatory ☒ Optional ☐

Description:

This output contains the HVAC Emergency Mode.

DPT:	Name	DPT_HVACEmergMode_Z	DPT ID	201.109	Datatype format	N_8Z_8

Field	Description	Sup.	Range	Unit	COV	Default
EmergMode			0...5	enum.	Y	cs
	0 = Normal	O				
	1 = EmergPressure	O				
	2 = EmergDepressure	O				
	3 = EmergPurge	O				
	4 = EmergShutdown	O				
	5 = EmergFire	O				
	all other enumeration	NA				
STATUS	For LTE-Service InfoReport and Property-Service Response only			Bitset		
- OutOfService	HVACEMS out of service	O	true/false		Y	false
- all other bits		NA				

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☒	DistrSegmV	1
Peripheral ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	108 (HVACEMS)	Property ID:	51
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat:	15 min
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☒ Normal ☐ Low ☐		
(LTE Read-Response polling of the output shall always be supported)	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:

3.10.6.2 Parameter Apartment_x

FB: HVACEMS	Property Name (Server): Apartment_x	Mandatory ☐ Optional ☒

Description:

Number of the apartment 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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	108 (HVACEMS)	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_x is 'OutOfService' Room_y and SubZone_z automatically are 'OutOfService' too.

3.10.6.3 Parameter Room_y

FB: HVACEMS	Property Name (Server): Room_y	Mandatory ☐ Optional ☒

Description:

Number of the room 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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	108 (HVACEMS)	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_x.

3.10.6.4 Parameter SubZone_z

FB: HVACEMS	Property Name (Server): SubZone_z	Mandatory ☐ Optional ☒

Description:

Number of the SubZone.

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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	108 (HVACEMS)	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_x.

3.10.6.5 Parameter DistrSegmV

FB: HVAC EMS	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		(0) 1...31		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	108 (HAVCEMS)	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:

The device is not LTE communicating in this zone if zone is 'OutOfService'.

3.11 Position to ON/OFF Converter (POOC)

3.11.1 Aims and objectives

The Functional Block ‘Position to ON/OFF Converter’ is needed to convert the percent valve position information to an ON/OFF information for a corresponding valve actuator.
It contains the functionality for the following "valves":
- Heating Stage A
- Heating Stage B
- Cooling Stage A
- Cooling Stage B
- Heating / Cooling for changeover applications

This Functional Block normally is used in a controller device, but also may be used in a valve actuator device.
It is possible to implement only part of this functionality.

3.11.2 Functional specifications

As the distribution of the setpoint information in the system is event-driven
(COV-condition, change of value) and in addition repeated periodically, the input has a timeout.

The 'Position to ON/OFF Converter' supports the following LTE zoning:
- "Apartment . Room . SubZone"
- "General Peripheral Tag".

Optional function:
- The ActPosSetpHeatStageA etc. may temporary be overridden by means of a tool for service purpose.
  The ‘Overridden’ condition must be reported.

Behaviour of the converter if no valid position setpoint is available (company specific):
- close the valve
- open the valve
- leave position unchanged

Inputs

- ActPosSetpHeatStageA — This is the actuator position setpoint given by a controller.
- ActPosSetpHeatStageB — ditto
- ActPosSetpCoolStageA — ditto
- ActPosSetpCoolStageB — ditto

Outputs

• ActStatHeatStageA	This is the effective position of the valve, in LTE together with attributes to define special situations.
• ActStatHeatStageB	ditto
• ActStatCoolStageA	ditto
• ActStatCoolStageB	ditto
• ActStatHeatCool	ditto
• Fault	Fault indication in S-Mode
• Overridden	Overridden indication in S-Mode
• CalibrationMode	Not used
• ValveKick	Not used

Binding Group (LTE)

• Apartment . Room . SubZone General Peripheral	This converter can be used in different applications. For this reason different binding possibilities are offered. The binding group that shall not be active has to be set to out of service. It is possible to realise only one of the possibilities.

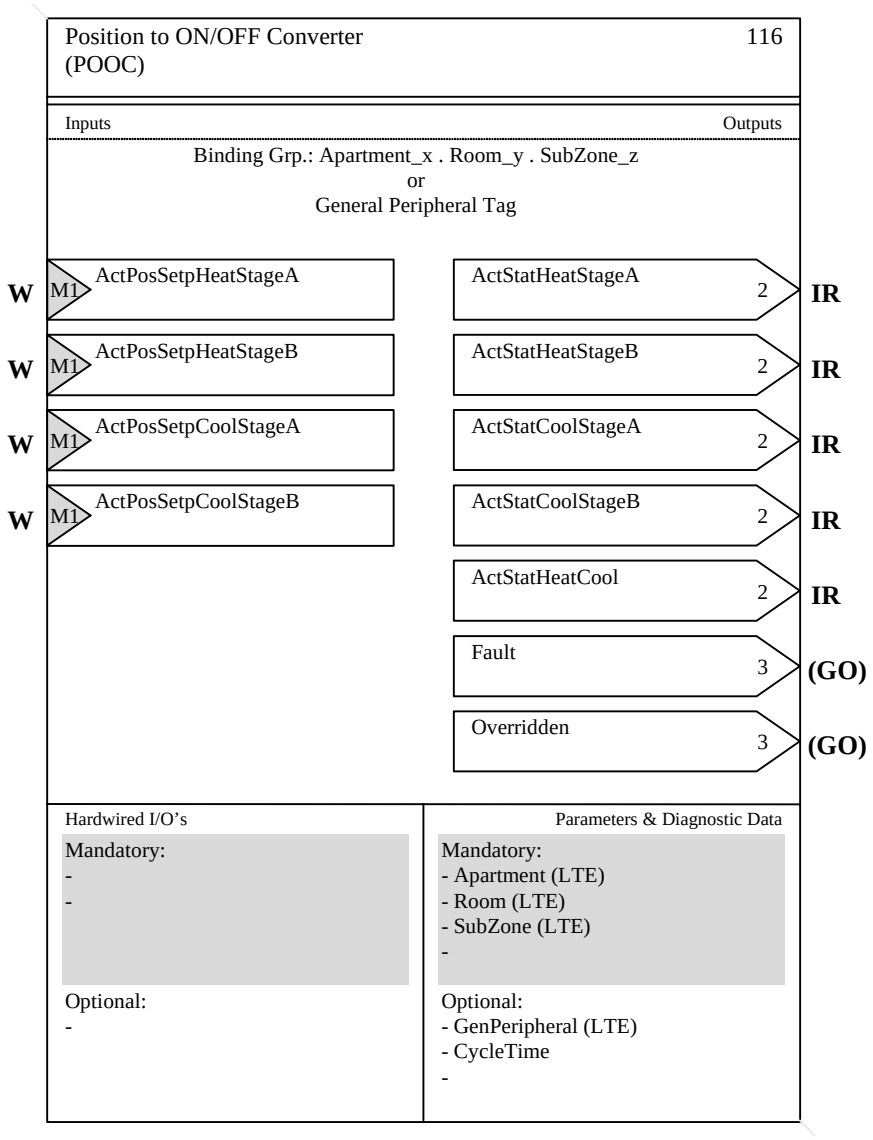
Parameters

CycleTime	This parameter is used to define the ON/OFF period of the ON/OFF actuator. The position percentage is translated to a duty cycle.

3.11.3 Constraints

None.

3.11.4 Functional Block diagram



M1:
At least one of the inputs is mandators

2:
Corresponding to the inputs, the outputs may be implemented.

3:
These optional outputs show the status (S-Mode only)

3.11.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional info
Inputs			
Act Pos Setp Heat StageA	Position value for the heating actuator stage A with: - COV and RepPer - Z_8 STATUS and - Z_8 COMMAND supported from FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	LTE: M1 1) S: GO %
Act Pos Setp Heat StageB	Position value for the heating actuator stage B with: - COV and RepPer - Z_8 STATUS and - Z_8 COMMAND supported from FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	LTE: M1 1) S: GO %
Act Pos Setp Cool StageA	Position value for the cooling actuator stage A with: - COV and RepPer - Z_8 STATUS and - Z_8 COMMAND supported from FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	LTE: M1 1) S: GO %
Act Pos Setp Cool StageB	Position value for the cooling actuator stage B with: - COV and RepPer - Z_8 STATUS and - Z_8 COMMAND supported from FB various controller	LTE: 202.001 DPT_RelValue_Z U_8Z_8 S: 5.001 DPT_Scaling U_8	LTE: M1 1) S: GO %

1) See Aims and objectives in 3.11.1.

Datapoints	Description / Remarks	Datapoint Type	Additional info
Outputs			
Act Stat Heat StageA	Status value of heating valve stage A with - COV and RepPer mainly to FB 'HVAC ON/OFF Actuator'	LTE: 1.001 DPT_Switch B_1 S: 1.001 DPT_Switch B_1	LTE: O2 1) S: (GO)
Act Stat Heat StageB	Status value of heating valve stage A with - COV and RepPer mainly to FB 'HVAC ON/OFF Actuator'	LTE: 1.001 DPT_Switch B_1 S: 1.001 DPT_Switch B_1	LTE: O2 1) S: (GO)
Act Stat Cool StageA	Status value of heating valve stage A with - COV and RepPer mainly to FB 'HVAC ON/OFF Actuator'	LTE: 1.001 DPT_Switch B_1 S: 1.001 DPT_Switch B_1	LTE: O2 1) S: (GO)
Act Stat Cool StageB	Status value of heating valve stage A with - COV and RepPer mainly to FB 'HVAC ON/OFF Actuator'	LTE: 1.001 DPT_Switch B_1 S: 1.001 DPT_Switch B_1	LTE: O2 1) S: (GO)
Act Stat Heat Cool	Status value of heat/cool valve (ChangeOver) with - COV and RepPer mainly to FB 'HVAC ON/OFF Actuator'	LTE: 1.001 DPT_Switch B_1 S: 1.001 DPT_Switch B_1	LTE: O2 1) S: (GO)
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B_1	LTE: NA 1) S: (GO) true/false
Overridden	The converter is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B_1	LTE: NA 1) S: (GO) true/false

1) See Aims and objectives in 3.11.1.

Datapoints	Description / Remarks	Datapoint Type	Additional info
Parameters			
Apartment	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U_8Z_8	M 1
Room	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U_8Z_8	M 1
SubZone	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U_8Z_8	M 1
Gen Peripheral	LTE zoning number for general peripheral	203.012 DPT_UcountValue16_Z $U_{16}Z_8$	O 1

[2] Implementation of Properties using standard DPT see chapter 1.3.3

POOC Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	HEE
Inputs	ActPosSetpHeatStageA	**GO_b** [1]	GO [1]	GO [1]	**M** [1]
	ActPosSetpHeatStageB	**GO_b** [1]	GO [1]	GO [1]	**M** [1]
	ActPosSetpCoolStageA	**GO_b** [1]	GO [1]	GO [1]	**M** [1]
	ActPosSetpCoolStageA	**GO_b** [1]	GO [1]	GO [1]	**M** [1]
Outputs	ActStatHeatStageA	**$(GO)_b$**		(GO)	**O**
	ActStatHeatStageB	**$(GO)_b$**		(GO)	**O**
	ActStatCoolStageA	**$(GO)_b$**		(GO)	**O**
	ActStatCoolStageB	**$(GO)_b$**		(GO)	**O**
	ActStatHeatCool	**$(GO)_b$**		(GO)	**O**
	Fault	**$(GO)_b$**		(GO)	**NA**
	Overridden	**$(GO)_b$**		(GO)	**NA**

[1] See Aims and objectives 3.11.1

POOC LTE specific Properties

		Support
Parameter	Apartment	**M**
	Room	**M**
	SubZone	**M**
	GenPeripheral	**O**

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

		Support
Parameter	CycleTime	**M**

3.11.6 Detailed specification of the Datapoints

3.11.6.1 Input ActPosSetpHeatStageA

Standard Mode:

DP Name:	ActPosSetpHeatStageA	Abbr.:	---	Mandatory	☒
FB Name:	POOC			Can be internal	☐

Description

This input signal contains the percent setpoint value for the valve position (HeatStageA).

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

♦ Input

N → this	☐	1 → this	☒		
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

*) The coding of the actuator setpoint value is: 0% → 0 100% → 255

LTE-HEE Mode:

FB: **POOC**	**LTE Server Input Name:** **ActPosSetpHeatStageA**	Mandatory ☒ Optional ☐

Description:

This input receives the percent setpoint value for the valve position (HeatStageA) with a STATUS information. The input may be overridden by means of COMMAND.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Unit	Default
Actuator position	Percent value of the actuator position		%	0
STATUS	For Read Service only		Bitset	
- OutOfService	Input out of service	O	Bit 0	false
- Overridden	Input is temporarily overridden	O	Bit 2	false
- all other bits	fixed to '0'	NA		false
COMMAND	For Write Service only		enum.	
- NormalWrite	Used for normal runtime communication (LTE Write Service)	M	0	
- Override / Release	Used for temporary override / release of the input (mainly by a tool using Property Write access with point-to-point communication mode)	O	1 / 2	
- all other commands		NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	51
LTE-Service (event): Write ☒	Timeout:	31	Min	
Property-Service (individual access):	Read only ☐		Read/Write ☒	

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

Exception Handling: Save at Power-down ☐

Special Features:

3.11.6.2 Input ActPosSetpHeatStageB

Standard Mode:

DP Name:	ActPosSetpHeatStageB	Abbr.:	---	Mandatory	☒
FB Name:	POOC			Can be internal	☐

Description

This input signal contains the percent setpoint value for the valve position (HeatStageB).

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

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

[*)] The coding of the actuator setpoint value is: 0% → 0 100% → 255

LTE-HEE Mode:

FB: POOC	**LTE Server Input Name:** ActPosSetpHeatStageB	Mandatory ☒ Optional ☐

Description:

This input receives the percent setpoint value for the valve position (HeatStageB) with a STATUS information. The input may be overridden by means of COMMAND.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Unit	Default
Actuator position	Percent value of the actuator position		%	0
STATUS	For Read Service only		Bitset	
- OutOfService	Input out of service	O	Bit 0	false
- Overridden	Input is temporarily overridden	O	Bit 2	false
- all other bits	fixed to '0'	NA		false
COMMAND	For Write Service only		enum.	
- NormalWrite	Used for normal runtime communication (LTE Write Service)	M	0	
- Override / Release	Used for temporary override / release of the input (mainly by a tool using Property Write access with point-to-point communication mode)	O	1 / 2	
- all other commands		NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	52
LTE-Service (event): Write ☒	Timeout:	31	Min	
Property-Service (individual access):	Read only ☐		Read/Write ☒	

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

Exception Handling: Save at Power-down ☐

Special Features:

3.11.6.3 Input ActPosSetpCoolStageA

Standard Mode:

DP Name:	ActPosSetpCoolStageA	Abbr.:	---	Mandatory	☒
FB Name:	POOC			Can be internal	☐

Description

This input signal contains the percent setpoint value for the valve position (CoolStageA).

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

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

*) The coding of the actuator setpoint value is: 0% → 0 100% → 255

LTE-HEE Mode:

FB: **POOC**	**LTE Server Input Name:** **ActPosSetpCoolStageA**	Mandatory ☒ Optional ☐

Description:

This input receives the percent setpoint value for the valve position (CoolStageA) with a STATUS information. The input may be overridden by means of COMMAND.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Unit	Default
Actuator position	Percent value of the actuator position		%	0
STATUS	For Read Service only		Bitset	
- OutOfService	Input out of service	O	Bit 0	false
- Overridden	Input is temporarily overridden	O	Bit 2	false
- all other bits	fixed to '0'	NA		false
COMMAND	For Write Service only		enum.	
- NormalWrite	Used for normal runtime communication (LTE Write Service)	M	0	
- Override / Release	Used for temporary override / release of the input (mainly by a tool using Property Write access with point-to-point communication mode)	O	1 / 2	
- all other commands		NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	53
LTE-Service (event): Write ☒	Timeout:	31	Min	
Property-Service (individual access):	Read only ☐		Read/Write ☒	

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

Exception Handling: Save at Power-down ☐

Special Features:

3.11.6.4 Input ActPosSetpCoolStageB

Standard Mode:

DP Name:	ActPosSetpCoolStageB	Abbr.:	---	Mandatory	☒
FB Name:	POOC			Can be internal	☐

Description

This input signal contains the percent setpoint value for the valve position (CoolStageB).

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

♦ Input

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☒	Time-out:	31 min (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

*) The coding of the actuator setpoint value is: 0% → 0 100% → 255

LTE-HEE Mode:

FB: POOC	**LTE Server Input Name:** ActPosSetpCoolStageB	Mandatory ☒ Optional ☐

Description:

This input receives the percent setpoint value for the valve position (CoolStageB) with a STATUS information. The input may be overridden by means of COMMAND.

DPT:	Name	DPT_RelValue_Z	DPT ID	202.001	Datatype format	U_8Z_8

Field	Description	Sup.	Unit	Default
Actuator position	Percent value of the actuator position		%	0
STATUS	For Read Service only		Bitset	
- OutOfService	Input out of service	O	Bit 0	false
- Overridden	Input is temporarily overridden	O	Bit 2	false
- all other bits	fixed to '0'	NA		false
COMMAND	For Write Service only		enum.	
- NormalWrite	Used for normal runtime communication (LTE Write Service)	M	0	
- Override / Release	Used for temporary override / release of the input (mainly by a tool using Property Write access with point-to-point communication mode)	O	1 / 2	
- all other commands		NA		

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	54
LTE-Service (event): Write ☒	Timeout:	31	Min	
Property-Service (individual access):	Read only ☐		Read/Write ☒	

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

Exception Handling: Save at Power-down ☐

Special Features:

3.11.6.5 Output ActStatHeatStageA

Standard Mode:

DP Name:	ActStatHeatStageA	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint contains the status value for the ON/OFF actuator (HeatStageA).

Datapoint Type

DPT_Name:	DPT_Switch				
DPT Format:	B_1	DPT_ID:	1.001		
Field	Description	Supp.	Range	Unit	Default
			ON/OFF		cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **POOC**	**LTE Server Output Name: ActStatHeatStageA**	Mandatory ☐ Optional ☒

Description:

This output contains the status value for the ON/OFF actuator (HeatStageA).

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
ActPos	Actual actuator position		ON/OFF		Y	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID): 353 (HOOA)		Property ID: 51	
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☐	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.11.6.6 Output ActStatHeatStageB

Standard Mode:

DP Name:	ActStatHeatStageB	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint contains the status value for the ON/OFF actuator (HeatStageB).

Datapoint Type

DPT_Name:	DPT_Switch				
DPT Format:	B_1	DPT_ID:	1.001		
Field	Description	Supp.	Range	Unit	Default
			ON/OFF		cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **POOC**	**LTE Server Output Name:** **ActStatHeatStageB**	Mandatory ☐ Optional ☒

Description:

This output contains the status value for the ON/OFF actuator (HeatStageB).

DPT:	Name	DPT_Swith	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
ActPos	Actual actuator position		ON/OFF		Y	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	353 (HOOA)	Property ID:	52
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☐	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.11.6.7 Output ActStatCoolStageA

Standard Mode:

DP Name:	ActStatCoolStageA	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description
This Datapoint contains the status value for the ON/OFF actuator (CoolStageA).

Datapoint Type					
DPT_Name:	DPT_Switch				
DPT Format:	B_1	DPT_ID:	1.001		
Field	Description	Supp.	Range	Unit	Default
			ON/OFF		cs

Access Type							
♦ Output							
this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **POOC**	**LTE Server Output Name:** **ActStatCoolStageA**	Mandatory ☐ Optional ☒

Description:

This output contains the status value for the ON/OFF actuator (CoolStageA).

DPT:	Name	DPT_StatusAct	DPT ID	207.105	Datatype format	U_8B_8

Field	Description	Sup.	Range	Unit	COV	Default
ActPos	Actual actuator position		ON/OFF		Y	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID): 353 (HOOA)	Property ID: 53
LTE-Services (event): InfoReport ☒ (LTE Read-Response polling of the output shall always be supported)	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 ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling: Save at Powerdown ☐

Special Features:

3.11.6.8 Output ActStatCoolStageB

Standard Mode:

DP Name:	ActStatCoolStageB	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint contains the status value for the ON/OFF actuator (CoolStageB).

Datapoint Type

DPT_Name:	DPT_Switch				
DPT Format:	B_1	DPT_ID:	1.001		
Field	Description	Supp.	Range	Unit	Default
			ON/OFF		cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **POOC**	**LTE Server Output Name:** **ActStatCoolStageB**	Mandatory ☐ Optional ☒

Description:

This output contains the status value for the ON/OFF actuator (CoolStageB).

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
ActPos	Actual actuator position		ON/OFF		Y	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	353 (HOOA)	Property ID:	54
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☐	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.11.6.9 Output ActStatHeatCool

Standard Mode:

DP Name:	ActStatHeatCool	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint contains the status value for the ON/OFF actuator (HeatCool).

Datapoint Type

DPT_Name:	DPT_Switch				
DPT Format:	B_1	DPT_ID:	1.001		
Field	Description	Supp.	Range	Unit	Default
			ON/OFF		cs

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:	1	MinRepTime:	10 sec
		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

LTE-HEE Mode:

FB: **POOC**	**LTE Server Output Name: ActStatHeatCool**	Mandatory ☐ Optional ☒

Description:

This output contains the status value for the ON/OFF actuator (HeatCool).

DPT:	Name	DPT_Switch	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
ActPos	Actual actuator position		ON/OFF		Y	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	Apartment . Room . SubZone	1.1.1
Application Specific ☐		
Peripheral ☒	Broadcast ☐ Configurable ☒	1

DP Address:	IO Type(ID):	353 (HOOA)	Property ID:	55
LTE-Services (event):	COV ☒	MinRepTime: 10 sec	Heartbeat: 15 min	
InfoReport ☒	Output per default communicating ☐		Binding Group Wildcard allowed ☐	
	Tx Prio:	High ☐	Normal ☒	Low ☐
(LTE Read-Response polling of the output shall always be supported)	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:

3.11.6.10 Output Fault

LTE-HEE Mode: NA

Standard Mode:

DP Name:	Fault	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint may indicate a fault in the converter (S-Mode only).

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
			true/false	bool	0

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

3.11.6.11 Output Overridden

LTE-HEE Mode: NA

Standard Mode:

DP Name:	Overridden	Abbr.:	---	Mandatory	☐
FB Name:	POOC			Can be internal	☐

Description

This Datapoint may indicate that the converter is overridden (S-Mode only).

Datapoint Type

DPT_Name:	DPT_Bool				
DPT Format:	B_1	DPT_ID:	1.002		
Field	Description	Supp.	Range	Unit	Default
			true/false	bool	0

Access Type

♦ Output

this → M	☒	this → 1	☐				
Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		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

3.11.6.12 Parameter Apartment

FB: POOC	Property Name (Server): Apartment	Mandatory ☒ Optional ☐

Description:

Number of the apartment 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		(0) 1...126		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	101
(in the server)	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 it is 'OutOfService'
If Apartment is 'OutOfService' Room and SubZone automatically are 'OutOfService'

3.11.6.13 Parameter Room

FB: POOC	Property Name (Server): Room	Mandatory ☒ Optional ☐

Description:

Number of the room 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		(0) 1...63		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address:	IO Type(ID):	116 (POOC)	Property ID:	102
(in the server)	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 it is 'OutOfService'
'OutOfService' is taken over from Apartment

3.11.6.14 Parameter SubZone

FB: POOC	Property Name (Server): SubZone	Mandatory ☒ Optional ☐

Description:

Number of the sub 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		(0) 1...15		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	116 (POOC)	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 it is 'OutOfService'
'OutOfService' is taken over from Apartment

3.11.6.15 Parameter GenPeripheral

FB: POOC	Property Name (Server): GenPeripheral	Mandatory ☐ Optional ☒

Description:

Number of the general peripheral tag.

DPT:	Name	DPT_UcountValue16_Z	DPT ID	203.012	Datatype format	$U_{16}Z_8$

Field	Description	Sup.	Range	Unit	Default
Zone	Number of the SubZone		full		1
STATUS				Bitset	
- OutofService	zone active / inactive	O	true/false	Bit 0	false
- all other bits	not supported, fixed to '0'	NA			false
COMMAND			enum		cs
- NormalWrite		M	0		
- SetOSV & ResetOSV	Set zone inactive / active	O	3 / 4		
- all other commands	not supported	NA			

Communication:

DP Address: (in the server)	IO Type(ID):	116 (POOC)	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 it is 'OutOfService'

3.11.6.16 Parameter CycleTime

FB: POOC	Property Name (Server): CycleTime	Mandatory ☐ Optional ☒

Description:

Selection of the valve function.

DPT:	Name	DPT_TimePeriodMin	DPT ID	7.006	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
	Period		full	Min	cs

Communication:

DP Address: (in the server)	IO Type(ID):	116 (POOC)	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 ☐

Special Features:
