

# **Application Descriptions**

## **HVAC General Functional Blocks**

## **HVAC Actuator Functional Blocks**

## Summary

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

Version 02.05.02 is WGI approved.

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

7

**10** 

3

## **Document updates**

Version	Date	Modifications			
2.3	2006.09.10	Publication of the Approved Standard.			
2.4 AS	2008.09.09	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	2009.05.07	Editorial update in view of publication in KNX Specifications v2.0.			
2.5.01 WGI	2011.09.13	Jpdate according the review and extension of the FB ADA as discussed and			
		agreed in WGI discussion topic [WGI00072].			
02.05.02	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.			

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

#### **Referenced documents**

[01]	Chapter 3/7/2	"Datapoint Types"
[02]	Chapter 7/10/1	"HVAC Sensor Functional Blocks"
[03]	Chapter 7/10/2	"HVAC HMI Functional Blocks"
[04]	Chapter 7/10/3	"HVAC Actuator Functional Blocks"
[05]	Chapter 7/10/4	"HVAC Common Functional Blocks"
[06]	Chapter 7/10/5	"HVAC Scheduler Functional Blocks"
[07]	Chapter 7/10/9	"Property Identifiers"
[80]	Chapter 7/10/10	HVAC Interface Object Type Identifier"
[09]	Part 7/11	"Hot Water Heating - Introduction"
[10]	Part 7/12	"Direct Electric Heating"
[11]	Part 7/13	"Terminal Unit Functional Blocks"
[12]	Part 7/14	"Ventilation & Air Conditioning and Cold Water"
[13]	Part 10/1	"Logical Tag Extended"

Filename: 07\_10\_03 HVAC FB Actuators v02.05.02 WGI.docx

Version: 02.05.02 Status: WGI approved Savedate: 2013.10.29

Number of pages: 190

## **Contents**

<b>1</b> ]	Intr	oduction	4
	1.1	Scope	4
	1.2	Objectives	
	1.3	Dependence on Configuration Modes	
	1.4	Glossary	
ĺ	1.5	Abbreviations	7
2 ]	Fori	mal matters	8
	2.1		
2	2.2	Description of Functional Block	
3	Acti	nator Functional Blocks	12
3	3.1	Introduction to Actuator Functional Blocks	12
3	3.2	HVAC Valve Actuator (HVA)	
3	3.3	Air Damper Actuator (ADA)	
3	3.4	Fan Speed Actuator (FSA)	
3	3.5	Compressor Actuator (CPA)	
3	3.6	Electrical Heating Element Actuator (EHEA)	
3	3.7	HVAC ON/OFF Actuator (HOOA)	

## 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' [03], 'HVAC Actuators' [04], 'HVAC Common Functions' [05] and 'HVAC Schedulers' [06] are described in separate documents.

Functional Block specification for the applications 'Hot Water Heating' (HWH) [09], 'Direct Electric Heating' (DEH) [10], 'Terminal Units' (TU) [11] and 'Ventilation & Air Conditioning' (VAC) [12] are described in separate documents.

## 1.2 Objectives

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

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

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

Every Functional Block may be part of a complex device (e.g. a heating controller) containing more than one Functional Block. Because of this modular approach, 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

The main focus of this document is the specification of the  ${\bf Basic\ Functional\ Blocks}$  and the  ${\bf LTE\ specific\ parts}.$ 

The document provides all necessary information needed

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

## 1.3.1 Runtime Interworking

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 EXTENDED MODE MODE				
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE
Inputs	Inp1	NA	NA	NA	M
	Inp2	NA	NA	NA	0
	Inp3	(GO <sub>b</sub> )		(GO)	О
Outputs	Outputs Outp1		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 <u>today</u> 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 <u>today</u> 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<sub>b</sub>). The datapoint is optionally supported as Group Object in the LTE Standard Mode Interface (GO). For all other modes the implementation is not defined. This is indicated by an empty field.
- Outp1: is mandatory M in LTE-Mode and has a structured DPT or a DPT with extended features which is today not available in standard mode. In the Basic FB the information of Outp1 is split up into Outp1-1 and Outp1-2 (separate datapoints with standard DPT).

  Outp1-1 and Outp1-2 are mandatory Group Objects GO in the Basic FB and are therefore mandatory in all modes.
- Outp2: is mandatory in all modes.

#### **1.3.2** Parameters and Diagnostic Data

#### LTE implementation:

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

#### Other modes:

- Parameters and Diagnostic Data can in principle be implemented as memory mapped datapoints or Group Objects or Properties of an Interface Object using individual addressing. This document does not lay down how to implement Parameters and Diagnostic Data in S-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. Channel definition).
- In case of **Properties**, the implementation of HVAC specific DPT with extended features may be a problem (depending on the available microcontroller ressources). The manufacturer has the choice:
  - ⇒ to use the LTE style Property implementation as specified in this document (with the DPT and IO Type for LTE implementations) **IO Type**<sup>used</sup> = **IO Type**<sup>HVAC-LTE</sup>
  - ⇒ 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: IO Type<sup>used</sup> = IO Type<sup>standardDPT</sup> = IO Type<sup>HVAC-LTE</sup> + 10000d (e.g. BUC<sup>HVAC-LTE</sup> = 128 => BUC<sup>standardDPT</sup> = 10128)
  - □ It is allowed to implement in a device both Interface Object Types IO Type HVAC-LTE and IO Type 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 Type standardDPT and the remaining in IO Type HVAC-LTE.

	Implementation of Parameter and Diagnostic Data				
	Proper LTE style	ty based Standard DPT	Group Object	Memory mapped	
IO Type	IO Type <sup>HVAC-LTE</sup> e.g. BUC=128	IO Type <sup>HVAC-LTE</sup> + 10000 e.g. BUC=10128			
Property ID	Property ID x	Property ID x			
	if standard DPT	=> same standard DPT	=> same standard DPT	company specific	
DPT	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 IO Type<sup>HVAC-LTE</sup>.

In the FB datapoint overview those Parameters and Diagnostic Data with HVAC-LTE specific (extended) DPT are marked "\*)"

The mapping of HVAC specific DPT to standard DPT is generic and described in the document [01].

## 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

#### **Functional Blocks:**

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

Abbreviation	[Doc]	Description
ADA	3	Air Damper Actuator
CIVA	3	Compressor Inverting Valve Actuator
CPA	3	Compressor Actuator
EHEA	3	Electrical Heat Element Control
FSA	3	Fan Speed Actuator
HVA	3	HVAC Valve Actuator

## Terminal Units (TU) [11]

as far as relevant in this document

Abbreviation	Description

SPUC Split Unit Control

WHPC Water Heat Pump Control

#### General

Abbreviation	Description
COV	Change of Value
cs GO	Company Specific Group Object mandatory
(GO)	Group Object mandatory  Group Object optional
M	Mandatory
NA	Not Allowed / Not Applicable
O S	Optional  Has to be implemented in Standard Mode,
O	if implemented in LTE-Mode
HVAC	Heating Ventilation Air Conditioning
LTE	Logical Tag Extended
IR	LTE-Service InfoReport
R	LTE-Service Read
W	LTE-Service Write
DEH	Direct Electric Heating
DHW TU	Domestic Hot Water Terminal Unit
VAC	Ventilation and Air Conditioning
VAV	Variable Air Volume

#### 2 Formal matters

#### 2.1 Introduction to Functional Block

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 Block

### 2.2.1 Aims and objectives

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

## 2.2.2 Functional Specifications

This chapter 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 Diagram

On top of the Functional Block the name, Interface Object Type Identifier (IOTI) and the abbreviation are marked.

Then the Inputs / Outputs are following.

The Inputs / Outputs are grouped in Binding Groups, according to LTE (Logical Tag Extended). Each Input / Output is marked with the LTE-Service (e.g. IR or W).

Mandatory Inputs / Outputs have a grey arrow with the letter M.

They also have to be available in the System Mode.

Optional Inputs / Outputs have a white arrow.

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

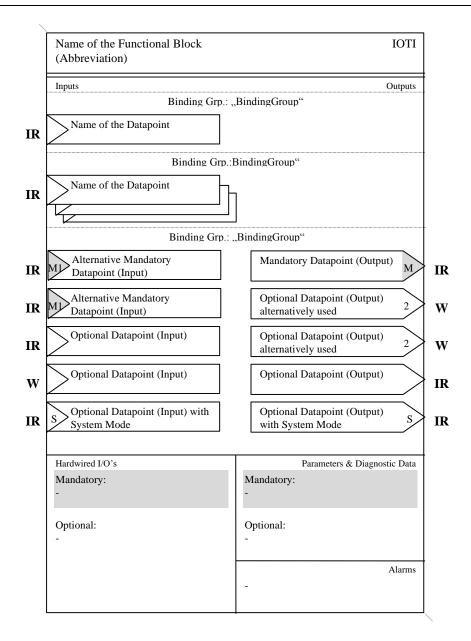
Some of the Inputs / Outputs only make sense in combination, others may be used either / or. Such Inputs / Outputs are grouped with numbers.

At the bottom there are three fields:

On the left-hand side we find the Hardwired Inputs / Outputs, the mandatory ones in a grey field, the optional ones in a white field.

On the right-hand side there is a field for the Parameters and the Diagnostic Data used in the Functional Block (mandatory in grey, optional in white).

On the right-hand side at the bottom there is the field for the Alarms, generated in the Functional Block (for use in the Functional Block Alarm Source).



## 2.2.5 Datapoint Description

#### **2.2.5.1** Overview

ID	Datapoints	Description / Remarks	Data Point Type	Additional Information
	Inputs			
	Name of the Data- Point	Descriptions, remarks if necessary	Name of the Datapoint Type and/or coding	
				M = mandatory, with system mode M1/M2 = alternative mandatory

ID	Datapoints	Description / Remarks	Data Point Type	Additional Information
	Inputs			
				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
				Enumeration indications

ID	Datapoints	Description / Remarks	Data Point Type	Additional Information
	Outputs			
	Name of the Data- Point	see above	see Inputs	see above

ID	Datapoints	Description / Remarks	Data Point Type	Additional Information
	Parameters			
	Name of the Parameter	see above	Name of the Datapoint Type and/or coding	see above
			$\begin{array}{c} XXX.XXX \\ DPT\_TempHVACAbs\_Z \\ V_{16} \hbox{$\sf Z_8$} \end{array}$	

ID	Datapoints	Description / Remarks	Data Point Type	Additional Information	
	Diagnostic Data				
	Name of the Diagnostic Data	see above	see Parameters	see above	

]	ID	Alarm	Description / Remarks	Err	ror	Additional Information
				Code	Prio	
		Name of the Alarm	Descriptions, remarks if necessary	Code of the Alarm	Priority of the Alarm	Additional Information

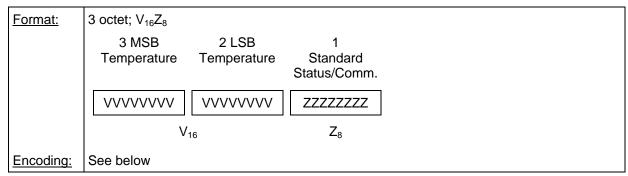
### **Detailed Specification of the Datapoints**

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

#### **Notations:**

Symbol	Field					
Α	Character					
$A_{[n]}$	Character String with Length n					
В	Boolean / Bit set					
С	Control					
Е	Exponent					
F	Float (with ME)					
M	Mantisse					
N	eNumeration					
S	Sign					
U	Unsigned value					
V	2's Complement signed value					
Z <sub>8</sub>	Standardised Status/Command B <sub>8</sub>					

#### **Example:**



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

#### **Standard Status/Command Information**

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

## 3 Actuator Functional Blocks

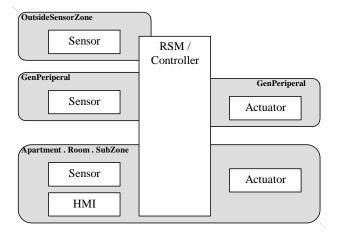
## 3.1 Introduction to Actuator Functional Blocks

This document contains the actuator Functional Blocks.

The blocks are deliberately kept small in order to keep transparency.

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

Actuator Functional Blocks may be in different Binding groups. A general overview is shown below.



## 3.2 HVAC Valve Actuator (HVA)

#### 3.2.1 Aims and objectives

The Functional Block 'HVAC Valve Actuator' contains the functionality for the following "valves":

- Heating Stage A
- Heating Stage B
- Cooling Stage A
- Cooling Stage B
- Heating / Cooling for changeover applications

It is possible to implement only part of this functionality.

The Functional Block translates the valve position setpoint information to the valve position and eventually provides the system with the actual valve position as feedback.

It is also possible to realise an only ON/OFF valve actuator by using only 0% (0) and 100% (255). Another possibility is to define 0 % to 50 % (0 to 127) as closed and 51 % to 100 % (128 to 255) as open.

### 3.2.2 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 'HVAC Valve Actuator' supports the following LTE zoning:

- "Apartment . Room . SubZone"
- "General Peripheral Tag".

#### Optional function:

- Faults in the valve actuator device may be detected and reported in the ActPosHeatStageA etc.
- The ActPosSetpHeatStageA etc. may temporary be overridden by means of a tool for service purpose.

The 'Overridden' condition must be reported.

Behaviour of the valve 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 dittoActPosSetpCoolStageA ditto

• ActPosSetpCoolStageB ditto

#### **Outputs**

• ActPosHeatStageA This is the effective position of the valve, in LTE

together with attributes to define special situations.

• ActPosHeatStageB ditto

• ActPosCoolStageA ditto

• ActPosCoolStageB ditto

• ActPosHeatCool ditto

• Fault indication in S-Mode

• Overridden Overridden indication in S-Mode

• CalibrationMode indication in S-Mode

• ValveKick ValveKick indication in S-Mode

#### **Binding Group (LTE)**

• Apartment . Room . SubZone This valve can be used in different applications.

General Peripheral 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**

• ValveMode This parameter is used when a device contains more

than one valve actuator functionality. The following table shows the modes and the corresponding

implementation of the inputs / outputs:

			Implementation of											
			Inp	outs						Outputs	S			
Va	alveMode	ActPosSetp HeatStageA	ActPosSetp HeatStageB	ActPosSetp CoolStageA	ActPosSetp CoolStageB	ActPos HeatStagA	ActPos HeatStagB	ActPos CoolStagA	ActPos CoolStagB	ActPos HeatCool	Fault	Overridden	CalobrationMode	ValveKick
1	Heating Valve Stage A	M				О					(GO)	(GO)	(GO)	(GO)
2	Heating Valve Stage B		M				О				(GO)	(GO)	(GO)	(GO)
3	Cooling Valve Stage A			M				О			(GO)	(GO)	(GO)	(GO)
4	Cooling Valve Stage B				M				О		(GO)	(GO)	(GO)	(GO)
5	Heat Cool Valve (for changeover)	М		M						О	(GO)	(GO)	(GO)	(GO)

So if a device shall contain the functionality of a Heating Valve Stage A and a Cooling Valve Stage A the parameter ValveMode is necessary and can be 1 or 3 and the following inputs are mandatory:

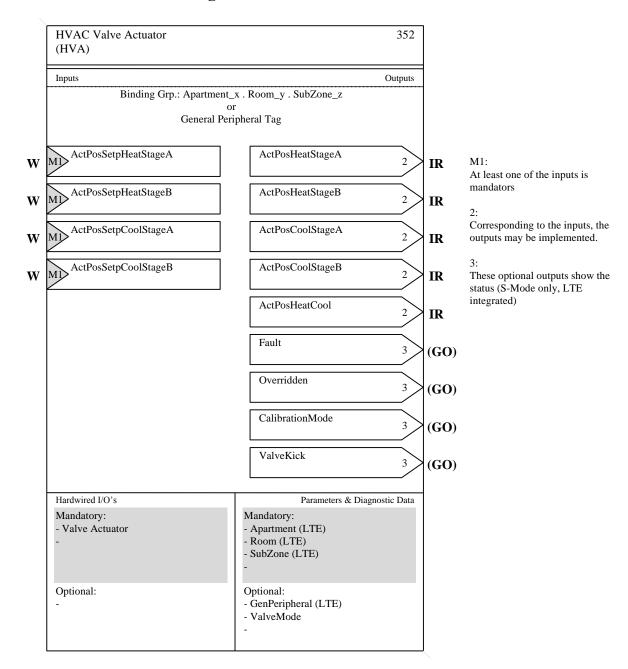
- ActPosSetpHeatStageA
- ActPosSetpCoolStageA

The corresponding outputs are optional.

#### 3.2.3 Constraints

None.

## 3.2.4 Functional Block Diagram



## 3.2.5 Datapoint Description

## Overview

Datapoints	Description / Remarks	Data Point Type Additional Info		
Inputs				
Act Pos Setp Heat StageA	Position value for the heating actuator stage A with: - COV and RepPer - Z <sub>8</sub> STATUS and - Z <sub>8</sub> COMMAND supported from FB various controller	LTE: 202.001 DPT_RelValue_Z U <sub>8</sub> Z <sub>8</sub> S: 5.001 DPT_Scaling U <sub>8</sub>	LTE: M1 1) S: GO %	
Act Pos Setp Heat StageB	Position value for the heating actuator stage B with: - COV and RepPer - Z <sub>8</sub> STATUS and - Z <sub>8</sub> 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 <sub>8</sub> STATUS and - Z <sub>8</sub> 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 <sub>8</sub> STATUS and - Z <sub>8</sub> 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 %	

Datapoints	Description / Remarks	Data Point Type Additional Info		
Outputs				
Act Pos Heat StageA	Position value of heating valve stage A with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI' or supervisor	$LTE: 207.105 \\ DPT\_StatusAct \\ U_8B_8 \\ S: 5.001 \\ DPT\_Scaling \\ U_8 \\$	LTE: O2 1) S: (GO) %	
Act Pos Heat StageB	Position value of heating valve stage B with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI or supervisor	LTE: 207.105 DPT_StatusAct $U_8B_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O2 1) S: (GO) %	
Act Pos Cool StageA	Position value of cooling valve stage A with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI' or supervisor	LTE: 207.105 DPT_StatusAct $U_8B_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O2 1) S: (GO) %	
Act Pos Cool StageB	Position value of cooling valve stage B with - COV and RepPer - Status B <sub>8</sub>	LTE: 207.105 DPT_StatusAct U <sub>8</sub> B <sub>8</sub> S: 5.001	LTE: O2 1) S: (GO) %	

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
	mainly to FB 'HMI' or supervisor	DPT_Scaling U <sub>8</sub>	
Act Pos Heat Cool	Position value of heat/cool valve (ChangeOver) with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI' or supervisor	LTE: 207.105 DPT_StatusAct U <sub>8</sub> B <sub>8</sub> S: 5.001 DPT_Scaling U <sub>8</sub>	LTE: O2 1) S: (GO) %
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
Overridden	The actuator is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
CalibrationMode	The actuator is in the calibration Mode	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
ValveKick	The valve is executing a valve kick	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false

Datapoints	Description / Remarks	Data Point Type	Additional Info
Parameters			
Apartment	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U <sub>8</sub> Z <sub>8</sub>	M 1
Room	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U <sub>8</sub> Z <sub>8</sub>	M 1
SubZone	LTE zoning number for SubZone	202.002 DPT_UcountValue8_Z U <sub>8</sub> Z <sub>8</sub>	M 1
Gen Peripheral	LTE zoning number for general peripheral	203.012 DPT_UcountValue16_Z U <sub>16</sub> Z <sub>8</sub>	O 1
Valve Mode	Valve Mode: Defining the usage of the valve	20.107 2) DPT_ValveMode N <sub>8</sub>	O 1

<sup>1)</sup> See Aims and objectives in clause 3.2.1.

<sup>&</sup>lt;sup>2)</sup> Implementation of Properties using standard DPT see clause 1.3.2.

**HVA Runtime Interworking - Dependence on Configuration Modes** 

			STANDARD MODE	EXTENDED MODE		
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE	
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	ActPosHeatStageA	(GO) <sub>b</sub>		(GO)	О	
	ActPosHeatStageB	(GO) <sub>b</sub>		(GO)	0	
	ActPosCoolStageA	(GO) <sub>b</sub>		(GO)	О	
	ActPosCoolStageB	(GO) <sub>b</sub>		(GO)	0	
	ActPosHeatCool	(GO) <sub>b</sub>		(GO)	0	
	Fault	(GO) <sub>b</sub>		(GO)	NA	
	Overridden	(GO) <sub>b</sub>		(GO)	NA	
	CalibrationMode	(GO) <sub>b</sub>		(GO)	NA	
	ValveKick	(GO) <sub>b</sub>		(GO)	NA	

See Aims and objectives 3.2.1

## **HVA LTE specific Properties**

		Support
Parameter	Apartment	M
	Room	M
	SubZone	M
	GenPeripheral	0

## **HVA Standard Properties of Interface Objects (or memory mapped DP)**

		Support
Parameter	ValveMode	0

## 3.2.6 Detailed Specification of the Datapoints

## 3.2.6.1 Input ActPosSetpHeatStageA

DP Name:	ActF	<u> PosSetpHe</u>	atStage.	<u> </u>	Abb	or.:				Manda	itory	
FB Name:	HVA	١								Can be	e interna	al 🗌
Description												
This input sig	nal co	ontains the	percent	t setpoint val	ue for th	e val	lve po	sition	(Hea	tStageA).	i	
<b>Datapoint Ty</b>	ре											
DPT_Name:	DF	T_Scaling										
DPT Format:	U <sub>8</sub>							DPT_	<u>ID:</u>	5.001		
Field	De	scription						Sup	p.	Range	Unit	Default
										0100 <sup>*)</sup>	%	CS
Access Type	)											
◆ Input												
$N \rightarrow this$			$1 \rightarrow th$	is 🛛								
Spontaneo	ous			Cyclically:	$\boxtimes$			Ti	me-c	out:	31 mir	n (rec.)
Request				Polling:				Pe	eriod	:		
Communicat	ion 1	<b>Туре</b>										
♦ Group Ob	ject I	Datapoint							1	Mandator	y: 🛛	
Default Gr	oup A	Address:										
Dynamics												
Power dov	vn:	Save:										
Power up:		Value:	No in	itialisation:			Defau	ılt valu	e:		$\boxtimes$	
			Save	d value:								
							Read	from b	ous:			
<b>Exception Ha</b>	andli	ng										
<b>Special Feat</b>												
*) The coding	of the	actuator s	setpoint	value is: 0%	$\rightarrow 0$ 1	00%	→ 25	55				

FB: HVA	LTE Serve	er Input Name:	ActPosSetp	HeatStag	jeA		Mandator Optiona			
Description:					-					
		cent setpoint valu				geA) with a	a STATUS	3		
		be overridden b		OMMANI	D					
<b>DPT:</b> Name	DPT_Rel\	/alue_Z	DPT ID	202.001	Dataty	pe format	$U_8Z_8$			
Field		Description				Sup.	Unit	Default		
Actuator position	on	Percent value of		position		M	%	0		
STATUS		For Read Service					Bitset			
<ul> <li>OutOfService</li> </ul>		Input out of serv				0	Bit 0	false		
<ul> <li>Overridden</li> </ul>		Input is tempora	rily overridde	n		0	Bit 2	false		
- all other bits		NA		false						
COMMAND			enum.							
- NormalWrite		n	M	0						
- Override / Re	: 0	1/2								
		(mainly by a too		rty Write	access with	n				
		individual addre	ssing)							
- all other comr						NA				
Communication	_									
Binding Gro	up:	•								
Class		Туре			Default					
Geographic			om . SubZone	9	1.1.1					
Application					1					
Unassigned		Broadcast	Configura							
DP Address:		IO Type(ID):	352 (HVA	١)	Property	ID:	51			
LTE-Service Write										
Property-Sei (individual a		Read only		Read/W	/rite [	$\boxtimes$				
Value after Po	wer-up:	Defau	ılt Value 🛚			(	Stored Va	lue 🗌		
<b>Exception Hai</b>	ndling:				;	Save at Po	wer-dowr			
Special Featur	res:									

## ${\bf 3.2.6.2} \quad Input \ ActPosSetpHeatStageB$

DF	Name:	Actl	PosSetpHea	tStagel	В	Abbr.:		-		Mand	atory		$\boxtimes$
FB	Name:	HVA	4							Can b	e interr	nal	
De	scription												
Th	is input sigr	nal c	ontains the p	ercent	setpoint valu	ue for the v	alve po	ositio	n (Hea	atStageB	).		
Da	tapoint Ty												
	PT_Name:	DF	PT_Scaling										
DF	PT Format:	U <sub>8</sub>						DP	T_ID:	5.001			
Fie	eld	De	escription					Sı	лрр.	Range	Unit	Defa	ault
										0100 <sup>*)</sup>	%	CS	S
Ac	ccess Type												
<b>♦</b>	F *··												
	$N \rightarrow \text{this}$ $\square$ $1 \rightarrow \text{this}$ $\square$												
	Spontaneo	us	$\boxtimes$		Cyclically:				Time-	out:	31 m	in (rec.	)
	Request				Polling:				Period	d:			
Co	mmunicat	ion <sup>-</sup>	Гуре										
•	Group Ob	ject	Datapoint							Mandato	ry: 🛛 🖂	]	
	Default Gro	oup /	Address:										
Dy	namics												
	Power dow	n:	Save:										
	Power up:		Value:	No in	itialisation:		Defa	ult va	alue:			]	
				Save	d value:							]	
							Read	d fron	n bus:				
Ex	cception Handling												
	-												
	ecial Featu												
<sup>")</sup> T	he coding of	of the	e actuator se	etpoint	value is: 0%	→ 0 100°	$% \rightarrow 2$	55					

FB: HVA	LTE Serve	er Input Name:	ActPosSetpl	leatStag	еВ		Mandator Optiona	
Description:	-				-			
		cent setpoint valu				igeB) with a	a STATUS	3
information. Th	e input may	be overridden b	y means of Co	INAMMC	).			
<b>DPT:</b> Name	DPT_Rel\	√alue_Z	DPT ID	202.001	Dataty	pe format	$U_8Z_8$	
Field		Description				Sup.	Unit	Default
Actuator position	on	Percent value of	f the actuator	position		M	%	0
STATUS		For Read Service					Bitset	
<ul> <li>OutOfService</li> </ul>		Input out of serv				0	Bit 0	false
<ul> <li>Overridden</li> </ul>		Input is tempora fixed to '0'	ırily overridder	า		0	Bit 2	false
- all other bits		NA		false				
COMMAND			enum.					
- NormalWrite		M	0					
- Override / Re	t O	1/2						
		(mainly by a too		ty Write	access wit	h		
		individual addre	ssing)					
- all other comr						NA		
Communication								
Binding Gro	up:	•		,				
Class		Туре			Default			
Geographic			om . SubZone	;	1.1.1			
Application					1			
Unassigned		Broadcast	Configura					
DP Address:		IO Type(ID):	352 (HVA	)	Property	ID:	52	
LTE-Service Write	(event): ⊠	Timeout:	31	Min				
Property-Ser		Read only		Read/W	/rito	$\boxtimes$		
(individual a		ixeau only		ineau/ m	iiie į			
Value after Po		Defau	ılt Value 🛚				Stored Va	lue 🗌
<b>Exception Har</b>	ndling:					Save at Po	wer-dowr	1 [
Special Featur	res:							

## ${\bf 3.2.6.3} \quad Input\ ActPosSetpCoolStageA$

DF	Name:	ActF	PosSetpCoo	Stage/	A	Α	.bbr.:		1		Λ	/landa	tory		
FB	Name:	HVA	L								C	Can be	interna	al	
De	scription														
Th	is input sigr	nal c	ontains the p	ercent	t setpoint val	ue for	the va	lve po	sitio	n (Co	olSta	igeA).			
Da	tapoint Ty	ре													
DF	PT_Name:	DF	T_Scaling												
DF	PT Format:	U <sub>8</sub>							DP	T_ID:	5	.001			
Fie	eld	De	scription						St	ıpp.		inge	Unit	Def	ault
											0	100 <sup>*)</sup>	%	С	S
Ac	cess Type														
•	Input														
	$N \rightarrow this$		]	$1 \rightarrow th$	is 🛛										
	Spontaneo	us	$\boxtimes$		Cyclically:		$\boxtimes$			Time-	out:		31 mir	rec.	.)
	Request				Polling:					Perio	d:				
Co	mmunicati	ion 1	уре												
•	Group Ob	ject l	Datapoint								Man	datory	<i>'</i> : ⊠		
	Default Gro	oup A	Address:												
Dy	namics														
	Power dow	n:	Save:												
	Power up:		Value:	No in	itialisation:			Defau	ult va	alue:			$\boxtimes$		
				Save	d value:										
								Read	fron	n bus:				[	
Ex	ception Ha	ndli	ng												
	ecial Featu														
<sup>-</sup> ) T	he coding of	of the	actuator se	tpoint	value is: 0%	$\rightarrow 0$	100%	$\rightarrow 25$	55						

FB: HVA	LTE Serve	er Input Name:	ActPosSetp(	CoolStag	jeA		Mandator Optiona	
Description:	-							
		cent setpoint valu				geA) with a	a STATUS	3
information. Th	e input may	be overridden b	y means of Co	INAMMC	).			
<b>DPT:</b> Name	DPT_Rel\	/alue_Z	DPT ID	202.001	Dataty	pe format	$U_8Z_8$	
Field		Description				Sup.	Unit	Default
Actuator position	on	Percent value of	f the actuator	position		М	%	0
STATUS		For Read Service	e only				Bitset	
<ul> <li>OutOfService</li> </ul>		Input out of serv	rice			0	Bit 0	false
<ul> <li>Overridden</li> </ul>		Input is tempora fixed to '0'	irily overridder	1		0	Bit 2	false
<ul> <li>all other bits</li> </ul>		NA		false				
COMMAND			enum.					
- NormalWrite		M	0					
- Override / Re	t O	1/2						
		(mainly by a too		ty Write	access with	h		
		individual addre	ssing)					
- all other comr						NA		
Communication								
Binding Gro	up:	1						
Class		Туре			Default			
Geographic			om . SubZone	<u> </u>	1.1.1			
Application					1			
Unassigned		Broadcast	Configura					
DP Address:		IO Type(ID):	352 (HVA	)	Property	ID:	53	
LTE-Service Write	(event): ⊠	Timeout:		31	Min			
Property-Ser		Read only		Read/W	/rito [	$\boxtimes$		
(individual a	ccess):	Read Only		iteau/ vi	iiie [			
Value after Po		Defau	ılt Value 🛚				Stored Va	lue 🗌
<b>Exception Har</b>	ndling:					Save at Po	wer-dowr	1 [
Special Featur	res:							
			<del></del>		<del></del>			

## ${\bf 3.2.6.4} \quad Input\ ActPosSetpCoolStageB$

DF	Name:	Actl	PosSetpCod	olStagel	В	Abbr.	: -			Manda	tory		$\boxtimes$
FB	Name:	HVA	4							Can be	interna	al	
De	scription												
Th	is input sigr	nal c	ontains the	percent	t setpoint val	ue for the	valve p	ositio	on (Co	olStageB).			
Da	tapoint Ty	ре											
DF	PT_Name:	DF	PT_Scaling										
DF	PT Format:	Ug	3					DF	T_ID:	5.001			
Fi€	eld	De	escription					S	upp.	Range	Unit	Defa	ult
										0100 <sup>*)</sup>	%	cs	3
Ac	cess Type												
•	Input												
	$N \rightarrow this$			$1 \rightarrow th$	is 🛛								
	Spontaneo	us			Cyclically:				Time-	out:	31 mir	rec.)	)
	Request				Polling:				Perio	d:			
Ö	mmunicat	ion <sup>-</sup>	Гуре										
•	Group Ob	ject	Datapoint							Mandatory	<i>r</i> : 🛛		
	Default Gro	oup .	Address:										
Dy	namics												
	Power dow	/n:	Save:										
	Power up:		Value:	No in	itialisation:		Defa	ault v	alue:		$\boxtimes$		
				Save	d value:								
							Rea	d froi	ຠ bus:				
Ex	ception Ha	ndli	ng										
i													
	ecial Featu												
*) T	he coding	of the	e actuator s	etpoint	value is: 0%	$\rightarrow 0 100$	$0\% \rightarrow 2$	255		<u> </u>			

FB: HVA	LTE Serve	er Input Name:	ActPosSetp(	CoolStag	jeB		Mandator Optiona			
Description:					-					
		cent setpoint valu				geB) with a	a STATUS	3		
information. Th	e input may	be overridden b	y means of Co	INAMMC	).					
<b>DPT:</b> Name	DPT_Rel\	√alue_Z	DPT ID	202.001	Dataty	pe format	$U_8Z_8$			
Field		Description				Sup.	Unit	Default		
Actuator position	on	Percent value of	f the actuator	position		M	%	0		
STATUS		For Read Service					Bitset			
<ul> <li>OutOfService</li> </ul>		Input out of serv				0	Bit 0	false		
<ul> <li>Overridden</li> </ul>		Input is tempora fixed to '0'	rily overridder	า		0	Bit 2	false		
- all other bits		NA		false						
COMMAND			enum.							
- NormalWrite		M	0							
- Override / Re	lease	t O	1/2							
		(mainly by a too		ty Write	access wit	h				
		individual addre	ssing)							
- all other comr						NA				
Communication	_									
Binding Gro	up:	<b>.</b>		,						
Class		Туре			Default					
Geographic			om . SubZone	;	1.1.1					
Application					1					
Unassigned		Broadcast	Configura							
DP Address:		IO Type(ID):	352 (HVA	)	Property	ID:	54			
LTE-Service Write	(event): ⊠	Timeout:		31	Min					
Property-Sei		Read only		Read/W	/rito	$\boxtimes$				
(individual a	ccess):	Read Only		Neau/ W	ille [					
Value after Po		Defau	ılt Value 🛚				Stored Va	lue 🗌		
<b>Exception Hai</b>	ndling:					Save at Po	ower-dowr	ו 🔲		
Special Featur	res:									
					<del></del>					

## 3.2.6.5 Output ActPosHeatStageA

DF	Name:	Actl	PosHeatSt	age	eA /	Abbr.:			Mandat	tory	L	
FΒ	Name:	HV	Д						Can be	interna	ıl [	
De	scription											
Th	is datapoint	cor	ntains the p	er	cent value of the actual	actuate	or posi	tion (Heat	StageA).			
	tapoint Ty											
	PT_Name:	DI	PT_Scaling	9								
	T Format:	U <sub>8</sub>						DPT_ID:	5.001			
Fie	eld	De	escription					Supp.	Range	Unit	Defau	ılt
									0100 <sup>*)</sup>	%	CS	
Ac	cess Type											
<b>♦</b>	Output											
	this $\rightarrow$ M	$\square$		tl	his $\rightarrow$ 1 $\Box$							
	Spontaneous 🖂 COV: 🔼 Delta-Value: 1 MinRepTime: 10 sec											
			Су	clic	C ⊠ Period:	15	min (	recommer	nded value)	)		
	Request											
Co	mmunicati	ion i	Туре									
<b>♦</b>	Group Ob	ject	Datapoint						Mandatory	': L		
	Default Gro	oup.	Address:									
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value:		No initialisation:			ılt value:				
					Saved value:		Actua	l value:				
			Transmit	on	bus:	$ \boxtimes $						
Ex	ception Ha	ndli	ing									
	ecial Featu											
<sup>)</sup> T	he coding of	of th	e actuator	set	tpoint value is: 0% → 0	100%	$6 \rightarrow 25$	55				

FB:	HVA	LTE Ser	ve	r Output Name: ActF	PosHeatS	StageA			N	landator Optiona	
	ription:			-				-			
	output con nation.	tains the	va	lue of the actual actuat	or position	n (Hea	tStage.	A) as v	vell as a S	STATUS	
DPT:	Name	DPT_St	atı	usAct DI	PT ID	207.10	5 Da	tatype	format L	$J_8B_8$	
Field			D	escription		Sup.	Range		Unit	COV	Default
ActPo	s		Α	ctual actuator position		М	Full R	ange	%	1	cs
STAT	US		а	or LTE-Service InfoRep nd Property-Service esponse only	port				bitset		
- Faul	t		Α	ctuator fault		0	true/f	alse	Bit 0	Υ	false
- Ove	rridden			ctuator is temp. overrid		0	true/f	alse	Bit 1	Υ	false
- Calib	orationMo	de	Α	ctuator is in calibration	mode	0	true/f	alse	Bit 2	Υ	false
- Valv	eKick		1	ctuator is in valve kick	mode	0	true/false		Bit 3	Υ	false
			а	Il other bits		NA			Bit 4-7		
	nunicatio										
	ding Groເ	ıp:		_							
Clas				Туре				Defau	lt		
	eographica		<u> </u>	Apartment . Room . S	ubZone			1.1.1			
	plication	Specific [	×.	GenPeripheral				1			
	assigned	L			Configura	ıble 🔛			_	_	
	Address:				2 (HVA)			erty ID:			
	-Services	· <u></u>	-		RepTime		10 s		Hearth		15 min
Int	oReport	$\boxtimes$	ļ	Output per default com		ng 📙			up Wildca		ed 📙
/1 -	TT D	<b>.</b>	.	Tx Prio: H	ligh 🗌		No	rmal 🗵		Low	
po sh	ΓΕ Read-I lling of the all always pported)	output	)	Transm after Power-up	o: Stored	Value	□ A	ct Valu	ıe ⊠ De	efault Va	lue 🗌
	perty-Ser			Read only	ı	Read/W	Vrite				
_	ividual ad					- Toda, I			Γ_		
Exce	otion Han	dling:							Save at	Powerd	own
Speci	al Featur	es:									

## 3.2.6.6 Output ActPosHeatStageB

DP	Name:	Actl	<u>PosHeatSt</u>	age	eB	Abbr.:			Mandat	tory		
FΒ	Name:	HVA	Д						Can be	interna	ıl   [	
De	scription											
Thi	s datapoint	con	ntains the p	erc	cent value of the actual	actuate	or posi	tion (Heat	StageB).			
Da	tapoint Ty											
	T_Name:	DI	PT_Scaling	J								
	T Format:	U						DPT_ID:	5.001			
Fie	ld	De	escription					Supp.	Range	Unit	Defau	ılt
									0100 <sup>*)</sup>	%	CS	
Ac	cess Type											
<b>♦</b>	Output		_		1							
	this $\rightarrow$ M				$his \rightarrow 1 \qquad \Box$							
	Spontaneous COV: Delta-Value: 1 MinRepTime: 10 sec											
			Су	clic	Period:	15	min (	recommer	nded value)	)		
	Request											
Co	mmunicati											
<b>*</b>	Group Ob	•							Mandatory	': L		
_	Default Gro	oup .	Address:									
	namics											
L -	Power dow	n:	Save:									
	Power up:		Value:		No initialisation:		_ 0.0.0	ılt value:				
					Saved value:		Actua	l value:				
			Transmit	on	bus:							
Ex	ception Ha	ndli	ing									
	ecial Featu											
' T	he coding of	of the	e actuator	set	tpoint value is: 0% → 0	100%	$6 \rightarrow 25$	55				

FB:	HVA	LTE Ser	ve	r Output Name:	ActPosHeat	StageB	}		N	landator Optiona	
	ription:				-			-			
	output con nation.	tains the	va	lue of the actual a	actuator position	on (Hea	atStagel	3) as v	vell as a S	STATUS	
DPT:	Name	DPT_St	atı	usAct	DPT ID	207.10	5 Dat	atype	format L	J <sub>8</sub> B <sub>8</sub>	
Field			D	escription		Sup.	Range		Unit	COV	Default
ActPo	S		Α	ctual actuator pos	sition	M	Full Ra	ange	%	1	cs
STAT	US		а	or LTE-Service In nd Property-Servi esponse only					bitset		
- Faul	t		Α	ctuator fault		0	true/fa	alse	Bit 0	Υ	false
	rridden			ctuator is temp. o		0	true/fa		Bit 1	Υ	false
	orationMo	de		ctuator is in calibi		0	true/fa		Bit 2	Υ	false
- Valv	eKick		1	ctuator is in valve	kick mode	0	true/fa	alse	Bit 3	Υ	false
			a	Il other bits		NA			Bit 4-7		
	nunicatio										
	ding Groເ	ıp:		Γ			I				
Clas				Туре				Defau	lt		
	eographica		<u> </u>	Apartment . Roo	m . SubZone			1.1.1			
	plication	Specific [	$\underline{\underline{\vee}}$	GenPeripheral				1			
	assigned	L		Broadcast	Configura	able 💹					
	Address:			IO Type(ID):	352 (HVA)			rty ID:			
	-Services	· <u></u>	ļ	COV 🛛	MinRepTime		10 se		Hearth		15 min
Inf	oReport	$\boxtimes$	-	Output per defaul		ting 🔝			up Wildca		ed 🔲
/ı <del>-</del>	FF D	<b>.</b>	-	Tx Prio:	High 🗌		Nor	mal 🗵	1	Low	
po sh	ΓΕ Read-I lling of the all always pported)	output	<b>)</b>	Transm after Pow	ver-up: Stored	l Value	□ Ad	ct Valu	ıe ⊠ De	efault Va	lue 🗌
Pro	perty-Ser	vice		Read only	$\overline{\mathbb{X}}$	Read/V	Vrito				
(ind	ividual ad	ccess):		Read only		Reau/v	viile				
Exce	otion Han	dling:							Save at	Powerd	lown
Speci	ial Featur	es:									

## 3.2.6.7 Output ActPosCoolStageA

DP Na	ame:	ActPosCoolStageA Abbr.: Mandatory													
FB Na	ıme:	HVA	HVA Can be internal												
Descr	iption														
This d	This datapoint contains the percent value of the actual actuator position (CoolStageA).														
Datap	Datapoint Type														
	PT_Name: DPT_Scaling														
DPT F	ormat:	U <sub>8</sub>									DPT_ID:	5.001			
Field		De	escripti	on							Supp.	Range	Unit	Defa	ult
												0100 <sup>*)</sup>	%	CS	;
Acces	Access Type														
♦ O	utput														
this	$s \rightarrow M$	$\triangleright$			this $\rightarrow$	. 1									
Spontaneous 🛛 COV: 🔻 Delta-Value: 1 MinRepTime: 10 sec															
				Сус	lic		Perio	d:	15	min (	recommer	nded value	)		
	Request 🖂														
	nunicati														
♦ G	roup Obj	ect	Datapo	oint								Mandatory	/:		
	fault Gro	oup /	Addres	ss:											
Dynar															
	wer dow	n:	Save:												
Po	wer up:		Value	):	No ir	nitialisa	ation:			Defau	ılt value:				
						ed valu	e:			Actua	ıl value:				
				mit o	n bus:				$\boxtimes$						
Excep	otion Ha	ndli	ng												
	al Featu														
' The	The coding of the actuator setpoint value is: 0% → 0 100% → 255														

FB:	HVA	LTE Ser	ve	Output Name: ActPosCoolStageA Mandatory Optional							
	ription:			<del>-</del>				<u>-</u>			
	output con nation.	tains the	va	lue of the actual actuat	tor positio	n (Coo	lStage/	A) as v	vell as a S	STATUS	
DPT:	Name	DPT_St	atı	usAct D	PT ID	207.10	5 Da	tatype	format L	$J_8B_8$	
Field			D	escription		Sup.	Range		Unit	COV	Default
ActPo	S		Α	ctual actuator position		М	Full R	ange	%	1	cs
STAT	US		а	or LTE-Service InfoRe nd Property-Service esponse only	port				bitset		
- Faul	t		Α	ctuator fault		0	true/f	alse	Bit 0	Υ	false
	rridden			ctuator is temp. overric		0	true/f	alse	Bit 1	Υ	false
- Calil	orationMo	de	Α	ctuator is in calibration	mode	0	true/f	alse	Bit 2	Υ	false
- Valv	eKick		1	ctuator is in valve kick	mode	0	true/f	alse	Bit 3	Υ	false
			а	I other bits		NA			Bit 4-7		
	nunicatio										
	ding Groເ	ıp:									
Clas				Туре				Defau	lt		
	eographica		$\subseteq$	Apartment . Room . S	ubZone			1.1.1			
	plication	Specific [	$\underline{\underline{\vee}}$	GenPeripheral				1			
	assigned				Configura	ıble 💹					
	Address:				2 (HVA)			erty ID:			
	-Services	· <u></u>	-		RepTime		10 s		Hearth		15 min
Inf	oReport	$\boxtimes$	_	Output per default com		ng 🔝			up Wildca		<u>ed                                    </u>
/ı <del>-</del>		_	_	Tx Prio:	ligh 🗌		No	mal 🗵	1	Low	
po sh	TE Read-I Iling of the all always pported)	output	•	Transm after Power-սր	p: Stored	Value	□ A	ct Valu	ıe ⊠ De	efault Va	lue 🗌
	perty-Ser			Read only		Read/W	/rito				
(ind	ividual ad	ccess):		Read Only		\eau/v	viile				
Exce	otion Han	dling:							Save at	Powerd	own
Speci	ial Featur	es:									

## 3.2.6.8 Output ActPosCoolStageB

DP Na	me:	ActPosCoolStageB										J
FB Na	me:	HVA Can be internal									ıl 🔲	
Descri	Description											
This da	This datapoint contains the percent value of the actual actuator position (CoolStageB).											
Datapo	Datapoint Type											
	DPT_Name: DPT_Scaling											
DPT F	ormat:	U <sub>8</sub>						DPT_ID:	5.001			
Field		De	escriptio	n				Supp.	Range	Unit	Default	
									0100 <sup>*)</sup>	%	CS	
Acces	Access Type											
♦ Ou	ıtput		_									
this	$\rightarrow M$				this $\rightarrow$ 1							
Spontaneous 🛛 COV: 🖾 Delta-Value: 1 MinRepTime: 10 sec												
	Cyclic Period: 15 min (recommended value)											
	Request											
	nunicati											
♦ Gr	oup Obj	ect l	Datapoi	nt					Mandatory	<i>'</i> :		
Def	ault Gro	up A	Address	:  -								
Dynan												
	wer dow	n:	Save:									
Pov	wer up:		Value:		No initialisation:			ılt value:				
					Saved value:		Actua	l value:		$\boxtimes$		
			Transn	nit on	bus:	$\boxtimes$						
Excep	tion Ha	ndli	ng									
	al Featu											
<sup>7</sup> The o	coding o	of the	e actuat	or se	tpoint value is: 0% → 0	100%	$6 \rightarrow 25$	55				

FB:	HVA	LTE Serv	/er	Output Name: /	Output Name: ActPosCoolStageB Mandatory Optional Optional								
	ription:			-									
	output cor nation.	tains the	val	ue of the actual a	ctuator positi	ion (Co	olSta	ageB) as	well as a	STATUS	3		
DPT:	Name	DPT_St	atu	usAct DPT ID 207.1			)5	Datatype	format	U <sub>8</sub> B <sub>8</sub>			
Field			De	escription	Sup.	Rar	nge	Unit	COV	Default			
ActPc	)S		Ac	ctual actuator posi	tual actuator position			I Range	%	1	CS		
STAT	US		ar	or LTE-Service Info nd Property-Services ponse only					bitset				
- Faul	t			ctuator fault		0	trı	ıe/false	Bit 0	Υ	false		
	rridden			ctuator is temp. ov	erridden	Ö		ie/false	Bit 1	Ý	false		
- Calil	orationMo	de		ctuator is in calibra		0	tru	ıe/false	Bit 2	Υ	false		
- Valv	eKick		Αc	ctuator is in valve l	0	tru	ıe/false	Bit 3	Υ	false			
			all	other bits	NA			Bit 4-7					
Comr	nunicatio	n:				-	-		-	-			
Bine	ding Gro	up:											
Clas	SS	-		Туре				Defa	ult				
Ge	eographic	al [	X	Apartment . Roor	m . SubZone	)		1.1.1					
Ap	plication	Specific [	$\boxtimes$	GenPeripheral				1					
	nassigned			Broadcast	Configu	rable 🗌							
	Address:			IO Type(ID): 352 (HVA) Property ID: 58									
		s (even <u>t)</u> :			COV MinRepTime: 10 sec Heartbeat								
Inf	oReport	$\boxtimes$		Output per default communicating   Binding Group Wildcard allowed									
		_		Tx Prio:	High 🗌			Normal	$\boxtimes$	Lo	<i>Ν</i> 🗌		
po sh	TE Read- Iling of the all always pported)		•	Transm after Pov	ver-up: Store	ed Valu	e 🗌	Act Va	alue 🛚	Default \	/alue □		
(ind	perty-Ser ividual a	ccess):		Read only [	$\boxtimes$	Read	/Wri	te [					
Exce	ption Har	ndling:							Save	at Power	down 🗌		
Spec	ial Featui	es:											

## 3.2.6.9 Output ActPosHeatCool

DP Name:	Acti	PosHea	atCoo	ol		Abbr	<u>::                                   </u>			Manda	Mandatory		
FB Name:	HVA	HVA Can be internal										ıl [	
Description													
This datapoint contains the percent value of the actual actuator position (HeatCool).													
Datapoint Type													
DPT_Name:													
DPT Format:	U <sub>8</sub>								DPT_ID:	5.001			
Field	De	escription	on						Supp.	Range	Unit	Defau	ılt
										0100 <sup>*)</sup>	%	cs	
Access Type	Access Type												
♦ Output													
this $\rightarrow$ M		$\leq$		this $\rightarrow$ 1									
Spontaneous 🛛 COV: 🔻 Delta-Value: 1 MinRepTime: 10 sec													
	Cyclic Period: 15 min (recommended value)												
Request	Request												
Communicat	tion <sup>-</sup>	Type											
♦ Group Ob	oject	Datapo	oint							Mandator	y: 🗆		
Default Gr	oup .	Addres	s:										
<b>Dynamics</b>													
Power dov	vn:	Save:											
Power up:		Value	:	No initialisa	tion:		De	efau	It value:				
				Saved value	e:	]	Ac	tua	l value:				
			mit o	n bus:									
Exception Ha	andli	ing											
Special Feat													
<sup>7</sup> The coding	The coding of the actuator setpoint value is: 0% → 0 100% → 255												

FB:	HVA	LTE Serv	ver	r Output Name:	ActPosHeat	osHeatCool Mandatory ☐ Optional ⊠						
	ription:				-			-				
		tains the	val	lue of the actual	actuator posit	ion (Hea	atCool	) as we	ell as a ST	ATUS		
	nation.						r					
DPT:	Name	DPT_St	_		DPT ID	207.10				U <sub>8</sub> B <sub>8</sub>		
Field				escription		Sup.	Rang		Unit	COV	Default	
ActPc				ctual actuator po		M	Full F	Range	%	1	CS	
STAT	US			or LTE-Service Ir					bitset			
				nd Property-Serv	rice							
				esponse only								
- Faul	lt			ctuator fault		0		false	Bit 0	Υ	false	
- Ove	rridden			ctuator is temp. c		0		false	Bit 1	Υ	false	
- Calil	brationMo	de	Ad	ctuator is in calib	ration mode	0	true/	false	Bit 2	Υ	false	
- Valv	eKick			ctuator is in valve	e kick mode	0	true/	false	Bit 3	Υ	false	
			all	ll other bits		NA			Bit 4-7			
Com	municatio	n:				<del>-</del>	=		<del>-</del>	•		
Bin	ding Gro	ıp:										
Clas	SS			Туре				Defa				
	eographic		$\boxtimes$	Apartment . Roo	om . SubZone	!		1.1.1				
Ap	plication	Specific	$\boxtimes$	GenPeripheral				1				
	nassigned			Broadcast	Configu							
DP.	Address:			IO Type(ID):	352 (HVA	,	Pro	perty II		59		
	-Services	s (event):		COV 🛛	MinRepTin			sec		beat:	15 min	
Inf	oReport	$\boxtimes$		Output per defa	ult communic	ating 🗌	Bine	ding Gr	oup Wildo	card allow	wed 🗌	
				Tx Prio:	High 🗌		N	Iormal		Lov	v 🗌	
	TE Read-		<b>;</b>									
	lling of the			Transm after Po	wor-up: Store	ad Value	$\Box$	Act \/a	ılue 🖂 🏻 [	Default V	ا میاد	
	all always	be		Transmaner FC	ower-up. Store	u value	· 🗀	ACI VA	iiue 🖂 L	Jelault v	alue 🗀	
	pported)											
	perty-Ser			Read only	$\boxtimes$	Read/	Write	Г	7			
	ividual a			rtodd orny		rtoadi	***************************************					
Exce	ption Har	ndling:							Save a	at Power	down	
Spec	ial Featur	es:										

# **3.2.6.10 Output Fault**

### LTE-Mode

Not available.

DF	P Name:	Fau	ult					Al	bbr.:			Ma	ndat	ory		
FB	3 Name:	HV	Α									Ca	n be	interna	ıl	
De	escription															
ħ	is datapoint	t ma	ay indica	ate a f	ault in t	he ac	tuator	(S-Mo	de oı	nly) see	also Actl	Pos				
	atapoint Ty	ре														
DF	PT_Name:	D	PT_Boo	ol												
DF	PT Format:	В	•								DPT_ID:	1.0	02			
Fie	eld	D	escripti	on							Supp.	Rang	ge	Unit	Defa	ault
												true/fa	alse	bool	0	
Ac	cess Type															
<b>*</b>	Output															
	this $\rightarrow$ M		$\boxtimes$		this $\rightarrow$	1										
	Spontaneo	us	$\boxtimes$	COV	:	$\boxtimes$	Delta	-Value			/linRepTir			10 sec		
				Cycli	С	$\boxtimes$	Perio	d:	15	5 min (	recomme	nded va	alue)			
	Request															
C	ommunicat	ion	Type													
<b>♦</b>	Group Ob	ject	Datapo	oint								Manda	atory	:   🗌		
	Default Gro	oup	Addres	s: -												
Dy	namics															
	Power dow	n:	Save:							_						
	Power up:		Value	:	No ini	tialisa	tion:			Defau	ılt value:					
					Saved	d valu	e:			Actua	l value:					
				mit or	n bus:				$\boxtimes$							
Ex	ception Ha	ındl	ling													
Sp	pecial Featu	ıres	3													

# 3.2.6.11 Output Overridden

### LTE-Mode

Not available.

DF	Name:	Ove	erridder	1			Abbr.	: -		Manda	tory		
Ë	Name:	HVA	4							Can be	interna	al	
	escription												
Th	is datapoint	ma	y indica	ate tha	at the actuato	r is overri	dden (	S-Mod	e only) see	also ActPo	S		
	tapoint Ty												
	PT_Name:	DI	PT_Boo	ol									
DF	PT Format:	B <sub>1</sub>							DPT_ID:	1.002			
Fie	eld	De	escription	on					Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Ac	cess Type												
<b>*</b>	Output												
	this $\rightarrow M$		3		his $\rightarrow$ 1								
	Spontaneo	us		COV:		Delta-Va	ılue:		MinRepTir		10 sec		
				Cyclic		Period:		15 min	(recomme	nded value	)		
	Request												
C	mmunicati	ion <sup>-</sup>	Туре										
<b>♦</b>	Group Ob	•								Mandatory	/:		
	Default Gro	oup .	Addres	s: -									
Dy	namics												
	Power dow	n:	Save:				_						
	Power up:		Value	:	No initialisa				ault value:				
					Saved value	e:	<u> </u>	Actu	ıal value:				_
			Trans	mit on	bus:								
Ex	ception Ha	ndli	ing										
Sp	ecial Featu	ıres											

# 3.2.6.12 Output CalibrationMode

### LTE-Mode

Not available.

	CalibrationMode		At	obr.:		Mandat	tory	
FB Name:	HVA					Can be	interna	ત્રી 📗
Description								
This datapoint	may indicate that	t the actuator	is in the cal	ibration n	node (S-Mod	de only) see	e also A	ctPos
Datapoint Typ								
DPT_Name:	DPT_Bool							
DPT Format:	B <sub>1</sub>				DPT_ID:			
Field	Description				Supp.	Range	Unit	Default
						true/false	bool	0
Access Type								
♦ Output								
this $\rightarrow$ M		his $\rightarrow$ 1						
Spontaneo	us 🛛 COV:		Delta-Value		MinRepTir		10 sec	
	Cyclic	igtimes	Period:	15 mir	n (recomme	nded value)	)	
Request								
Communicati	on Type							
♦ Group Obj	ect Datapoint					Mandatory	<b>′</b> : 📗	
	up Address:							
Dynamics								
Power dow	n: Save:							
Power up:	Value:	No initialisati	ion:	De	fault value:			
		Saved value			tual value:		$\boxtimes$	
	Transmit on	bus:		$\boxtimes$				
Exception Ha	ndling							
Special Featu	res							

# 3.2.6.13 Output ValveKick

### LTE-Mode

Not available.

DP Name: ValveKick Abbr.: Manda	atory	
FB Name: HVA Can b	e interna	
Description		
This datapoint may indicate a valve kick (S-Mode only) see also ActPos		
Datapoint Type		
DPT_Name: DPT_Bool		
DPT Format:         B <sub>1</sub> DPT_ID:         1.002		
Field Description Supp. Range	Unit	Default
true/false	bool	0
Access Type		
◆ Output		
this $\rightarrow$ M $\square$ this $\rightarrow$ 1 $\square$		
Spontaneous 🛛 COV: 🔻 Delta-Value: MinRepTime:	10 sec	
Cyclic Period: 15 min (recommended value	<del>)</del>	
Request		
Communication Type		
◆ Group Object Datapoint Mandator	y:	
Default Group Address:		
Dynamics		
Power down: Save:		
Power up: Value: No initialisation: Default value:		
Saved value: Actual value:	$\boxtimes$	
Transmit on bus:		
Exception Handling		
Special Features		
<del></del>		

# 3.2.6.14 Parameter Apartment

FB:	HVA	Proper	ty	Name ( <u>Server</u> ):	Α	partment					Mandator Optiona	· =
Descr	ription:			<del></del> -							Ориона	<u> </u>
Numb	er of the a	partment	Z	one.								
DPT:	Name	DPT_U	Ю	untValue8_Z		DPT ID	202.002		Data	atype format	$U_8Z_8$	
Field			С	escription				S	up.	Range	Unit	Default
Zone			٧	lumber of the apar	rtn	nent zone			M	(0) 1126		1
STAT	US										Bitset	
	ofService			one active / inactiv					0	true/false	Bit 0	false
	ther bits		n	ot supported, fixed	d to	o '0'			NA			false
	MAND									enum		CS
	nalWrite		_						M	0		
	SV & Res		_	Set zone inactive /	ac	tive			0	3 / 4		
	ther comm		n	ot supported					NA	-		
	nunicatior	<u> 1:</u>										
	Address:			IO Type(ID):		352 (HVA	)			ty ID:	101	
	he server)			Start-Index:		1				lements	1	
-	perty acce	ess:		Read only			Read/W			$\boxtimes$		
Prot	ection			Read level		-		W	/rite l	evel	-	
Excep	otion Hand	dling:	٧	alue after Power-	up	: Stored	Value 🛚	Α	ct Va	lue 🗌 🛮 Def	ault Value	
Speci	al Feature	es:										
				to all listeners								
				municating in this								
If Apa	rtment is 'C	OutOfSer	νi	ce' Room and Sub	oΖ	one autom	atically a	re	'OutC	OfService'		

### 3.2.6.15 Parameter Room

FB:	HVA	Proper (Serve	rty Name	Ro	oom					Mandator Option	
Desc	ription:	(Serve	<u>/-</u>	-						Орион	ai <u> </u>
	er of the	room zon	ne.								
DPT:	Name	DPT_U	countValue8_Z		DPT ID	202.002	2	Data	atype format	$U_8Z_8$	
Field			Description				S	up.	Range	Unit	Default
Zone			Number of the roo	m z	zone			M	(0) 163		1
STAT										Bitset	
	ofService		zone active / inacti				(	0	true/false	Bit 0	false
- all o	ther bits		not supported, fixe	d to	o '0'		١	۱A			false
	MAND								enum		CS
	malWrite							M	0		
	DSV & Re		Set zone inactive /	ac	tive			0	3 / 4		
	ther comr		not supported				<u> </u>	<b>I</b> A			
Com	nunicatio	n:									
	Address:		IO Type(ID):	,	352 (HVA	)			ty ID:	102	
(in t	he serve	r)	Start-Index:	•	1				lements	1	
	perty acc	ess:	Read only			Read/V	Vrit	е	$\square$		
Pro	tection		Read level		-		W	rite l	evel	-	
Exce	ption Har	ndling:	Value after Power	-up	: Stored	Value 🛭	] <i>F</i>	\ct V	alue 🔲 🛮 De	efault Valu	ıe 🗌
Spec	ial Featui	es:									
Zone	= 0 (wildo	ard): Ser	nds to all listeners								
			ommunicating in this		one if it is '	'OutOfSe	rvi	ce'			
'OutO	fService'	is taken c	over from Apartment	t							

## 3.2.6.16 Parameter SubZone

FB:	HVA	Proper	ty	Name ( <u>Server</u> ):	S	ubZone					Mandator Optiona	
Desc	ription:	_									<u> </u>	<u></u>
Numb	er of the s	ub zone.										
DPT:	Name	DPT_U	00	untValue8_Z		DPT ID	202.002	- (	Data	atype format	U <sub>8</sub> Z <sub>8</sub>	
Field			Г	escription				S	up.	Range	Unit	Default
Zone			١	lumber of the Sub	Zo	ne			M	(0) 115		1
STAT	US										Bitset	
- Outo	ofService		1 –	one active / inactive					0	true/false	Bit 0	false
- all o	ther bits		n	ot supported, fixed	d to	o '0'		١	۱A			false
	MAND									enum		CS
	nalWrite								M	0		
	DSV & Res		S	Set zone inactive /	ac	tive			0	3 / 4		
	ther comm		n	ot supported				1	۱A			
Comr	nunication	า:										
DP .	Address:			IO Type(ID):		352 (HVA	<b>(</b> )			ty ID:	103	
(in t	he server)			Start-Index:		1		N	° of e	lements	1	
Pro	perty acce	ess:		Read only			Read/W	rite	<del>)</del>	$\boxtimes$		
Pro	tection			Read level		-		W	rite le	evel	-	
Exce	ption Hand	dling:	٧	alue after Power-	up	: Stored	Value 🛚	Α	ct Va	lue 🗌 Def	ault Value	: 🗌
Spec	ial Feature	es:										
Zone	= 0 (wildca	rd): Sen	ds	to all listeners								
				municating in this	ZO	ne if it is '	OutOfSer	vic	e'			
'OutO	fService' is	taken o	ve	er from Apartment								

# 3.2.6.17 Parameter GenPeripheral

FB: HVA	Proper	ty Name ( <u>Server</u> ):	GenPeripheral			Mandator					
						Optiona	al 🖂				
Description:											
Number of the ge	eneral pe	eripheral tag.									
<b>DPT:</b> Name	DPT_U	countValue16_Z	DPT ID 203	.012 Data	type format	$U_{16}Z_{8}$					
Field		Description		Sup.	Range	Unit	Default				
Zone		Number of the Sub	Zone	M	full		1				
STATUS						Bitset					
<ul> <li>OutofService</li> </ul>		zone active / inacti	ve	0	true/false	Bit 0	false				
- all other bits		not supported, fixe	d to '0'	NA			false				
COMMAND					enum		CS				
- NormalWrite				M	0						
- SetOSV & Rese	etOSV	Set zone inactive /	active	0	3 / 4						
- all other comma	nds	not supported		NA							
Communication	:					•	•				
DP Address:		IO Type(ID):	352 (HVA)	Propert	ty ID:	104					
(in the server)		Start-Index:	1	N° of e	lements	1					
Property acces	ss:	Read only	Rea	ad/Write	$\boxtimes$						
Protection		Read level	-	Write le	evel	-					
<b>Exception Hand</b>	ling:	Value after Power-	up: Stored Value	e 🛛 Act Val	lue 🗌 Det	fault Value	e 🗌				
Special Features	s:										
Zone = 0 (wildcar	rd): Sen	ds to all listeners									
The device is not	The device is not LTE communicating in this zone if it is 'OutOfService'										

## 3.2.6.18 Parameter ValveMode

FB: HVA	Property	y Name ( <u>Server</u> ):	ValveMode	)			Mandator Option	
Description:							•	
Selection of the va	alve fund	ction.						
DPT: Name [	OPT_Val	veMode	DPT ID	20.108	Data	atype format	N <sub>8</sub>	
Field		Description			Sup.	Range	Unit	Default
ValveMode		Definition of the va	lve functiona	ality	М	15	enum	1
Heat stage A	1	for normal heating			0	1		
Heat stage B		for heating with two	stages		0	2		
Cool stage A		for normal cooling			0	3		
Cool stage B		for cooling with two			0	4		
HeatCool	1	for changeover app	olications		0	5		
Communication:								
DP Address:		IO Type(ID):	352 (HVA	١)	Proper		111	
(in the server)		Start-Index:	1		N° of e	lements	1	
Property acces	ss:	Read only		Read/W	/rite	$\boxtimes$		
Protection		Read level	-		Write I	evel	-	
<b>Exception Handl</b>	ling:	Value after Power-	up: Stored	Value 🛚	Act Va	lue Dei	fault Value	
Special Features	S:							

### 3.3 Air Damper Actuator (ADA)

## 3.3.1 Aims and objectives

The Functional Block 'Air Damper Actuator' contains the functionality for the following "air dampers":

- Fresh Air Damper (for fancoils)
- Supply Air Damper
- Discharge Air Damper
- Extract Air Damper

It is possible to implement only part of this functionality.

The Functional Block translates the damper position setpoint information to the damper position and finally provides the system with the actual damper position as feedback.

This FB allows distinguishing between VAV and Air Damper control applications.

Air Damper control application

The actuator setpoint represents the target position (%) of the damper

VAV control application

The actuator setpoint represents the target air volume flow (percentage of a nominal flow).

Implementations of FB ADA may support the functionality to control an Air Damper or a VAV actuator or both. If the implementation of the ADA supports both applications, the effective functionality shall be selectable via configuration (Air Damper or VAV mode).

The Controller needs to know, whether the connected FB ADA represents an Air Damper or VAV actuator. The effective functionality of the ADA can be detected at runtime via VAV specific status information.

#### 3.3.2 Functional specification

#### **3.3.2.1** Overview

FB ADA covers both Air Damper and VAV control applications. If the implementation of FB ADA supports both applications, the standardized parameter "ADAType" shall be implemented to select the effective functionality and the corresponding runtime interworking interface of the actuator.

#### LTE application model

FB ADA can be used in different ventilation applications. The LTE-Model supports dedicated runtime process signals for the following use cases:

- Fresh Air (for fan coils)
- Supply Air
- Discharge Air
- Extract Air

Based on this concept different ventilation applications can be controlled in the same LTE zone.

It is allowed that ADA implementations support exactly one or a subset of the above mentioned use cases.

If the implementation of FB ADA supports multiple ventilation applications, the application scheme shall be configurable via parameter "DamperMode" to select the appropriate runtime interworking interface.

FB ADA can be used in various application areas. Therefore multiple types of LTE Binding Groups may be supported (optional feature). Inactive Binding Groups shall be set to 'OutOfService'.

- Geographical Zone primarily used for HVAC secondary applications (e.g.

room automation)

- Ventilation Distribution Segment primarily used to distribute air damper status

information in HVAC primary applications

General Peripheral Zone primarily used for HVAC primary or other applications

#### **Standard Mode**

In Standard Mode the application of ADA Group Objects is defined by engineering. Therefore the support of multiple dedicated Group Objects for Fresh Air, Supply Air, Discharge Air and Extract Air is not meaningful. Parameter "DamperMode" is not relevant in Standard Mode.

#### 3.3.2.2 Air Damper control

If the implementation of the ADA supports both Air Damper and VAV control applications, the standardized ADA parameter "ADAType" shall be set to the configuration value 'Air Damper'.

FB ADA may be implemented in different types of networked peripheral devices. E.g. in:

- smart actuators that combine the KNX interface, control electronics and electro mechanic parts of the air damper in one product, or
- I/O devices that provide various hardware outputs to connect conventional air damper actuators
  - proportional control via a 0-10V analog output or
  - 3-state motorized actuator to be controlled via two interlocked binary hardware outputs to open or close the air damper.

Some of the optional ADA process signals and configuration parameters are only meaningful for specific types of air damper actuators.

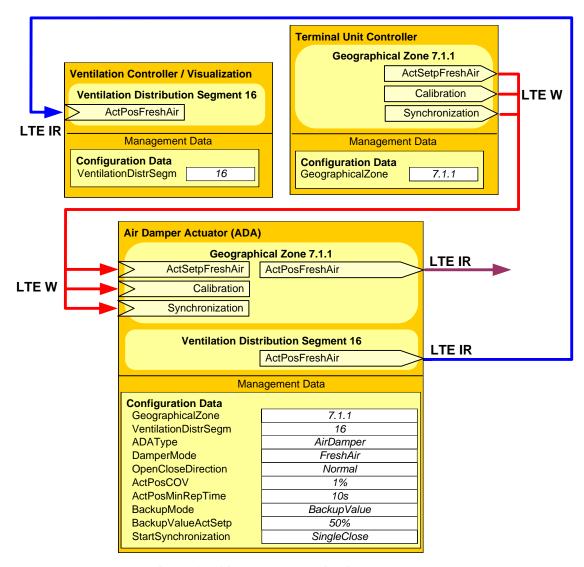


Figure 1 – Air Damper application (LTE-Model)

### **Inputs**

FB ADA provides the following LTE input process signals to control the damper position.

- ActSetpFreshAir setpoint (%) to control the position of a Fresh Air damper
- ActSetpSupplyAir setpoint (%) to control the position of a Supply Air damper
- ActSetpDischargeAir setpoint (%) to control the position of a Discharge Air damper
- ActSetpExtractAir setpoint (%) to control the position of a Extract Air damper

Only one of these Inputs shall be activated at runtime, dependent on parameter "DamperMode".

Please note that these process signals are re-used for VAV control. For this reason the naming of the signals must be generic to cover the control of a damper position (%) or an air volume flow (%).

In Standard Mode the actuator setpoint is represented by one input Group Object "ActSetp".

3-state Air Damper Actuators may in addition optionally support dedicated control commands to trigger actuator specific procedures:

- Calibration trigger to start self calibration of the actuator (automatically detect fully open

and fully closed position of the damper)

- Synchronization trigger to initiate either one single-open or single-close synchronization of the

internal stroke-model.

#### **Outputs**

FB ADA provides the following LTE output process signals containing the actual damper position and further status attributes.

- ActPosFreshAir position (%) and status of Fresh Air damper actuator
- ActPosSupplyAir position (%) and status of Supply Air damper actuator
- ActPosDischargeAir position (%) and status of Discharge Air damper actuator
- ActPosExtractAir position (%) and status of Extract Air damper actuator

Only one of these Outputs may be activated at runtime, dependent on parameter "DamperMode". This feedback information is mainly needed for visualization of the current damper position and status of the actuator.

In Standard Mode the following actuator status information will be represented as separate output Group-Objects.

- ActPos actual damper position (%)

- Fault binary signal to indicate a failure of the actuator

- Overridden binary signal to indicate that the actuator setpoint is currently locally

overridden

- CalibrationMode binary signal to indicate that the actuator is currently executing a

self-calibration

- SynchronizationMode binary signal to indicate that the actuator is currently executing a

synchronization of the stroke model

### **Supported LTE runtime interface**

The activated ADA input and output process signals are dependent on parameter "DamperMode".

	h maramatan ADATuna — AirDammar	DamperMode								
WIL	h parameter ADAType = AirDamper	FreshAir	SupplyAir	DischargeAir	ExtractAir					
	ActSetpFreshAir	M								
	ActSetpSupplyAir		M							
uts	ActSetpDischargeAir			M						
    Inou	ActSetpExtractAir				M					
	Calibration	О	О	0	O					
	Synchronization	О	О	0	O					
S	ActPosFreshAir	О								
utputs	ActPosSupplyAir		О							
	ActPosDischargeAir			0						
	ActPosExtractAir				O					

### Supported runtime interface in Standard Mode

wit	n parameter ADAType = AirDamper	Support
ıt	ActSetp	GO
ndu	Calibration	(GO)
I	Synchronization	(GO)
	ActPos	(GO)
ıts	Fault	(GO)
Itpi	Overridden	(GO)
0	CalibrationMode	(GO)
	SynchronizationMode	(GO)

#### Power-return and restart behaviour

After power-return or an application restart the ADA shall always be in a defined state. The behaviour may be manufacturer specific (fixed or according to proprietary parameters) or can be defined via configuration parameter "StartSynchronization" (position unchanged / single close / single open).

#### **Backup behaviour**

ADA may detect a communication failure or a breakdown of the connected controller after a defined receive-timeout on "ActSetp..." input. The backup behaviour may be manufacturer specific (fixed or according to proprietary parameters) or can be defined via configuration parameters "BackupMode" ('BackupValue' / 'KeepLastState') and "BackupValueActSetp" (%).

#### **Actuator specific parameters**

Actuator specific features are usually configured via manufacturer specific parameters. The following optional parameters are of common interest and are standardized.

- OpenCloseDirection parameter to define the open / close logic of the outputs to control the air

damper position (normal / inverted)

- ActPosCOV COV condition for spontaneous transmission "ActPos..." outputs

- ActPosMinRepTime minimum wait time between two updates of "ActPos..." outputs

#### 3.3.2.3 VAV control

If the implementation of the ADA supports both Air Damper and VAV control applications, the standardized ADA parameter "ADAType" shall be set to the configuration value 'VAV'.

A networked VAV actuator combines functionality to measure the current air flow and to control an air damper with the purpose to directly control the resulting air flow [m³/h]. Measurement of the air flow is usually based on a differential air pressure sensor.

FB ADA may be implemented in different types of networked peripheral devices. E.g. in:

- smart VAV actuators which combine the KNX interface, control electronics, air flow sensor and electro mechanic parts of the air damper in one product.
- networked I/O devices which provide various hardware inputs and outputs to connect conventional air flow sensors and air damper actuators.

Some of the optional ADA process signals and configuration parameters are only meaningful for specific types of VAV actuators.

#### Autonomous VAV mode

Figure 2 illustrates a simple VAV application with one Discharge Air actuator that is controlled individually by a Terminal Unit Controller. An additional Extract Air actuator in the same LTE Zone would be controlled separately by the Terminal Unit Controller. This is the standard behaviour. In addition the ADA may optionally support VAV Master-Slave Application (Figure 3).

In Autonomous VAV mode the parameter "MasterSlaveMode" shall be set to the value 'Autonomous'.

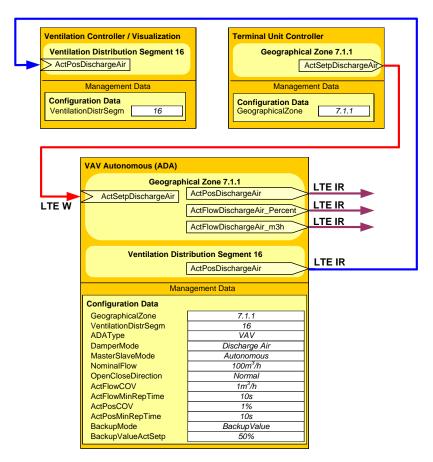


Figure 2 – Autonomous VAV application (LTE-Model)

#### Master-Slave VAV mode

Figure 3 illustrates the interworking mechanisms of a Master-Slave VAV application.

A Discharge Air actuator ("MasterSlaveMode" = 'Master') is controlled individually by the Terminal Unit Controller. A parallel Extract Air actuator ("MasterSlaveMode" = 'Slave') in the same LTE zone is connected to the Discharge Air actuator.

The Master VAV actuator generates the "ActSetpExtracAir" setpoint for the Slave actuator, i.e. the air volume flow of the Slave follows the air volume flow of the Master.

VAV Master-Slave application is defined for the combination of Discharge and Extract Air actuator in the LTE-model only. This is the typical use case. Other combinations are not meaningful.

The optional parameter "MasterSlaveMode" shall be implemented if the ADA supports Master-Slave VAV mode besides standard Autonomous VAV mode; details see Figure 2 and Figure 3

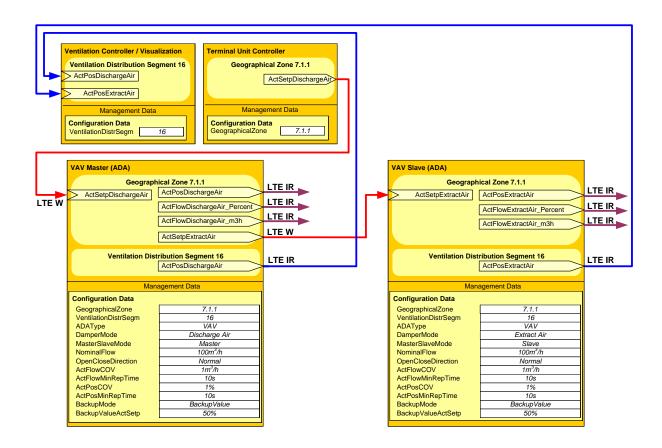


Figure 3 – VAV Master-Slave application (LTE-Model)

In Standard Mode the VAV Master-Slave application is defined by engineering. Therefore the support of ActSetp output Group Object by FB ADA is not meaningful. Parameter "MasterSlaveMode" is not relevant in Standard Mode.

#### **Inputs**

FB ADA contains local control loop functionality to control the current air volume flow according to the actual Air Flow Setpoint.

Air Flow Setpoint is derived from a configurable VAV parameter "NominalFlow" [m³/h] and "ActPos..." process input value representing the present VAV setpoint (% of the "NominalFlow")

FB ADA provides the following LTE input process signals to control the air volume flow:

- ActSetpFreshAir % setpoint value to control the Fresh Air volume
- ActSetpSupplyAir % setpoint value to control the Supply Air volume
- ActSetpDischargeAir % setpoint value to control the Discharge Air volume
- ActSetpExtractAir % setpoint value to control the Extract Air volume

Only one of these inputs shall be activated at runtime, dependent on parameter "DamperMode".

In Standard Mode the actuator setpoint is represented by one input Group Object "ActSetp".

Support of the optional ADA air damper input signals "Calibration" and "Synchronization" is not meaningful in VAV mode.

#### **Outputs**

FB ADA provides the following LTE output process signals containing the actual damper position and further status attributes (same functionality as for Air Damper actuator).

- ActPosFreshAir position (%) and status of Fresh Air damper actuator
- ActPosSupplyAir position (%) and status of Supply Air damper actuator
- ActPosDischargeAir position (%) and status of Discharge Air damper actuator
- ActPosExtractAir position (%) and status of Extract Air damper actuator

Only one of these outputs may be activated at runtime, dependent on parameter "DamperMode". This feedback information is mainly needed for visualization of the current damper position and status of the actuator.

If the ADA is configured as VAV Master with "DamperMode" = 'DischargeAir' (see Figure 3) the following additional LTE output signal is generated.

- ActSetpExtractAir setpoint (%) value to control the Extract Air volume of the corresponding VAV Slave in the same zone

The following additional LTE output signals contain the actual, measured air volume flow (percentage of the "NominalFlow") and further status attributes.

ActFlowFreshAir\_Percent Fresh Air volume flow (%)
ActFlowSupplyAir\_Percent Supply Air volume flow (%)
ActFlowDischargeAir\_Percent Discharge Air volume flow (%)
ActFlowExtractAir\_Percent Extract Air volume flow (%)

Only one of these outputs shall be activated at runtime, dependent on parameter "DamperMode". This feedback information is mainly needed for visualization of the current relative air volume flow.

Presence of "ActFlow..." process information indicates that FB ADA has the functionality of a VAV actuator.

The following additional LTE output signals represent the measured absolute air volume flow [m3/h]:

ActFlowFreshAir\_m3h Fresh Air volume flow (m³/h)
ActFlowSupplyAir\_m3h Supply Air volume flow (m³/h)
ActFlowDischargeAir\_m3h Supply Air volume flow (m³/h)
ActFlowExtractAir\_m3h Supply Air volume flow (m³/h)

Only one of these outputs may be activated at runtime, dependent on parameter "DamperMode". This feedback information is mainly needed for visualization of the current absolute air volume flow.

In Standard Mode the following actuator status information may be represented as separate output Group Objects:

- ActDamperPos actual damper position (%)

- ActAirFlow\_Percent actual volume flow (percentage of "NominalFlow")

- ActAirFlow\_m3h actual volume flow (m3/h)

- Fault binary signal to indicate a failure of the actuator

- Overridden binary signal to indicate that the actuator setpoint is currently locally

overridden

### **Supported LTE runtime interface**

The activated ADA input and output process signals are dependent on parameter "DamperMode".

	with parameter ADAType = VAV		Dam	perMode	
WIL	n parameter ADAType = VAV	FreshAir	SupplyAir	DischargeAir	ExtractAir
	ActSetpFreshAir	M			
nputs	ActSetpSupplyAir		M		
Inp	ActSetpDischargeAir			M	
, ,	ActSetpExtractAir				M
	ActPosFreshAir	О			
	ActPosSupplyAir		О		
	ActPosDischargeAir			О	
	ActPosExtractAir				0
	ActFlowFreshAir_Percent	M			
	ActFlowSupplyAir_Percent		M		
ıts	ActFlowDischargeAir_Percent			M	
Outputs	ActFlowExtractAir_Percent				M
Ou					
	ActFlowFreshAir_m3h	О			
	ActFlowSupplyAir_m3h		О		
	ActFlowDischargeAir_m3h			О	
	ActFlowExtractAir_m3h				O
	ActSetpExtractAir *)			О	

<sup>\*)</sup> Only active if parameter "MasterSlaveMode" has the value 'Master', otherwise the output "ActPosExtractAir" is inactive.

#### Supported runtime interface in Standard Mode

wit	n parameter ADAType = VAV	Support	
ts	ActSetp	GO	
II			
	ActDamperPos	(GO)	
uts	ActAirFlow_Percent	GO	
	ActAirFlow_m3h	(GO)	
0	Fault	(GO)	
	Overridden	(GO)	

#### Power-return and restart behaviour

After power-return or an application restart the ADA shall always be in a defined state. The behaviour is manufacturer specific (fixed or according to proprietary parameters).

Recommended autonomous start-up behaviour: the ADA will automatically close the damper

Default value of input "ActSetp..." = 0%

#### **Backup behaviour**

ADA may detect a communication failure or a breakdown of the connected controller after a defined receive timeout on "ActSetp..." input. The backup behaviour may be manufacturer specific (fixed or according to proprietary parameters) or can be defined via configuration parameters "BackupMode" ('BackupValue' / 'KeepLastState') and "BackupValueActSetp" (%).

#### **Actuator specific parameters**

VAV actuator specific features are usually configured via manufacturer specific parameters. The following optional parameters are of common interest and are standardized.

-	OpenCloseDirection	parameter to define the open / close logic of the outputs to control the air damper position (normal / inverted)
-	NominalFlow	parameter to define the nominal flow of the VAV in $\ensuremath{\text{m}^3/\text{h}}$
		The value of "NominalFlow" corresponds to "ActSetp" = 100%
-	ActPosCOV	COV condition for spontaneous transmission "ActPos" outputs
-	ActPosMinRepTime	minimum wait time between two updates of "ActPos" outputs
-	ActFlowCOV	COV condition $[m^3/h]$ for spontaneous transmission "ActFlow" outputs.
		Based on "ActFlowCOV" and "NominalFlow" the corresponding COV [%] can be derived.
-	ActFlowMinRepTime	minimum wait time between two updates of "ActFlow" outputs

# 3.3.3 Functional Block diagram for Air Damper control

FB Air Dam	nper Actuator ADA	362
Inputs		Outputs
	aphical or General Peripheral	
W: ActSetpFreshAir	IR: ActPo	sFreshAir
W: ActSetpSupplyAir	IR: ActPos	SupplyAir
W: ActSetpDischargeAir	IR: ActPosDis	
W: ActSetpExtractAir	IR: ActPos	ExtractAir
W: Calibration		
W: Synchronization		
Rinding Grn - Dietrik	bution Segment Ventilation	
Billiding Orp District		sFreshAir
	IR: ActPos	SupplyAir
	IR: ActPosDis	
	IR: ActPos	ExtractAir
Group Objects for	for Standard Mode only	
GO: ActSetp	GO: ActDa	amperPos
		GO: Fault
GO: Calibration		Overridden
GO: Synchronization	GO: Calibra	
	GO: Synchroniza	
additional I/Os	-	rameters
<ul> <li>2 binary outputs to control a motorized</li> </ul>		hicalZone
damper	GeneralPeriph	
- 0-10V output to control an analogue	DistributionSegment\	
damper		ADAType
		nperMode
		laveMode
	OpenClose	
		tPosCOV
	ActPosMir	
	BackupValu	kupMode
	StartSynch	
	StartSylich	TOTIIZALIOTI
mandatory optional	al IR: LTE InfoReport W: LTE	: Write
Optional	GO: Group Object	. VVIIIC

Figure 4 – Functional Block Diagram ADA for Air Damper control

# 3.3.4 Functional Block diagram for VAV Control

	mper Actuator ADA 362
Inputs	Outputs
	graphical or General Peripheral
W: ActSetpFreshAir	IR: ActPosFreshAir
W: ActSetpSupplyAir	IR: ActPosSupplyAir
W: ActSetpDischargeAir	IR: ActPosDischargeAir
W: ActSetpExtractAir	IR: ActPosExtractAir
	IR: ActFlowFreshAir_Percent
	IR: ActFlowSupplyAir_Percent
	IR: ActFlowDischargeAir_Percent
	IR: ActFlowExtractAir_Percent
	IR: ActFlowFreshAir_m3h
	IR: ActFlowSupplyAir_m3h
	IR: ActFlowDischargeAir_m3h
	IR: ActFlowExtractAir_m3h
	W: ActSetpExtractAir
Binding Grp.: Dist	ribution Segment Ventilation
	IR: ActPosFreshAir
	IR: ActPosSupplyAir
	IR: ActPosDischargeAir
	IR: ActPosExtractAir
	THE FOR SOLUTION IN
Group Objects	s for Standard Mode only
GO: ActSetp	GO: ActDamperPos
CC. 7101001P	GO: ActAirFlow_Percent
	GO: ActAirFlow_m3h
	GO: Fault
	GO: Overridden
	CO. Overnaden
additional I/Os	Parameters
- 2 binary outputs to control a motorized	GeographicalZone
damper	General PeripheralZone
·	DistributionSegmentVentilation
<ul> <li>0-10V output to control an analogue</li> </ul>	ADAType
damper	DamperMode
- Input to connect a flow sensor	MasterSlaveMode
input to connect a new concer	OpenCloseDirection
	NominalFlow
	ActPosCOV
	ActPosMinRepTime
	ActFlowCOV
	ActFlowMinRepTime
	BackupMode
	BackupValueActSetp
	<u>'</u>
mandatory option	nal IR: LTE InfoReport W: LTE Write
	GO: Group Object

Figure 5 – Functional Block Diagram ADA for VAV control

# 3.3.5 Datapoints

Inputs			
Datapoint	Description	Datapoint Type	
ActSetpFreshAir	Setpoint for Fresh Air actuator control, representing  the damper position in case of Air Damper control  the relative air flow volume in case of VAV control Resolution of the setpoint: 1% This input is active if "DamperMode" = 'Fresh Air'	LTE-Mode DPT_RelValue_Z (202.001) Standard Mode not available	
ActSetpSupplyAir	Setpoint for Supply Air actuator control, representing  the damper position in case of Air Damper control  the relative air flow volume in case of VAV control Resolution of the setpoint: 1%  This input is active if "DamperMode" = 'Supply Air'	DPT_RelValue_Z (202.001) Standard Mode not available	
ActSetpDischargeAir	Setpoint for Discharge Air actuator control, representing  - the damper position in case of Air Damper control  - the relative air flow volume in case of VAV control Resolution of the setpoint: 1%  This input is active if "DamperMode" = 'Discharge Air'	DPT_RelValue_Z (202.001) Standard Mode not available	
ActSetpExtractAir	Setpoint for Extract Air actuator control, representing  the damper position in case of Air Damper control  the relative air flow volume in case of VAV control Resolution of the setpoint: 1%  This input is active if "DamperMode" = 'Extract Air'	DPT_RelValue_Z (202.001) Standard Mode not available	
ActSetp	Setpoint for actuator control, representing  - the damper position in case of Air Damper control  - the relative air flow volume in case of VAV control Resolution of the setpoint: ~0.4%	Standard Mode DPT_Scaling (5.001) LTE-Mode n.a.	
Calibration	Control command to start self calibration of the actuator. Support of this input is usually only meaningful for 3-state motorized air dampers	DPT_Trigger (1.017)	
Synchronization	Control command to initiate either one single-open or single-close synchronization of the internal strokemodel. Support of this input is usually only meaningful for 3-state motorized air dampers	DPT_Trigger (1.017)	

Outputs		
Datapoint	Description	Datapoint Type
ActPosFreshAir	Actuator status information representing the effective damper position and further status attributes of the Fresh Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Fresh Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode  not available
ActPosSupplyAir	Actuator status information representing the effective damper position and further status attributes of the Supply Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Supply Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode  not available

Outputs				
Datapoint	Description	Datapoint Type		
ActPosFreshAir	Actuator status information representing the effective damper position and further status attributes of the Fresh Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Fresh Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode  not available		
ActPosDischargeAir	Actuator status information representing the effective damper position and further status attributes of the Discharge Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Discharge Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode  not available		
ActPosExtractAir	Actuator status information representing the effective damper position and further status attributes of the Extract Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Extract Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode not available		
ActDamperPos	Actuator status information representing the effective air damper position.  Resolution of the damper position: ~0.4%	Standard Mode DPT_Scaling (5.001) LTE-Mode n.a.		
Fault	Binary status information to indicate a failure of the actuator	Standard Mode DPT_Bool (1.002) LTE-Mode n.a.		
Overridden	Binary status information to indicate that the actuator setpoint is currently locally overridden	Standard Mode DPT_Bool (1.002) LTE-Mode n.a.		
CalibrationMode	Binary status information to indicate that the actuator is currently executing a self-calibration	Standard Mode DPT_State (1.011) LTE-Mode n.a.		
SynchronizationMode	Binary status information to indicate that the actuator is currently executing a synchronization of the stroke model	Standard Mode DPT_State (1.011) LTE-Mode n.a.		
ActFlowFreshAir_Percent	VAV status information representing the measured volumetric Fresh Air flow in percent of the configured nominal flow.  Resolution of the air flow value: 0.01%  This output is active if - "ADAType" = 'VAV' - "DamperMode" = 'Fresh Air'	DPT_Percent_V16_Z (205.017) Standard Mode not available		
ActFlowSupplyAir_Percent	VAV status information representing the measured volumetric Supply Air flow in percent of the configured nominal flow.  Resolution of the air flow value: 0.01%  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Supply Air'	DPT_Percent_V16_Z (205.017) Standard Mode not available		

Outputs			
Datapoint	Description	Datapoint Type	
ActPosFreshAir	Actuator status information representing the effective damper position and further status attributes of the Fresh Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Fresh Air'	DPT_StatusAct (207.105) Standard Mode not available	
ActFlowDischargeAir_Percent	VAV status information representing the measured volumetric Discharge Air flow in percent of the configured nominal flow.  Resolution of the air flow value: 0.01%  This output is active if - "ADAType" = 'VAV' - "DamperMode" = 'Discharge Air'	LTE-Mode  DPT_Percent_V16_Z (205.017)  Standard Mode  not available	
ActFlowExtractAir_Percent	VAV status information representing the measured volumetric Extrac Air flow in percent of the configured nominal flow.  Resolution of the air flow value: 0.01%  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Extract Air'	DPT_Percent_V16_Z (205.017) Standard Mode not available	
ActAirFlow_Percent	VAV status information representing the measured volumetric air flow in percent of the configured nominal flow.  Resolution of the air flow value: 0.01%  This output is only available if  - "ADAType" = 'VAV'	Standard Mode DPT_Percent_V16 (8.010) LTE-Mode n.a.	
ActFlowFreshAir_m3h	VAV status information representing the measured volumetric Fresh Air flow in m³/h.  Resolution of the air flow value: 0.0001 m³/h  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Fresh Air'	LTE-Mode  DPT_FlowRate_m3/h_Z (218.002)  Standard Mode  not available	
ActFlowSupplyAir_m3h	VAV status information representing the measured volumetric Supply Air flow in m³/h.  Resolution of the air flow value: 0.0001 m³/h  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Supply Air'	LTE-Mode  DPT_FlowRate_m3/h_Z (218.002)  Standard Mode  not available	
ActFlowDischargeAir_m3h	VAV status information representing the measured volumetric Discharge Air flow in m³/h.  Resolution of the air flow value: 0.0001 m³/h  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Discharge Air'	LTE-Mode  DPT_FlowRate_m3/h_Z (218.002)  Standard Mode  not available	
ActFlowExtractAir_m3h	VAV status information representing the measured volumetric Extract Air flow in m³/h.  Resolution of the air flow value: 0.0001 m³/h  This output is active if  - "ADAType" = 'VAV'  - "DamperMode" = 'Extract Air'	LTE-Mode  DPT_FlowRate_m3/h_Z (218.002)  Standard Mode  not available	

Outputs			
Datapoint	Description	Datapoint Type	
ActPosFreshAir	Actuator status information representing the effective damper position and further status attributes of the Fresh Air damper.  Resolution of the damper position: 1%  This output is active if "DamperMode" = 'Fresh Air'	LTE-Mode  DPT_StatusAct (207.105)  Standard Mode  not available	
ActAirFlow_m3h	VAV status information representing the measured volumetric air flow in m³/h.  Resolution: IEEE floating point, unit m³/s  This output is only available if  - "ADAType" = 'VAV'	Standard Mode DPT_Value_Volume_Flu x (14.077) LTE-Mode n.a.	
ActSetpExtractAir	Output of the VAV Master to control the Extract Air volume setpoint (%) of the VAV Slave Resolution of the setpoint: 1% This input is only active if - "ADAType" = 'VAV' - "DamperMode" = 'Discharge Air' - "MasterSlaveMode" = 'Master'	LTE-Mode  DPT_RelValue_Z (202.001)  Standard Mode  not available	

Parameters			
Datapoint	Description	Datapoint Type	
GeneralPeripheralZone	LTE General Peripheral Zone	DPT_UcountValue16_Z (203.012)	
DistributionSegmentVentilation	LTE Ventilation Distribution Segment	DPT_UCountValue8_Z (202.002)	
ADAType	Parameter to select the effective air damper or VAV functionality and the runtime interworking interface of FB ADA 1: 'Air Damper' (default) - 2: 'VAV'	DPT_ADAType (20.120)	
DamperMode	This parameter is used to select the ventilation application and the runtime interworking interface, if ADA supports more than one application scheme.  - 1: Fresh Air (default for fan coil applications)  - 2: Supply Air  - 3: Discharge Air (default for VAV applications)  - 4: Extract Air	DPT_DamperMode (20.109)	
MasterSlaveMode	VAV mode: - 0: Autonomous (default) - 1: Master - 2: Slave	DPT_MasterSlaveMode (20.112)	
OpenCloseDirection Parameter to select the drive direction of the actuator: - 0: Normal - 1: Inverted		DPT_Invert (1.012)	
NominalFlow	Nominal Flow of the VAV actuator in m3/h with a resolution of 0.0001m³/h	DPT_FlowRate_m3/h (13.002)	
ActPosCOV	COV condition for spontaneous transmission "ActPos" outputs	DPT_Percent_U8 (5.004)	
ActPosMinRepTime	Minimum wait time between two updates of "ActPos" outputs	DPT_TimePeriodSec (7.005)	

Parameters			
Datapoint	Description	Datapoint Type	
ActFlowCOV	COV condition [m³/h] for spontaneous transmission "ActFlow" outputs. Based on "ActFlowCOV" and "NominalFlow" the corresponding COV [%] can be derived	DPT_FlowRate_m3/h (13.002)	
ActFlowMinRepTime	Minimum wait time between two updates of "ActFlow" outputs	DPT_TimePeriodSec (7.005)	
BackupMode	Parameter to define the behaviour during communication failure - 0: BackupValue => see parameter "BackupValue" - 1: KeepLastState	DPT_BackupMode (20.121)	
BackupValueActSetp	Defines the default actuator setpoint in case of communication failure if "BackupMode" = 'BackupValue'	DPT_Percent_U8 (5.004)	
StartSynchronization	Parameter to define the behaviour of a 3-state Air Damper actuator after power-return or an application restart: 0: position unchanged 1: single close 2: single open	DPT_StartSynchronization (20.122)	

**ADA Runtime Interworking - Dependence on Configuration Modes** 

			STANDARD MODE	EXTENDED MODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE
Inputs	ActSetpFreshAir	NA	NA	NA	M
	ActSetpSupplyAir	NA	NA	NA	M
	ActSetpDischargeAir	NA	NA	NA	M
	ActSetpExtractAir	NA	NA	NA	M
	ActSetp	$GO_b$	GO	GO	NA
	Calibration	(GO) <sub>b</sub>	(GO)	(GO)	0
	Synchronization	(GO) <sub>b</sub>	(GO)	(GO)	0
Outputs	ActPosFreshAir	NA	NA	NA	0
	ActPosSupplyAir	NA	NA	NA	0
	ActPosDischargeAir	NA	NA	NA	0
	ActPosExtractAir	NA	NA	NA	0
	ActPos	$(GO)_b$	(GO)	(GO)	NA
	ActFlowFreshAir_Percent	NA	NA	NA	M
	ActFlowSupplyAir_Percent	NA	NA	NA	M
	ActFlowDischargeAir_Percent	NA	NA	NA	M
	ActFlowExtractAir_Percent	NA	NA	NA	M
	ActFlow_Percent	$GO_b$	GO	GO	NA
	ActFlowFreshAir_m3h	NA	NA	NA	0
	ActFlowSupplyAir_m3h	NA	NA	NA	0
	ActFlowDischargeAir_m3h	NA	NA	NA	0
	ActFlowExtractAir_m3h	NA	NA	NA	0
	ActFlow_m3h	(GO) <sub>b</sub>	(GO)	(GO)	NA
	ActSetpExtractAir	NA	NA	NA	0
	Fault	(GO) <sub>b</sub>	(GO)	(GO)	NA
	Overridden	(GO) <sub>b</sub>	(GO)	(GO)	NA
	CalibrationMode	(GO) <sub>b</sub>	(GO)	(GO)	NA
	SynchronizationMode	(GO) <sub>b</sub>	(GO)	(GO)	NA

Details of ADA runtime interworking for Air Damper and VAV: see 3.3.2.2 and 3.3.2.3

### **ADA LTE specific Properties**

		Support
Parameter	GeographicalZone	М
	GeneralPeripheralZone	0
	DistributionSegmentVentilation	0
	DamperMode	0
	MasterSlaveMode	0

## **ADA Standard Properties of Interface Objects (or memory mapped DP)**

		Support
Parameter	ADAType	0
	OpenCloseDirection	0
	NominalFlow	M *)
	ActPosCOV	0
	ActPosMinRepTime	0
	ActFlowCOV	0
	ActFlowMinRepTime	0
	BackupMode	0
	BackupValueActSetp	0
	StartSynchronization	0
Diagnostic Data		

<sup>\*)</sup> for VAV mode only

# 3.3.6 Detailed specification of the Datapoints

## 3.3.6.1 Input ActSetp

### **Standard Mode**

DF	Name:	ActS	etp			Α	Abbr.:				Manda	tory		$\boxtimes$
B	Name:	ADA									Can be	interna	ıl	
De	scription													
					actuator. The		nal repr	esent	s the	setpo	oint of:			
					Damper contr									
□-	the relative	air fl	ow volume	e in case	e of VAV contr	ol								
Re	solution of	the s	etpoint: ~0	.4%										
Da	tapoint Ty	ре												
DF	PT_Name:	DP	T_Scaling											
	T Format:	U <sub>8</sub>								Γ_ID:	5.001			
Fie	eld	De	scription						Su	pp.	Range	Unit	Defa	
											0100 1)	%	2)	
	cess Type													
<b>♦</b>	Input													
	$N \rightarrow this$			$1 \rightarrow th$										
	Spontaneo	us			Cyclically:		$\boxtimes$		-	Time-	out:	31 min		
												(recon	ımenc	led)
	Request				Polling:	Į				Period	<u>:</u>			
	mmunicat													
•	Group Ob			1							Mandatory	<i>ı</i> : 🛛		
	Default Gro	oup A	ddress:											
Dy	namics			1 (-3) 3)										
	Power dow		Save:	<b>□</b> 3)		_							2)	
	Power up:		Value:		nitialisation:	<u>∐</u> 3)		Defau	ılt va	lue:			-)	
		_		Save	d value:	⊠ <sup>3)</sup>								
								Read	from	bus:				
	ception Ha													
_	e backup b		our in 3.3.	2.2 and	3.3.2.3									
	ecial Featu		1 -1		-1 - 1- 00/	```	4000/	\ OF						
					value is: 0%				5					
`	Occ 1 owel letain and lestait behaviour in 5.5.2.2 and 5.5.2.5													
, (	3.3.2.3													
	J.J.Z.J													
Th	is Group Ol	bject	may be m	apped ir	nternally to any	y of t	he four	ActS	etp	. LTE	-Input Prop	perties		

## LTE-Mode

See 3.3.6.2 - 3.3.6.5

# 3.3.6.2 Input ActSetpFreshAir

FB:	ADA	LTE Serve	er Input Name:	ActSetpFres	hAir		Mandatory	′⊠ Op	otional 🔲	
Desc	ription:			-		•				
- the o	damper po	osition in ca	actuator control, use of Air Dampe ne in case of VA\	r control						
Resol	ution of th	ne setpoint:	1%							
		•	perMode" = 'Fre	ch Air						
DPT:	Name			DPT ID	202.001	Datatvi	pe format	U <sub>8</sub> Z <sub>8</sub>		
Field	INAITIC	Di i_i\ei	Description	טו ז וטן	202.001	Dataty	Sup.	Unit	Default	
	tor setpoi	nt	Percent value o	f the actuator	setpoint		M	%	2)	
STAT			For Read Service		ootponit.			Bitset		
	rridden	0	Bit 2	false						
- all o		false								
COMI	MAND		For Write Service					enum.		
- Norr	malWrite		Used for norma (LTE Write Serv		M	0				
- Ove	rride / Rel	ease	Used for tempo					1/2		
			(mainly by a too		ty Write a	access with	า			
			individual addre	essing)						
	ther comm		not applicable				NA			
	nunicatio									
	ding Grou	ıp:	T			Default				
Clas	ss eographic	al 🖂	Type BuildingZone.R	oom Cubzono		Default 1.1.1				
	plication		buildingzone.K	oom.Subzone		1.1.1				
	nassigned		Broadcast	Configural	hle 🕅	OutOfServ	 /ice			
	Address:		IO Type(ID):	362 (ADA		Property		51		
	-Service		Timeout: 1)		<i>^</i>					
	perty-Ser ividual a		Read only		Read/W	/rite	$\boxtimes$			
Value	after Po	wer-up:	Default	: Value 🔀 <sup>2)</sup>			St	ored Valu	e 🖾 3)	
Exce	otion Har	ndling:				;	Save at Po			
1) See	See backup behaviour in 3.3.2.2 and 3.3.2.3									
	ial Featur									
3) Opt			estart behaviour i specific behaviou			d restart be	haviour in	3.3.2.2 a	nd	

# 3.3.6.3 Input ActSetpSupplyAir

FB:	ADA	LTE Serve	er Input Name:	ActSetpSu	pplyAir		Mandatory	<sup>'</sup> ⊠ Op	otional 🔲
Desci	ription:					-			
Setpo	int (%) fo	r Supply Air	actuator control	, representir	ng				
			ise of Air Dampe		_				
- the r	elative air	r flow volum	ne in case of VA\	/ control					
Resol	ution of th	ne setpoint:	1%						
This in	nput is ac	tive if "Dam	perMode" = 'Sup	ply Air'					
DPT:	Name	DPT_Rel	Value_Z	DPT ID	202.00	1 Dataty	pe format	$U_8Z_8$	
Field			Description				Sup.	Unit	Default
	tor setpoi	nt	Percent value o		or setpoint		M	%	2)
STAT			For Read Service					Bitset	
								Bit 2	false
	ther attrib	utes	fixed to '0'				NA		false
	MAND		For Write Service					enum.	
- NormalWrite Used for normal runtime communication M 0 (LTE Write Service)									
- Ove	rride / Rel	ease	Used for tempor	,	e / release	of the input	. 0	1/2	
			(mainly by a too					.,_	
			individual addre						
- all of	ther comn	nands	not applicable	C,			NA		
Comr	nunicatio	n:	-					-	
	ding Gro	ıp:							
Clas			Туре			Default			
	eographic		BuildingZone.Re	oom.Subzor	ne	1.1.1			
	plication								
	nassigned		Broadcast	Configu		OutOfServ			
	Address:		IO Type(ID):	362 (AE	DA)	Property	ID:	52	
	-Service rite	(event):	Timeout: 1)		31	Min			
	perty-Ser ividual a		Read only		Read/V	Vrite [	$\boxtimes$		
•	after Po		Default	Value 🛛 2)			St	ored Valu	e 🖂 3)
	otion Har		2 0.00	7 41.0.0			Save at Po		
			3.3.2.2 and 3.3.	2.3					. 🔼
	ial Featur								
<sup>2)</sup> See <sup>3)</sup> Opt	Power-re	eturn and re	estart behaviour i specific behaviou			d restart be	haviour in	3.3.2.2 a	nd

# 3.3.6.4 Input ActSetpDischargeAir

FB:	ADA	LTE Serve	er Input Name:	Act	SetpDisc	hargeAiı	•	Ma	andatory	·⊠ Op	otional 🔲
Desci	ription:							•			
- the c	damper po	osition in ca	Air actuator con use of Air Dampe ne in case of VA	r con	trol	ing					
				COI	iliOi						
		ne setpoint:									
			perMode" = 'Disc	_							
DPT:	Name	DPT_Rel			DPT ID	202.001	Dat	atype	format	$U_8Z_8$	
Field			Description						Sup.	Unit	Default
	tor setpoi	nt	Percent value o			setpoint			M	%	2)
STAT			For Read Service							Bitset	
	rridden		The setpoint is t	temp	orarily ov	erridden			0	Bit 2	false
	ther attrib	utes	fixed to '0'						NA		false
COMMAND For Write Service only enum.											
- NormalWrite Used for normal runtime communication M 0 (LTE Write Service)											
- Ove	rride / Rel	ease	Used for tempor						0	1/2	
			(mainly by a too			ty Write	access	with			
			individual addre	ssin	g)						
	ther comn		not applicable						NA		
	nunicatio										
	ding Grou	ıp:	1-								
Clas		. 5	Туре				Defaul	t			
	ographic		BuildingZone.Re	oom.	Subzone		1.1.1				
	plication										
	assigned		Broadcast		Configura		OutOf				
	Address:		IO Type(ID):	,	362 (ADA	.)	Prope	rty ID:		53	
LTE Wi	-Service rite	(event):	Timeout: 1)			31	Min				
	perty-Ser ividual ad		Read only			Read/W	/rite	$\boxtimes$			
Value	after Po	wer-up:	Default	Valu	ıe 🛛 2)				Sto	ored Valu	
Exce	otion Han	ndling:						Sa	ve at Po	wer-dowr	າ 🛚 🖾 <sup>3)</sup>
1) See	backup b	ehaviour ir	3.3.2.2 and 3.3.	2.3							
	al Featur										
3) Opti			estart behaviour i specific behaviou				d restar	t beha	aviour in	3.3.2.2 a	nd

# 3.3.6.5 Input ActSetpExtractAir

FB:	ADA	LTE Serve	er Input Name:	ActSetpExtr	actAir	N	/landatory	<sup>'</sup> ⊠ Op	otional 🔲
Desci	ription:					-			
Setpo	int (%) fo	r Extract Ai	r actuator control	, representing	l				
- the c	damper po	osition in ca	se of Air Dampe	r control					
- the r	elative air	r flow volum	ne in case of VA\	/ control					
Resol	ution of th	ne setpoint:	1%						
This in	nput is ac	tive if "Dam	perMode" = 'Exti	act Air'					
DPT:	Name	DPT_Rel	Value_Z	DPT ID	202.001	1 Datatyp	e format	$U_8Z_8$	
Field			Description				Sup.	Unit	Default
	tor setpoi	nt	Percent value o		setpoint		M	%	2)
STAT			For Read Service					Bitset	
	rridden		The setpoint is	temporarily ov	erridden/		0	Bit 2	false
	ther attrib	utes	fixed to '0'				NA		false
	MAND		For Write Service					enum.	
- Norr	nalWrite		Used for norma (LTE Write Serv		municatio	on	M	0	
- Ove	rride / Rel	ease	Used for tempo	,	release o	of the input	0	1/2	
010	illac / Itol	casc	(mainly by a too				_	1 / 2	
			individual addre		ity viillo (	access min			
- all of	ther comn	nands	not applicable	· · · · · · · · · · · · · · · · · ·			NA		
Comr	nunicatio	n:					<u>.</u>		<u>'</u>
	ding Grou								
Clas	SS		Туре			Default			
	eographic		BuildingZone.R	oom.Subzone		1.1.1			
Ар	plication	Specific 🗌							
	nassigned		Broadcast	Configura	ble 🛛	OutOfServ			
DP A	Address:		IO Type(ID):	362 (ADA	١)	Property I	D:	54	
	-Service	(event):	Timeout: 1)		31	Min			
Pro	perty-Ser	vice	Read only		Read/W	/rite	   		
•	ividual a		_	57 2)			_		<b>2</b> 3/
	after Po	•	Default	Value 🛛 2)		T		ored Valu	
	otion Har					5	Save at Po	wer-dowr	n 🛚 3)
			1 3.3.2.2 and 3.3.	.2.3					
	ial Featur								
3) Opti			estart behaviour i specific behaviou			d restart be	haviour in	3.3.2.2 a	nd

# 3.3.6.6 Input Calibration

DF	P Name:	Cal	ibration		Abbr.:			Manda				
FB	Name:	AD.	A					Can be	interna	al 🗌		
De	scription											
				calibration of the actua								
Su	pport of this	inp	out is usually	only meaningful for 3-s	state mot	orized	air dampe	ers				
	tapoint Ty											
	PT_Name:		PT_Trigger									
	PT Format:	В					DPT_ID:					
Fie	eld		escription			Supp.	Range	Unit	Default			
b				lues trigger the start a	ration							
			the actuator	•								
Ac	cess Type											
•	♦ Input											
	$N \rightarrow this$			$1 \rightarrow \text{this}$								
	Spontaneo	us		Cyclically:			Time-	-out:				
	Request			Polling:			Perio	d:				
Ğ	mmunicati	on	Туре									
•	Group Ob	ject	Datapoint					Mandatory	<i>'</i> : 🛛			
	Default Gro	oup	Address:									
Dy	namics											
	Power dow	'n:	Save:									
	Power up:		Value:	No initialisation:		Defau	ılt value:					
				Saved value:								
						Read	from bus:					
Ex	ception Ha	ndl	ing									
Sp	ecial Featu	ıres	3									
								•				

### LTE-Mode

FB:	ADA	LTE Serve	er Input Name:	Calibration			Mandatory	Ор	tional 🖂
Desci	ription:								
			self calibration of						
Suppo	ort of this	input is usu	ally only meaning	gful for 3-stat	e motoriz	ed air dam	pers		
DPT:	Name	DPT_Trig	ger	DPT ID	1.017	Dataty	pe format	B <sub>1</sub>	
Field			Description	•	•	•	Sup.	Unit	Default
b			Both binary valu	es trigger the	e start a s	elf	М		
			calibration of the						
Comr	nunicatio	n:					<u>-</u>	-	-
Bind	ding Grou	ıp:							
Clas	SS		Туре			Default			
Ge	eographic	al 🖂	BuildingZone.Ro	om.Subzone	Э	1.1.1			
Ар	plication	Specific 🗌							
Ur	assigned	$\boxtimes$	Broadcast	Configura	able 🛚	OSV			
DP A	Address:		IO Type(ID):	362 (AD	A)	Property	ID:	70	
	-Service rite	(event):	Timeout:			Min			
Pro	perty-Ser	vice	Read only		Read/W	Vrite	read acc	ess is how	ever not
(ind	ividual a	ccess):	•				meaning	ıful	
Value	after Po	wer-up:	Defau	ılt Value 🗌			(	Stored Va	lue 🗌
Exce	otion Har	ndling:					Save at Po	wer-dowr	
Speci	ial Featur	es:							

# 3.3.6.7 Input Synchronization

DF	P Name:	me:  Synchronization						\bbr.:			Manda	tory		
FB	3 Name:	AD/	Ą								Can be	interna	al	
De	escription													
C	ontrol comm	and	to initiate ei	ther on	e singl	e-open	or si	ingle-c	lose sy	ynchroniza	ation of the	interna	l strok	e-
mo	odel. Suppor	rt of	this input is	usually	y only ı	meaning	gful f	or 3-st	tate mo	otorized ai	r dampers			
Da	tapoint Typ	эе												
	PT_Name:	DF	PT_Trigger											
DPT Format: B <sub>1</sub> DPT_ID: 1.017														
Fie	eld	escription				Supp.	Range	Unit	Defa	ult				
b	b Both binary values trigger the start													
		sy	nchronizatio	on of the	e strok	e mode	<u> </u>							
Ac	cess Type													
•	Input													
	$N \rightarrow this$			$1 \rightarrow th$	is									
	Spontaneo	us			Cyclic	ally:				Time-	-out:			
	Request				Pollin	g:				Perio	d:			
ŭ	ommunicati	on <sup>-</sup>	Гуре											
•	Group Ob	ect	Datapoint								Mandatory	/:		
	Default Gro	up .	Address:											
Dy	/namics													
	Power dow	n:	Save:											
	Power up:		Value:	No in	nitialisa	ition:			Defau	ılt value:				
				Save	d valu	e:								
									Read	from bus:	1			
Ex	ception Ha	ndli	ng											
Sp	ecial Featu	res												
	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·									

### LTE-Mode

FB:	ADA	LTE Serve	er Input Name:	Synchroniza	ation		Mandatory	Op	tional 🖂
Desci	ription:		,						
			e either one singl It is usually only r						stroke-
DPT:	Name	DPT_Trig	ger	DPT ID	1.017	Dataty	pe format	B <sub>1</sub>	
Field			Description				Sup.	Unit	Default
b			Both binary valu synchronization				M		
Comr	nunicatio	n:					<del>-</del>		-
Bind	ding Groւ	ıp:							
Clas	S		Type			Default			
Ge	ographic	al 🖂	BuildingZone.Ro	om.Subzone					
	plication :								
	assigned		Broadcast	Configura	ıble 🛚	OSV			
DP /	Address:		IO Type(ID):	362 (ADA	<b>A</b> )	Property	ID:	71	
LTE Wr	-Service ite	(event):	Timeout:			Min			
Pro	perty-Ser	vice	Read only		Read/W	/rite	nead acc	ess is how	ever not
(ind	ividual ad	ccess):					meaning	ıful	
Value	after Po	wer-up:	Defau	ılt Value 🗌			Ç	Stored Va	lue 🗌
Excep	otion Han	ndling:					Save at Po	wer-dowr	
Speci	al Featur	es:							
	•	•		•					

# 3.3.6.8 Output ActDamperPos

### **Standard Mode**

DP Name:	ActDamperPos		Abbr.:		Mandatory				
FB Name:	ADA				Can be internal				
Description									
Actuator statu	s information repr	esenting the effective	air damper p	osition (%).					
	the position inforn	nation: ~0.4%							
<b>Datapoint Ty</b>									
DPT_Name:	DPT_Scaling								
DPT Format:	U <sub>8</sub>			DPT_ID:	5.001				
Field	Description			Range Unit	Default				
			0	100 1) %	CS				
Access Type									
♦ Output									
this $\rightarrow$ M		nis $\rightarrow$ 1 $\Box$							
Spontaneo	ous 🛛 COV:			MinRepTime:					
	Cyclic	Period:	15 min	(recommende	ed value)				
Request									
Communicat									
	ject Datapoint			M	andatory:				
	oup Address:	<b></b>							
Dynamics									
Power dov	n: Save:								
Power up:	Value:	No initialisation:	Def	ault value:					
		Saved value:		ual value:	$\boxtimes$				
	Transmit on	bus:							
<b>Exception Ha</b>	ındling								
Special Featu									
The coding	of the actuator se	tpoint value is: 0% →	0 100% →	255					
COV is eithe	COV is either fixed or configurable via parameter "ActPosCOV"  MinRepTime is either fixed or configurable via parameter "ActPosMinRepTime"								
<sup>3)</sup> MinRepTime	e is either fixed or	configurable via para	meter "ActPo	sMinRepTime	,				
This Group O	oject may be map	ped internally to any o	f the four Ac	tPos LTE-Oเ	utput Properties				

### LTE-Mode

See 3.3.6.13 - 3.3.6.16

# 3.3.6.9 Output Fault

#### **Standard Mode**

DF	P Name:	Fau	ult				Abbr.	:		Manda	itory		
Ë	3 Name:	ΑD	A							Can be	e interna	al	
De	escription												
Bir	nary status i	nfor	rmation	to in	dicate a failure	of the ac	ctuator	, see a	lso "ActPo	s" outpu	ts		
Da	tapoint Ty												
	PT_Name:	D	PT_Boo	ol									
DF	PT Format:	B.	1						DPT_ID:	1.002			
Fie	eld	D	escripti	on					Supp.	Range	Unit	Defa	ult
										true/false	bool	fals	е
Ac	cess Type												
<b>♦</b>	Output												
	this $\rightarrow$ M		$\leq$		this $\rightarrow$ 1								
	Spontaneo	us	$ \boxtimes $	COV	/:	Delta-Va	ılue:		MinRepT	ime:	1)		
				Cycl	ic 🛛	Period:	-	15 min	(recomm	ended value	<del>e</del> )		
	Request		$\boxtimes$										
C	ommunicati	on '	Туре										
<b>♦</b>	Group Ob	ject	Datapo	oint						Mandator	y: 📗		
	Default Gro	oup	Addres	ss:									
Dy	namics												
	Power dow	n:	Save:	•									
	Power up:		Value	):	No initialisat				ault value:				
					Saved value	):	]	Actu	ıal value:		$\boxtimes$		
				mit o	n bus:								
Ex	ception Ha	ndl	ing										
	ecial Featu												
<sup>1)</sup> [	MinRepTime	e is	either fi	ixed o	or configurable	the reco	mmer	nded va	lue is 10s				

#### LTE-Mode

### 3.3.6.10 Output Overridden

#### **Standard Mode**

DP	Name:	Ove	<u>erridder</u>	n				Abb	r.:		-	Mand	latory	
FΒ	Name:	AD/	4									Can I	oe intern	al 🔲
De	scription													
Bir	nary status i	infor	mation	to ind	licate th	at the	actuato	r setpo	oint is	cur	rrently loc	ally overric	den, se	e also
"Ac	ctPos" o	utpu	ts											
Da	tapoint Ty	_												
	PT_Name:	_	PT_Bo	ol										
	T Format:	B <sub>1</sub>									DPT_ID:	1.002		
Fie	eld	De	escripti	on							Supp.	Range	Unit	Default
												true/false	bool	false
Ac	cess Type													
<b>♦</b>	Output													
	this $\rightarrow M$		◁	1	this $\rightarrow$ 1									
	Spontaneo	us	$\boxtimes$	COV	:	$\boxtimes$	Delta-\	/alue:			MinRepTi	ime:	1)	
				Cyclic	С	$\boxtimes$	Period:		15 m	in	(recomme	ended valu	ie)	
	Request		$\boxtimes$											
Со	mmunicati	ion	Гуре											
<b>♦</b>	Group Ob	ject	Datapo	oint								Mandato	ry:	
	Default Gro	oup /	Addres	ss: -										
Dy	namics													
	Power dow	/n:	Save:	:										
	Power up:		Value	<b>:</b> :	No init	tialisa	tion:		D	efa	ult value:			
					Saved	l value	e: [		A	ctua	al value:		$\boxtimes$	
			Trans	mit on	n bus:			$\boxtimes$						
Ex	ception Ha	ındli	ng											
	ecial Featu	ıres												
1) N	MinRepTime	e is e	either f	ixed o	r config	urable	e, the re	comme	nded	va	lue is 10s			
	•											-		

#### LTE-Mode

### 3.3.6.11 Output CalibrationMode

#### **Standard Mode**

DF	P Name:	Calib	oration	Mode			Abbr.	.:		Manda	atory	
FB	Name:	ADA								Can b	e intern	al 🗌
De	scription											
	nary status i			to indic	cate that the	actuator	is curr	ently ex	xecuting a	self-calibra	ation, se	e also
"A	ctPos" ou	utput	S									
	tapoint Typ											
	PT_Name:	DP	T_Sta	ate								
	PT Format:	B <sub>1</sub>							DPT_ID:	1.011		
Fie		De	scripti	on					Supp.	Range	Unit	Default
Sta	ate	0 =	Inact	ive								Inactive
		1 =	Activ	е								
Ac	cess Type											
<b>*</b>	Output											
	this $\rightarrow$ M		]	th	is $\rightarrow$ 1							
	Spontaneo	us		COV:		Delta-Va	alue:		MinRepTi	me:	1)	
	•			Cyclic		Period:	-	15 min		ended value	e)	
	Request				<u> </u>				,		,	
Cc	mmunicati	on T	уре									
•	Group Ob			oint						Mandator	γ: 🔲	
	Default Gro				-							
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value	:	No initialisa	tion:		Defa	ault value:			
				;	Saved value	e:		Actu	ıal value:		$\boxtimes$	
			Trans	mit on b	ous:	•						
Ex	ception Ha	ndlii	ng									
Sp	ecial Featu	res										
<sup>1)</sup> [	MinRepTime	is e	ither f	ixed or	configurable	e, the rec	ommer	nded va	lue is 10s			
	•											

### LTE-Mode

### 3.3.6.12 Output SynchronizationMode

#### **Standard Mode**

DF	P Name:	Synd	chroniz	zationM	ode		Abbr.	:	-	Mand	atory	
FB	Name:	ADA								Can b	e intern	al
De	scription											
	nary status i						is curre	ently ex	ecuting a	synchroni	zation of	the
str	oke model,	see a	also "A	ActPos	" outputs							
	tapoint Ty											
	PT_Name:	DP	T_Sta	ate								
	PT Format:	B <sub>1</sub>							DPT_ID:	1.011		
Fie		De	scripti	on					Supp.	Range	Unit	Default
Sta	ate	0 =	Inact	ive								Inactive
		1 =	Activ	е								
Ac	cess Type											
<b>*</b>	Output											
	this $\rightarrow$ M		]	th	is $\rightarrow$ 1							
	Spontaneo	us		COV:		Delta-Va	alue:		MinRepTi	me:	1)	
	•			Cyclic		Period:	1			ended valu	e)	
	Request			, ,								
Cc	mmunicati	on T	уре									
•	Group Ob			oint						Mandato	ry:	
	Default Gro										, <u> </u>	
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value	: I	No initialisa	tion:		Defa	ult value:			
				;	Saved value	e:		Actu	al value:		$\boxtimes$	
			Trans	mit on b	ous:							
Ex	ception Ha	ndlii	ng									
	-											
Sp	ecial Featu	ires										
<sup>1)</sup> [	MinRepTime	is e	ither f	ixed or	configurable	e, the rec	ommen	ded va	lue is 10s			
	•											

### LTE-Mode

# 3.3.6.13 Output ActPosFreshAir

FB: ADA LTE	E Serve	er Output Name:	ActPosFres	hAir		Ma	andatory L	Op	otional 🖂
Description:			<del>-</del>						
Actuator status info	rmation	n representing the	e effective dam	nper po	sition a	nd fur	her status	s attribut	es of the
Fresh Air damper.									
This output is active	e if "Da	mperMode" = 'Fro	esh Air'						
<b>DPT</b> : Name DP	PT_Stat	tusAct	DPT ID	207.10	)5 Da	atatype	e format	U <sub>8</sub> B <sub>8</sub>	
Field		Description		Sup.	Range	;	Unit	COV	Default
ActPos	a	ctual damper po	sition	M	full ra	ange	%	1)	CS
STATUS							bitset		
- Failure		ndicates that the a failure	actuator has	0	true/1	alse	Bit 0	Y	false
- ManualOverride	S	ndicates that the etpoint is current overridden		0	true/f	alse	Bit 1	Y	false
- CalibrationMode	ii	ndicates that the currently executin		0	0 = ina 1 = ac		Bit 2	Y	inactive
- ValveKick	r	alibration not meaningful for		NA			Bit 3	 Y	0
- SynchronizationM	S	ndicates that the currently executin synchronization of nodel	g a	0	0 = ina 1 = ac		Bit 4	Y	inactive
		ıll other attributes	•	NA					0
Communication:					<u>L</u>			<u>L</u>	
Binding Group:									
Class		Type				Defa	ıult		
Geographical	$\triangleright$	71	Room.Subzone	)		1.1.1			
Application Spec						Out	OfService		
Unassigned			Configu		<u> </u>		OfService		
DP Address:	•	IO Type(ID):	362 (ADA			perty I		55	
LTE-Services (ev	/ent):	cov 🕅	MinRepTir			sec		tbeat:	15 min
InfoReport `	Ø	Output per defa			Bind	ding G	roup Wild		wed $\square$
·		Tx Prio:	High 🗌		N	lormal	$\boxtimes$	Lo	
(LTE Read-Resp polling of the out shall always be supported)		Transm after P		ed Valu	e 🗌	Act Va	alue 🗵	Default \	/alue □
Property-Service (individual acces		Read only	$\boxtimes$	Read	/Write				
<b>Exception Handlin</b>	ıg:						Save	at Powe	rdown
<b>Special Features:</b>									
1) COV is either fixe 2) MinRepTime is ei	d or co	nfigurable via pa	rameter "ActPo	osCOV er "ActP	, PosMinf	RepTir	ne"		

# 3.3.6.14 Output ActPosSupplyAir

FB: ADA LIE Ser	ver Output Name: ActPosSupp	olyAir	Ma	andatory (	Op	otional 🔀
Description:	<u>-</u>		_			
Actuator status informati	on representing the effective dan	nper po	sition and fur	ther status	s attribut	es of the
Supply Air damper.						
This output is active if "D	amperMode" = 'Supply Air'					
<b>DPT:</b> Name DPT_St	atusAct DPT ID	207.10	Datatype	e format	U <sub>8</sub> B <sub>8</sub>	
Field	Description	Sup.	Range	Unit	COV	Default
ActPos	actual damper position	M	full range	%	1)	cs
STATUS				bitset		
- Failure	indicates that the actuator has	0	true/false	Bit 0	Υ	false
	a failure					
<ul> <li>ManualOverride</li> </ul>	indicates that the actuator	0	true/false	Bit 1	Υ	false
	setpoint is currently locally					
	overridden					
<ul> <li>CalibrationMode</li> </ul>	indicates that the actuator is	0	0 = inactive	Bit 2	Υ	inactive
	currently executing a self-		1 = active			
	calibration					
- ValveKick	not meaningful for ADA	NA		Bit 3		0
- SynchronizationMode	indicates that the actuator is	0	0 = inactive	Bit 4	Y	inactive
	currently executing a		1 = active			
	synchronization of the stroke					
	model					
	all other attributes	NA			<u> </u>	0
Communication:						
Binding Group:			ID (	1.		
Class	Type		Defa			
	BuildingZone.Room.Subzone		1.1.1			
	DistributionSegmentVentilation			OfService		
G.1.6.00.g.10.6	Broadcast Configu			<u>OfService</u>		
DP Address:	IO Type(ID): 362 (ADA		Property I		56	45 .
LTE-Services (event):			Sec		tbeat:	15 min
InfoReport 🖂	Output per default communic	ating L	Binding G			
/LTE Bood Boonson	Tx Prio: High		Normal		Lo	w 🔲
(LTE Read-Response	<del>*</del>					
polling of the output shall always be	Transm after Power-up: Store	ed Valu	e Act Va	alue 🛚	Default \	√alue 🔲
supported)	·					
Property-Service						
(individual access):	Read only	Read	/Write [			
Exception Handling:	<u> </u>			Sava	at Powe	rdown
				Jave	at i OWE	I GOWII
Special Features:						
	configurable via parameter "ActPo	nsCOV	"			
2) MinRenTime is either t	fixed or configurable via paramete	osoov ≥r "∆ct⊏	PosMinRenTir	ne"		

# ${\bf 3.3.6.15~Output~ActPosDischargeAir}$

FB: ADA LIE Ser	ver	Output Name: ActPosDisc	harge <i>P</i>	\ir	Ma	andatory (	Op	otional 🔀
Description:					-			
Actuator status informat	ion	representing the effective dam	nper po	sition ar	nd furt	her status	s attribut	es of the
Discharge Air damper.								
This output is active if "E	Dam	nperMode" = 'Discharge Air'						
<b>DPT:</b> Name DPT_S	tatu	isAct DPT ID	207.10	05 Da	tatype	e format	U <sub>8</sub> B <sub>8</sub>	
Field		escription	Sup.	Range		Unit	COV	Default
ActPos	ac	tual damper position	M	full ra	nge	%	1)	CS
STATUS						bitset		
- Failure	ind	dicates that the actuator has	0	true/fa	alse	Bit 0	Υ	false
		failure						
<ul> <li>ManualOverride</li> </ul>		dicates that the actuator	0	true/fa	alse	Bit 1	Υ	false
		tpoint is currently locally						
		verridden						
<ul> <li>CalibrationMode</li> </ul>		dicates that the actuator is	0	0 = ina	ctive	Bit 2	Υ	inactive
		rrently executing a self-		1 = act	ive			
		llibration						
- ValveKick	nc	ot meaningful for ADA	NA			Bit 3		0
- SynchronizationMode		dicates that the actuator is	0	0 = ina		Bit 4	Υ	inactive
		irrently executing a		1 = act	ive			
		nchronization of the stroke						
		odel						_
	all	other attributes	NA	<u> </u>			L	0
Communication:								
Binding Group:		I <b>—</b>						
Class		Туре			Defa			
Geographical		BuildingZone.Room.Subzone			1.1.1			
		DistributionSegmentVentilation				OfService		
Unassigned	$\boxtimes$	Broadcast Configu				<u>OfService</u>		
DP Address:		IO Type(ID): 362 (ADA			erty I		57	
LTE-Services (event)		COV MinRepTir			sec		tbeat:	15 min
InfoReport 🖂		Output per default communic	ating L			roup Wild		
# TE D     D		Tx Prio: High 🗌		N <sub>0</sub>	ormal	$\boxtimes$	Lo	w 📙
(LTE Read-Response	е							
polling of the output		Transm after Power-up: Store	ed Valu	е□ /	Act Va	alue 🖂	Default \	√alue 🗌
shall always be				• —				
supported)								
Property-Service		Read only	Read	/Write	Γ	7		
(individual access):		, –						. —
Exception Handling:						Save	at Powe	rdown
Special Features:		<i>c</i>	0.01	,				
2) Min Dan Ti	con	figurable via parameter "ActPo	osCOV	" >	· <del></del> ·	"		
VIVIDRED LIME IS EITHER	IIVA	o or configurable via paramete	ar ACT⊢	MUNION K	en i ir	116		

# 3.3.6.16 Output ActPosExtractAir

FB: ADA	LTE Ser	ver	Output Name: Ac	tPosExtra	actAir			Man	datory [	Op	tional 🛚
<b>Description:</b>			÷				-				
		on	representing the eff	ective dan	per po	sitio	n and	furth	er status	s attribute	es of the
Extract Air da											
			iperMode" = 'Extrac				_				
<b>DPT</b> : Nam	e DPT_St	_		DPT ID	207.10					U <sub>8</sub> B <sub>8</sub>	
Field			escription		Sup.	Rar			Jnit	COV	Default
ActPos		Αc	ctual damper position	n	M	ful	ll rang	e	%	1)	CS
STATUS									bitset		
- Failure			dicates that the actu failure	ator has	0	tru	ue/fals	е	Bit 0	Y	false
- ManualOve	rride		dicates that the actu	ator	0	tru	ıe/fals	е	Bit 1	Υ	false
		se	tpoint is currently lo	cally							
		οv	rerridden	•							
- CalibrationN	1ode	ind	dicates that the actu	ator is	0	0 =	inactiv	ve	Bit 2	Υ	inactive
		cu	rrently executing a	self-		1 =	active	:			
		ca	llibration								
<ul> <li>ValveKick</li> </ul>			t meaningful for AD		NA				Bit 3		0
- Synchroniza	ationMode		dicates that the actu	ator is	0	0 =	inactiv	ve	Bit 4	Υ	inactive
			rrently executing a			1 =	active	:			
		-	nchronization of the	stroke							
			odel								
		all	other attributes		NA						0
Communica											
Binding Gr	oup:										
Class			Туре					efau	lt		
Geograph		$\boxtimes$	BuildingZone.Roor					.1.1			
Applicatio		$\boxtimes$	DistributionSegme						Service		
Unassigne		$\boxtimes$	Broadcast	Configu					Service		
DP Addres			IO Type(ID):	362 (ADA		P	ropert			58	
LTE-Service				MinRepTin			<sup>2)</sup> sec			tbeat:	15 <u>min</u>
InfoRepor	t 🖂		Output per default		ating L	_    B				card allo	wed 📙
			Tx Prio:	High 🗌			Norn	nal 🛭	$\leq$	Lov	w 📙 💮
	d-Response	;									
polling of			Transm after Powe	er-up: Store	ed Valu	е П	l Act	t Valı	ue 🖂	Default \	/alue □
shall alwa			Transm and rowe	л ар. Сто.	oa vala	• Ш	, ,	· van	40 <u>C</u>	Dorault .	- u.u.o
supported											
Property-S			Read only		Read	/Wri	te				
(individual			,						10	. 5	
Exception H	andling:								Save	at Power	raown
Special Feat					00: "	,					
COV is eith	er fixed or	con	figurable via param	eter "ActPo	osCOV	, 	D	Τ.	. "		
/ Wilnken Lim	e is either f	IYA	a or contidurable vi:	a naramete	ュニ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	ハミハ	unkan	ııme	_		

### 3.3.6.17 Output ActAirFlow\_Percent

### **Standard Mode**

DP	Name:	Act/	\irFlow	v_Perc	ent		Abb	r.:			Ma	ındat	tory		$\boxtimes$
B	Name:	ADA	١								Ca	n be	interna	ıl	
De	scription														
		orma	ation r	eprese	enting the m	easured	l volume	tric air	flov	w in perce	nt of th	ne co	onfigure	:d	
_	minal flow.														
_	solution of t		-												
			availa	ble if "	ADAType"	= 'VAV'									
	tapoint Ty														
	T_Name:			cent_V	16										
	T Format:	V <sub>10</sub>								DPT_ID:	8.0				
Fie	ld	De	scripti	ion						Supp.	Rang	ge	Unit	Defa	ult
											cs 1	')	%	CS	<u> </u>
Ac	cess Type														
<b>♦</b>	Output		_												
	this $\rightarrow$ M				this → 1										
	Spontaneo	us		COV		Delta-	-Value:	2)		/linRepTin			3)		
				Cycli	c 🛛	Period	d:	15 mi	n (	recomme	nded va	alue)	)		
	Request		$\square$												
Co	mmunicati														
<b>♦</b>	Group Ob	ject l	Datapo	oint							Manda	atory	': <u> </u>		
_	Default Gro	oup A	Addres	ss: -											
•	namics														
	Power dow	n:	Save	-											
	Power up:		Value	<b>)</b> :	No initialis			De	efau	ılt value:					
					Saved val	ue:		Ac	tua	l value:					
				mit on	bus:										
Ex	ception Ha	ndli	ng												
Sp	ecial Featu	ires													
'' n	egative val	ues	and va	alues >	100% are	allowed;	typical	range (	0%	+120%	Ď				
					calculated										
<sup>3</sup> / N	/linRepTime	e is e	either f	ixed o	r configurat	ole via pa	aramete	· "ActF	low	MinRepTi	me"				

#### LTE-Mode

# ${\bf 3.3.6.18~Output~ActFlowFreshAir\_Percent}$

FB: ADA LTE Serv	er Output Name: I	<u>ActFlowFres</u>	shAir_F	Percent	Manda	tory 🛭	∠ Op	tional 🔝
Description:	-				•			
VAV status information re	presenting the mea	sured volum	etric Fr	esh Air f	low in pe	rcent	of the co	nfigured
nominal flow.								
Resolution of the air flow	value: 0.01%							
This output is active if								
- "ADAType" = 'VAV'								
- "DamperMode" = 'Fresh	ı Air'							
_	rcent_V16_Z	DPT ID	205.01		tatype for		$V_8Z_8$	
	Description		Sup.	Range	Un		COV	Default
	Actual air flow value	e (%)	M	cs <sup>1</sup>	)	%	2)	CS
STATUS					bi	tset		
- Fault	Flow measurement	fault	0	true/fa	ilse   B	it 1	Υ	false
	indicates that the se		0	true/fa	ilse   B	it 2	Υ	false
	is currently locally o	verridden						
	all other attributes		NA					0
Communication:								
Binding Group:								
Class	Туре				Default			
Geographical	BuildingZone.Ro	om.Subzone			1.1.1			
Application Specific [								
Unassigned	⊠ Broadcast □	Configu	rable 🗵		OutOfSe	rvice		
DP Address:	IO Type(ID):	362 (ADA	.)		erty ID:		59	
LTE-Services (event):	COV 🛛	MinRepTin	ne:	<sup>3)</sup> s	ес	Hear	tbeat:	15 min
InfoReport 🖂	Output per defau	It communic	ating [	Bindi	ng Group	Wild	card allo	wed 🗌
	Tx Prio:	High 🗌		No	ormal 🖂		Lov	N 🗌
(LTE Read-Response								
polling of the output	Transm after Pov	wer-un: Store	ule\/ ha		Act Value	$\square$	Default \	ا مبياد/
shall always be	Transmatter rov	wor up. Otore	o vala	о 🗀 ,	tot value		Dolault \	alde
supported)								
Property-Service	Read only		Read	/Write	⊠ (s	ensor	Override	e)
(individual access):	, , ,							
Exception Handling:					,	Save	at Power	down
Special Features:	1000'			00/	10001			
negative values and va								
<sup>2)</sup> COV is either fixed or c								
3) MinRepTime is either fi	xed or configurable	via paramete	er "Acth	iowiviinh	kep i ime"			

# ${\bf 3.3.6.19~Output~ActFlowSupplyAir\_Percent}$

FB: ADA LIE Serve	er Output Name: Ac	tFlowSup	plyAir_	_Percei	nt   Ma	andatory (	<u> </u>	tional 🔛
Description:	<del>-</del>				_			
VAV status information rep	presenting the measu	red volume	etric Su	ipply Ai	r flow	in percen	t of the c	onfigured
nominal flow.								
Resolution of the air flow v	/alue: 0.01%							
This output is active if								
- "ADAType" = 'VAV'								
- "DamperMode" = 'Supply		_						
	cent_V16_Z	DPT ID	205.01				$V_8Z_8$	
	Description		Sup.	Range	4.	Unit	COV	Default
	Actual air flow value (	%)	M	CS	1)	%	2)	CS
STATUS						bitset		
	Flow measurement fa		0	true/f		Bit 1	Υ	false
	ndicates that the sens		0	true/f	alse	Bit 2	Υ	false
	s currently locally ove	erridden						•
	all other attributes		NA				<u> </u>	0
Communication:								
Binding Group:	_							
Class	Type				Defa			
Geographical	BuildingZone.Roor	n.Subzone			1.1.1	<u> </u>		
Application Specific	<u></u>		<u></u>	<b></b>				
Unassigned $\succeq$		Configu				OfService		
DP Address:	IO Type(ID):	362 (ADA			erty II		60	
LTE-Services (event):		MinRepTin			sec		tbeat:	15 min
InfoReport 🖂	Output per default		ating L			roup Wild	card allo	wed 📙
	Tx Prio:	High 🗌		N	ormal	$\boxtimes$	Lov	N $\square$
(LTE Read-Response								
polling of the output	Transm after Powe	er-up: Store	ed Value	eП	Act Va	alue 🖂	Default \	/alue □
shall always be	Transmans rows	. ар. Отого	o raia	<b>°</b> Ш			Doiaun .	, a.a.c
supported)								
Property-Service	Read only		Read	/Write		(senso	r Overrid	e)
(individual access):						0	-1 D	·
Exception Handling:						Save	at Power	down
Chariel Factures								
Special Features:	usa > 1000/ ana alla	امطر السياد عا	*****	00/	4200	,		
negative values and values						0		
						mo"		
3) MinRepTime is either fix	ted of configurable via	a paramete	i ACLF	IOWIVIII	керп	IIIE		

### 3.3.6.20 Output ActFlowDischargeAir\_Percent

FB: ADA	LTE Serv	er Output Name:	ActFlowDisch	nargeAi	r_Percent Ma	andatory [	⊠ Op	tional 🗌
Description:								
		epresenting the me	asured volum	etric Di	scharge Air fl	ow in per	cent of th	е
configured non								
Resolution of the		value: 0.01%						
This output is a								
- "ADAType" =								
- "DamperMod			T	T	1_			
DPT: Name		rcent_V16_Z	DPT ID	205.01			$V_8Z_8$	
Field		Description	(2.1)	Sup.	Range	Unit	COV	Default
Value_Percent		Actual air flow valu	ıe (%)	M	CS 1)	%	2)	CS
STATUS				_		bitset		
- Fault		Flow measuremen		0	true/false	Bit 1	Y	false
- Overridden		indicates that the s		0	true/false	Bit 2	Υ	false
		is currently locally	overridden	NIA.				_
0		all other attributes		NA		-	<u> </u>	0
Communication								
Binding Gro Class	up:	T			Defe	14		
	ol F	Type ☑ BuildingZone.R	aam Cubaana		Defa 1.1.1			
Geographic Application		Bullulligzone.K	OUIII.SUDZUIIE	!		l		
Unassigned	<i>3</i> <u></u>	Broadcast	Configu	rabla N	7 0+0	OfService		
DP Address		IO Type(ID):	362 (ADA		Property I		61	
LTE-Service		COV 🕅	MinRepTir		3) sec		tbeat:	15 min
InfoReport		Output per defa			Binding G			
mortoport		Tx Prio:	High	ating L	Normal		Lov	
(LTE Read-	Response		1 II 911 🗀		Homai			···
polling of th			0.			. 🖂	5 ( 1/)	,, ,
shall always		Transm after Po	ower-up: Store	ed Valu	e	alue 🛚	Default \	/alue 🔲 📗
supported)								
Property-Se		Read only	П	Read	/Write	(senso	r Overrid	(م
(individual a		read only		rtcau	/ Will 2			,
Exception Ha	ndling:					Save	at Power	down
Special Featu								
		lues > 100% are al				Ď		
		an be calculated fr				,		
MinRepTime	is either fi	xed or configurable	e via paramete	er "Acth	lowMinRepTi	me"		

# ${\bf 3.3.6.21\ Output\ ActFlowExtractAir\_Percent}$

FB: ADA	LTE Serve	er Output Name:	ActFlowExtr	actAir_	_Percer	t Man	datory [	oxtimes Op	tional 🔝	
Description:		_				-				
VAV status information representing the measured volumetric Extract Air flow in percent of the configured										
nominal flow.										
Resolution of th		alue: 0.01%								
This output is a										
- "ADAType" =										
- "DamperMode										
<b>DPT:</b> Name		cent_V16_Z	DPT ID	205.01		tatype f		$V_8Z_8$		
Field		Description		Sup.	Range	U	nit	COV	Default	
Value_Percent	P	Actual air flow valu	e (%)	M	cs 1		%	2)	CS	
STATUS							bitset			
- Fault		low measurement		0	true/fa		Bit 1	Υ	false	
- Overridden		ndicates that the s		0	true/fa	alse	Bit 2	Υ	false	
		s currently locally	overridden						•	
		Ill other attributes		NA				<u> </u>	0	
Communication										
Binding Grou	ıp:	T_								
Class		Туре				Defaul	t			
Geographica		BuildingZone.Ro	oom.Subzone			1.1.1				
Application S		<u> </u>			<del></del>					
Unassigned	$\geq$		Configu				Service			
DP Address:		IO Type(ID):	362 (ADA			erty ID:		62		
LTE-Services	· <u> </u>	COV 🗵	MinRepTin			ec		tbeat:	15 min	
InfoReport	$\boxtimes$	Output per defa		ating L				card allo	wed 📙	
	_	Tx Prio:	High 🗌		No	ormal 🔀	1	Lov	N	
(LTE Read-I										
polling of the		Transm after Po	wer-up: Store	ed Valu	еП А	Act Valu	ıe 🖂	Default \	/alue □	
shall always	be		'		_		_		_	
supported)	vice									
Property-Ser (individual ad		Read only		Read	/Write	$\boxtimes$	(sensoi	Overrid	e)	
Exception Han		<u>. I</u>					Save	at Power	down 🗌	
Special Featur	es:									
		ues > 100% are all	lowed; typical	range	0% +	120%				
2) COV is either		n be calculated fro								
		ed or configurable					e"			

# 3.3.6.22 Output ActAirFlow\_m3h

### **Standard Mode**

DP Name:	Α	ctAiı	tAirFlow_m3h Abbr.: Mandatory												
FB Name:	Α	DA										Can b	e interna	al	
Description	n														
VAV status	infor	rmat	ion re	eprese	nting t	he me	asured v	olume	tric ai	r flo	w in m³/h.				
<b>T</b> 1.12 - 12			!! . !		A D A T	"	0.741.0								
This output		_	valla	bie it "/	ADATY	/pe" =	'VAV'								
Datapoint			- \ / -	- \/-											
DPT_Nam			_vai	ue_Vo	iume_	Flux				- 1	DDT ID	44.07	,		
DPT Forma		F <sub>32</sub>									DPT_ID:	14.077		D (	
Field		Des	Description Supp. Range Unit Default cs 1) % cs												
A T		cs ''   %   cs													
Access Ty	•														
♦ Output		1 5 7				. 1									
this $\rightarrow$ 1					his $\rightarrow$				10)				10)		
Spontai	neous	S	$\bowtie$	COV:		$\boxtimes$	Delta-Va	alue:	2)		/linRepTim		3)		
				Cyclic	;	$\boxtimes$	Period:		15 m	in (	recommer	nded value	e)		
Reques			$\boxtimes$												
Communi			•												
♦ Group	Obje	ct D	atapo	pint								Mandator	y:		
Default		р Ас	ddres	s:											
<b>Dynamics</b>															
Power of	down:	:   5	Save:												
Power u	лр:	\	/alue	:	No ini	tialisa	tion:		D	efau	ılt value:				
					Saved	d value	e: [			ctua	l value:				
				mit on	bus:										]
<b>Exception</b>	Han	dling	g												
Special Fe															
1) according	g to th	he V	'AV c	haract	eristics	3									
<sup>2)</sup> COV is e	ither	fixed	d or c	an be	config	ured v	ia param	eter "	ActFlo	wC(	OV"				
3) MinRepT	MinRepTime is either fixed or configurable via parameter "ActFlowMinRepTime"														

#### LTE-Mode

# ${\bf 3.3.6.23~Output~ActFlowFreshAir\_m3h}$

FB: ADA LTE	Server	Output Name: Ac	ctFlowFres	shAir_r	n3h	Ma	ndatory L	Op	tional 🔀			
Description:												
VAV status informati			ired volume	etric Fre	esh Air f	low in	ı m³/h.					
Resolution of the air		llue: 0.0001 m <sup>3</sup> /h										
This output is active												
- "ADAType" = 'VAV												
- "DamperMode" = 'F	resh A	ir'										
	T_Flowl	Rate_m3/h_Z	DPT ID	218.00		atype		$V_{32}Z_{8}$				
Field	De	escription		Sup.	Range		Unit	COV	Default			
Value	Ac	tual air flow value		M	cs <sup>1</sup>	)	m³/h	2)	cs			
STATUS							bitset					
- Fault	Flo	ow measurement fa	ult	0	true/fa	lse	Bit 1	Υ	false			
- Overridden	ind	dicates that the sens	sor value	0	true/fa	lse	Bit 2	Υ	false			
	is	currently locally over	ntly locally overridden									
	all	other attributes		NA					0			
Communication:	<u>-</u>											
Binding Group:												
Class		Type				Defa	ult					
Geographical	$\boxtimes$	BuildingZone.Roor	n.Subzone			1.1.1						
Application Spec	ific 🔲											
Unassigned		Broadcast	Configur	rable 🗵	]	OutC	)fService					
DP Address:		IO Type(ID):	362 (ADA	.)		erty II	D:	63				
LTE-Services (eve	ent):	COV 🛛	MinRepTin	ne:	<sup>3)</sup> S	ес	Hear	tbeat:	15 min			
InfoReport	$\boxtimes$	Output per default	communica	ating [	Bindi	ng Gr	oup Wild	card allo	wed 🗌			
		Tx Prio:	High 🗌		No	rmal	$\boxtimes$	Lov	N $\square$			
(LTE Read-Resp												
polling of the out	out	Transm after Powe	ar-un. Store	ساد/۱ ام		Act Va	lue 🖂 🗆	Default \	/alue □			
shall always be		Transmatter rowe	er-up. Otore	u valu		ici va	iide 🖂	Delault	raide			
supported)												
Property-Service		Read only	]	Read	/Write	$\triangleright$	(sensor	Overrid	e)			
(individual access			1				_ `		<u> </u>			
Exception Handling	g:						Save	at Power	down			
Special Features:												
according to the V			. "		00\("							
<sup>2)</sup> COV is either fixed or can be configured via parameter "ActFlowCOV" <sup>3)</sup> MinRepTime is either fixed or configurable via parameter "ActFlowMinRepTime"												
" MinRepTime is eit	her fixe	d or configurable via	a paramete	er "ActF	IowMinF	кер Гіі	me"					

# ${\bf 3.3.6.24~Output~ActFlowSupplyAir\_m3h}$

FB: ADA LTE	Server	Output Name: Ac	ctFlowSup	plyAir_	_m3h	Ma	ndatory L	Op	tional 🔀	
Description:		<u>-</u>				-				
VAV status information representing the measured volumetric Supply Air flow in m <sup>3</sup> /h.										
Resolution of the air t		llue: 0.0001 m <sup>3</sup> /h								
This output is active i	f									
- "ADAType" = 'VAV'										
- "DamperMode" = 'S										
		Rate_m3/h_Z	DPT ID	218.00				$V_{32}Z_{8}$		
Field		escription			Range		Unit	COV	Default	
Value	Ac	tual air flow value		M	cs 1	)	m³/h	2)	CS	
STATUS							bitset			
- Fault		ow measurement fa		0	true/fa		Bit 1	Υ	false	
- Overridden	ind	dicates that the sens	sor value	0	true/fa	lse	Bit 2	Υ	false	
		currently locally ove	erridden							
	all	other attributes		NA					0	
Communication:										
Binding Group:										
Class		Type				Defa	ult			
Geographical	$\square$	BuildingZone.Roor	n.Subzone			1.1.1				
Application Specif										
Unassigned	$\boxtimes$	Broadcast	Configur	able 🗵		OutC	)fService			
DP Address:		IO Type(ID):	362 (ADA	.)		erty ID		64		
LTE-Services (eve	nt):		MinRepTin			ес		tbeat:	15 min	
InfoReport	$\boxtimes$	Output per default	communica	ating [	Bindi	ng Gr	oup Wild	card allo	wed 🗌	
		Tx Prio:	High 🗌		No	rmal	$\boxtimes$	Lov	N 🗌	
(LTE Read-Respo										
polling of the outp	ut	Transm after Powe	ar-un: Store	d Valu		Act Va	lue 🖂 🗆	Default \	/alue □	
shall always be		Transmator rowe	or up. Otore	a vala	о ,	ioi va		Doladit	raide	
supported)										
Property-Service		Read only	]	Read	/Write	$\triangleright$	(sensor	Overrid	e)	
(individual access		, _					_ `		<u> </u>	
<b>Exception Handling</b>	:						Save	at Power	down	
Special Features:										
according to the VA					001/					
<sup>2)</sup> COV is either fixed or can be configured via parameter "ActFlowCOV" <sup>3)</sup> MinRepTime is either fixed or configurable via parameter "ActFlowMinRepTime"										
' ™inRepTime is eith	er fixe	d or configurable via	a paramete	r "ActF	IowMinF	≀ep l'iı	me"			

# ${\bf 3.3.6.25~Output~ActFlowDischargeAir\_m3h}$

FB: ADA   LTE S	erver	Output Name: ActFl	owDisc	harge	Air_m3h	ı   Ma	Indatory L	Op	tional 🔀	
Description:						-				
	VAV status information representing the measured volumetric Discharge Air flow in m <sup>3</sup> /h.									
Resolution of the air fl	ow va	ılue: 0.0001 m³/h								
This output is active if										
- "ADAType" = 'VAV'										
- "DamperMode" = 'Di	schar	ge Air'								
<b>DPT</b> : Name DPT_	Flow	Rate_m3/h_Z DF	PT ID	218.00	)2 Dat	atype	format	$V_{32}Z_{8}$		
Field	De	escription		Sup.	Range		Unit	COV	Default	
Value	Ad	ctual air flow value		М	cs <sup>1</sup>	)	m³/h	2)	CS	
STATUS							bitset		1	
- Fault	FI	ow measurement fault		0	true/fa	lse	Bit 1	Υ	false	
- Overridden	in	dicates that the sensor	value	0	true/fa	lse	Bit 2	Υ	false	
	is	currently locally overric	dden							
	al	other attributes		NA					0	
Communication:	-									
Binding Group:										
Class		Туре				Defa	ult			
Geographical	$\boxtimes$	BuildingZone.Room.S	ubzone			1.1.1				
Application Specific										
Unassigned		Broadcast (	Configur	able 🗵		OutC	)fService			
DP Address:		IO Type(ID): 36	2 (ADA	)	Prope	erty II	D:	65		
LTE-Services (ever	t):	COV 🛛 Min	RepTim	ne:	<sup>3)</sup> S	ес	Hear	tbeat:	15 min	
InfoReport	$\times$	Output per default con	nmunica	ating [	Bindi	ng Gr	oup Wild	card allo	wed 🗌	
		Tx Prio:	ligh 🔲		No	rmal	$\boxtimes$	Lov	w 🔲	
(LTE Read-Respor										
polling of the outpu	t	Transm after Power-u	n. Store	براد// ام	_ Π Δ	ot Vs	alue 🖂 🗆	Default \	/alue □	
shall always be		Transmatter rower-u	p. Otore	u valu		ici ve		Delault V	/aide	
supported)										
Property-Service		Read only		Read	/Write	Б	(sensor	Overrid	e)	
(individual access)		,					_ `			
<b>Exception Handling:</b>							Save	at Power	:down	
Special Features:										
according to the VA					001 /"					
<sup>2)</sup> COV is either fixed or can be configured via parameter "ActFlowCOV" <sup>3)</sup> MinRepTime is either fixed or configurable via parameter "ActFlowMinRepTime"										
MinRepTime is eithed	er fixe	d or configurable via pa	aramete	r "ActF	IowMinF	≀epTi	me"			

# ${\bf 3.3.6.26\ Output\ ActFlowExtractAir\_m3h}$

FB: ADA LTE	Server	Output Name: Ad	ctFlowExtr	actAir_	_m3h	Ma	ndatory L	Op	tional 🔀			
Description:												
VAV status informati			ired volume	etric Ex	tract Air	flow i	in m³/h.					
Resolution of the air	flow va	llue: 0.0001 m <sup>3</sup> /h										
This output is active												
- "ADAType" = 'VAV'												
- "DamperMode" = 'E	Extract A	Air'										
<b>DPT</b> : Name DPT	$\Gamma_{-}$ Flowl	Rate_m3/h_Z	DPT ID	218.00	)2 Dat	atype	format	$V_{32}Z_{8}$				
Field	De	escription		Sup.	Range		Unit	COV	Default			
Value	Ac	tual air flow value		M	cs <sup>1</sup>	)	m³/h	2)	CS			
STATUS							bitset					
- Fault	Fle	ow measurement fa	ult	0	true/fa	lse	Bit 1	Υ	false			
- Overridden	ind	dicates that the sens	sor value	0	true/fa	lse	Bit 2	Υ	false			
	is	currently locally over	ntly locally overridden									
	all	other attributes		NA					0			
Communication:	<del></del>											
Binding Group:												
Class		Type				Defa	ult					
Geographical	$\boxtimes$	BuildingZone.Roor	n.Subzone			1.1.1						
Application Speci	ific 🗌											
Unassigned	$\boxtimes$	Broadcast	Configur	rable 🗵	]	OutC	Service					
DP Address:		IO Type(ID):	362 (ADA	.)		erty II	D:	66				
LTE-Services (eve	ent):	COV 🛛	MinRepTin	ne:	<sup>3)</sup> S	ес	Hear	tbeat:	15 min			
InfoReport	$\boxtimes$	Output per default	communica	ating [	Bindi	ng Gr	oup Wilde	card allo	wed 🗌			
		Tx Prio:	High 🗌		No	rmal	$\boxtimes$	Lov	w $\square$			
(LTE Read-Respo												
polling of the outp	out	Transm after Powe	ar-un. Store	ساد/۱ ام		ct Va	alue 🖂 🛚 I	Default \	/alue □			
shall always be		Transmatter rowe	er-up. Otore	u valu		ici va	ilue 🖂 🗀	Jelault V	/aide			
supported)												
Property-Service		Read only	]	Read	/Write	$\triangleright$	(sensor	Overrid	e)			
(individual access			1				_ `					
Exception Handling	g:						Save	at Power	:down			
Special Features:												
according to the V			. "		00\("							
<sup>2)</sup> COV is either fixed or can be configured via parameter "ActFlowCOV" <sup>3)</sup> MinRepTime is either fixed or configurable via parameter "ActFlowMinRepTime"												
MinRepTime is eith	ner fixe	d or configurable via	a paramete	r "ActF	IowMinF	≀ep l'ii	me"					

# 3.3.6.27 Output ActSetpExtractAir

FB: ADA	LTE Clie	nt (	Output Name:	ActSetpExtr	actAir		Ma	andatory L	Op	tional 🔀
<b>Description:</b>	_						-			
Output of the	VAV Maste	er to	control the Extr	act Air volume	e setpo	int (% )	of the	VAV Sla	ve	
Resolution of	the setpoin	nt: 1	%							
This input is o		f								
- "ADAType" :	= 'VAV'									
- "DamperMo	de" = 'Discl	harg	ge Air'							
- "MasterSlav	eMode" = 'l	Mas	ster'							
The value of o	output ActS	etp	ExtractAir follow	s the effective	currer	nt value	of the	discharg	e air flov	٧.
<b>DPT</b> : Nam	e DPT_Re	elVa	alue_Z	DPT ID	202.00	)1 Da	tatype	e format	$U_8Z_8$	
Field		De	escription		Sup.	Range		Unit	COV	Default
Value			tract air flow set		M	full ra	nge	%	1)	CS
		for	the connected \	VAV slave						
COMMAND								enum		
- NormalWrite	<b>)</b>		ed for normal ru	ıntime	M	0				
			mmunication							
- all other con	nmands	no	t applicable		NA					
Communicat	ion:									
Binding Gr	oup:									
Class			Туре				Defa	ıult		
Geograph	cal	$\boxtimes$	BuildingZone.R	oom.Subzone			1.1.1			
Application	n Specific									
Unassigne	ed	$\boxtimes$	Broadcast	Configui	rable 🗵		Out	OfService		
DP Address	s:		IO Type(ID):	362 (ADA	.)	Prop	erty II	D:	53	
LTE-Servic	es (event):	:	COV 🛛	MinRepTin	ne:	5	sec	Hear	tbeat:	15 min
Write	$\boxtimes$	Ī	Output per defa	ult communica	ating [	Bind	ing G	roup Wild	card allo	wed 🗌
		Ī	Tx Prio:	High 🗌		N	ormal	$\boxtimes$	Lo	w 🗌
			Transm after Po	ower-up: Store	ed Valu	e 🔲 📝	Act Va	alue 🛚	Default \	√alue 🗌
Exception Ha	andling:			•				Save	at Powe	rdown
Special Feat	ures:									
		can	be calculated from	om parameter	"ActFlo	owCOV	,,			
				•						

### 3.3.6.28 Parameter-set GeographicalZone

LTE GeographicalZone consists of 3 properties belonging together.

### 3.3.6.28.1 Parameter BuildingZone

FB: ADA Proper	ty Name (Server): BuildingZone		Mandator	у 🛛 О	ptional
Description:					
Part of LTE Geographica	IZone parameter -> BuildingEntity (Floor	, Apartme	ent, Building	section et	c.)
<b>DPT</b> : Name DPT_U	countValue8_Z DPT ID 202.00	2 Data	type format	$U_8Z_8$	
Field	Description	Sup.	Range	Unit	Default
CounterValue	Number of the BuildingZone	M	1126		1
STATUS - OutOfService - all other bits	zone active / inactive not supported, fixed to '0'	O NA	true/false	Bitset Bit 0	false 0
COMMAND				enum	
- NormalWrite		М	0		
- SetOSV & ResetOSV	Set zone inactive / active	0	3 / 4		
- all other commands	not supported	NA			
Communication:					
DP Address:	IO Type(ID): 362 (ADA)	Proper	•	101	
(in the server)	Start-Index: 1	N° of e	lements	1	
Property access:	Read only Read/V		$\boxtimes$		
Protection	Read level -	Write le	evel	-	
Exception Handling:	Value after Power-up: Stored Value ∑	Act Va	lue 🗌 Det	fault Value	e 🗌
Special Features:					
	icating in the GeographicalZone if zone is ervice' also the corresponding Room and flag)				

#### 3.3.6.28.2 Parameter Room

FB: AD	A Proper	ty Name ( <u>Server</u> ):	Room			Mandator	y 🛛 O	ptional
Descripti	ion:					<del></del>		
Part of LT	TE Geographica	IZone parameter -> F	Room within	ո Building	Zone			
DPT: 1	Name DPT_U	countValue8_Z	DPT ID	202.002	2 Data	atype format	$U_8Z_8$	
Field		Description			Sup.	Range	Unit	Default
CounterV	alue	Room number			M	163		1
STATUS							Bitset	
- OutOfSe		zone active / inactive	~		0	true/false	Bit 0	false
- all other		not supported, fixed	to '0'		NA			0
COMMAN							enum	
- Normal\					М	0		
	& ResetOSV	Set zone inactive / a	ctive		0	3 / 4		
- all other	commands	not supported			NA			
Commun								
DP Add	lress:	IO Type(ID):	362 (ADA	١)	Prope	rty ID:	102	
(in the	server)	Start-Index:	1		N° of e	elements	1	
Propert	y access:	Read only	]	Read/W	/rite	$\boxtimes$		
Protect	ion	Read level	-		Write I	evel	-	
Exceptio	n Handling:	Value after Power-u	p: Stored	Value ⊠	Act Va	alue 🗌 🛮 Def	fault Value	
Special F	eatures:							
		icating in the Geogra						
BuildingZ	one is 'OutOfSe	ervice' also the corres	ponding R	oom and	Subzon	e parameters	are	
'OutOfSe	rvice' (common	flag)						

#### 3.3.6.28.3 Parameter Subzone

FB: ADA	Pro	pert	y Name ( <u>Server</u> ):	Subzone				Mandator	у 🛛 О	ptional
Description:	<u>-</u>							<del>-</del>		
Part of LTE C	Geograph	nical	Zone parameter -> S	ubzone wi	ithin Build	ingZ	one.	.Room		
<b>DPT</b> : Nam	e DPT	_Uc	ountValue8_Z	DPT ID	202.002	2 [	Data	type format	$U_8Z_8$	
Field			Description			Suj	р.	Range	Unit	Default
CounterValue	)		Subzone number			M		115		1
STATUS									Bitset	
- OutOfServio	e		zone active / inactive	)		Ο		true/false	Bit 0	false
- all other bits	) 		not supported, fixed	to '0'		N/	4			0
COMMAND									enum	
- NormalWrite	9					M		0		
- SetOSV & F	ResetOS'	V	Set zone inactive / a	ctive		0	)	3/4		
- all other cor	nmands		not supported			N/	4			
Communica	tion:				•				-	•
DP Addres	s:		IO Type(ID):	362 (ADA	۸)	Pro	pert	y ID:	103	
(in the serv	er)		Start-Index:	1		N° (	of el	ements	1	
Property a	ccess:		Read only		Read/W	/rite		$\boxtimes$		
Protection			Read level	-		Wri	te le	evel	-	
<b>Exception H</b>	andling:		Value after Power-up	: Stored	Value 🖂	Act	: Val	ue 🗌 Def	ault Value	)
<b>Special Feat</b>	ures:									
ADA is not L	TE comm	nuni	cating in the Geograp	ohical Zone	if zone is	G'Ou	tOfS	Service'. If pa	rameter	
BuildingZone	is 'OutO	fSe	rvice' also the corres	ponding R	oom and	Subz	zone	parameters	are	
'OutOfServic	e' (comm	on t	flag)							

### 3.3.6.29 Parameter GeneralPeripheralZone

FB: ADA Pro	pert	y Name ( <u>Server</u> ):	G	eneralPer	ipheralZ	one	Mandato	ry 🗌 O	ptional⊠	
Description:							-			
LTE general periphe	ral zo	ning information								
<b>DPT</b> : Name DP	T_Uc	ountValue16_Z		DPT ID	203.012	2 Data	atype format	$U_{16}Z_{8}$		
Field		Description				Sup.	Range	Unit	Default	
CounterValue		number of general	ре	ripheral zo	ne	M	full range			
STATUS - OutOfService zone active / inactive - all other bits not supported, fixed to '0'						O NA	true/false	Bitset Bit 0	true 0	
COMMAND - NormalWrite - SetOSV & ResetOS - all other commands		Set zone inactive /	ac	ctive		M O NA	0 3/4	enum		
Communication:	·						-	=	-	
DP Address: (in the server)		IO Type(ID): Start-Index:		362 (ADA)	)	Prope N° of e	rty ID: elements	104 1		
Property access:		Read only			Read/W	rite/	$\boxtimes$			
Protection		Read level		-		Write I	evel	-		
<b>Exception Handling</b>	<b>j</b> :	Value after Power-	-up	: Stored	Value 🛚	Act Va	alue 🔲 Def	ault Value		
		_			•			•		
Special Features:										
ADA is not LTE communicating in the General Peripheral Zone if zone is 'OutOfService'.										

### 3.3.6.30 Parameter DistributionSegmentVentilation

FB: ADA	Proper	ty Name ( <u>Server</u> ):	Distribution	Segment	/entilati	on   Mandato	ry ∐ O	ptional⊠
Description:			-					
LTE zoning infor	mation \	entilation Distribution	on Segment					
<b>DPT:</b> Name	DPT_U	countValue8_Z	DPT ID	202.002	Data	atype format	$U_8Z_8$	
Field		Description			Sup.	Range	Unit	Default
CounterValue		Segment number			M	131		
STATUS						Bitset		
<ul> <li>OutOfService</li> </ul>		zone active / inactive	ve		0	true/false	Bit 0	true
- all other bits		not supported, fixed	d to '0'		NA			0
COMMAND							enum	
<ul> <li>NormalWrite</li> </ul>					M	0		
- SetOSV & Rese	etOSV	Set zone inactive /	active		0	3/4		
- all other comma	ands	not supported			NA			
Communication	):							
DP Address:		IO Type(ID):	362 (ADA	.)	Proper		105	
(in the server)		Start-Index:	1		N° of e	elements	1	
Property acce	ss:	Read only		Read/W	rite	$\boxtimes$		
Protection		Read level	-		Write I	evel	-	
<b>Exception Hand</b>	lling:	Value after Power-	up: Stored	Value 🛚	Act Va	lue 🗌 Dei	fault Value	<b>=</b>
<b>Special Feature</b>	s:							
ADA is not LTE of	commun	icating in the Distrib	ution Segme	nt Ventila	ation if z	one is 'OutO	fService'.	

### 3.3.6.31 Parameter DamperMode

FB:	ADA	Propert	y Name ( <u>Server</u> ):	Dam	perMo	ode		Mandato	ry 🗌 O	ptional🛛		
Desc	ription:		-					<del>-</del>				
			select the ventilation	n app	olicatio	n and the	runtime	e interworking	j interface	, if ADA		
suppo	orts more th	nan one a	pplication scheme.									
DPT:	Name	DPT_Da	mperMode	DF	PT ID	20.109	Data	atype format	$N_8$			
Field			Description				Sup.	Range	Unit	Default		
			- 1: Fresh Air 1)				0	14	enum	1 or 4		
			- 2: Supply Air				0					
			- 3: Discharge Air 2)				0					
	- 4: Extract Air O											
Comr	nunication	າ:						-	-			
DP A	Address:		IO Type(ID):	362	2 (ADA	١)	Proper	ty ID:	111			
(in t	he server)	)	Start-Index:	1			N° of e	elements	1			
Pro	perty acce	ss:	Read only			Read/W	/rite	$\boxtimes$				
Prof	tection		Read level	-			Write I	evel	-			
Exce	otion Hand	lling:	Value after Power-เ	ip: S	Stored	Value 🖂	Act Va	lue 🗌 Def	ault Value	<del>-</del>		
Speci	ial Feature	s:										
1) defa	ault for fan	coil applic	cations							•		
2) defa	ault for VA\	/ applicat	ions									

# 3.3.6.32 Parameter ADAType

FB:	ADA	Propert	ty Name ( <u>Server</u> ):	ADAType			Mandato	ry 🗌 O	ptional🛛
Descr	iption:	<b>-</b>	-				-		
This p	arameter is	s used to	select the effective	air damper	or VAV fu	unctiona	lity and the ru	untime	
interw	orking inter	rface of I	FB ADA.						
DPT:	Name	DPT_AD	АТуре	DPT ID	20.120	Data	atype format	N <sub>8</sub>	
Field			Description			Sup.	Range	Unit	Default
			- 0: reserved			NA	12	enum	1
			- 1: 'Air Damper' (de	efault)		0			
			- 2: 'VAV'			Ο			
			- 3 255: reserved			NA			
Comn	nunication	1:			•		-	<u>-</u>	-
DP A	Address:		IO Type(ID):	362 (AD/	۹)	Proper	ty ID:	112	
(in t	he server)		Start-Index:	1		N° of e	elements	1	
Prop	perty acces	ss:	Read only		Read/W	/rite	$\boxtimes$		
Prot	ection		Read level	-		Write I	evel	-	
Excep	otion Hand	lling:	Value after Power-u	ip: Stored	l Value 🖂	Act Va	lue 🗌 Def	ault Value	<del>-</del>
	<u>'</u>		<u> </u>		<u>'</u>	·	·		
Speci	al Feature	s:							
		•	•	•			•	•	

### 3.3.6.33 Parameter MasterSlaveMode

FB:	ADA	Propert	y Name ( <u>Server</u> ):	MasterSla	veMode		Mandato	ry 🗌 O	ptional⊠
Desci	ription:	•	•						
This p	arameter i	s used to	select the VAV mod	e.					
DPT:	Name	DPT_Ma	sterSlaveMode	DPT ID	20.112	Data	atype format	N <sub>8</sub>	
Field			Description			Sup.	Range	Unit	Default
			- 0: Autonomous (de	fault)		0	02	enum	0
			- 1: Master			0			
			- 2: Slave			0			
Comr	nunicatior	1:			•		<del>-</del>	-	
DP A	Address:		IO Type(ID):	362 (ADA	۸)	Proper	ty ID:	113	
(in t	he server)		Start-Index:	1		N° of e	elements	1	
Pro	perty acce	ss:	Read only		Read/W	/rite	$\boxtimes$		
Prot	ection		Read level	-		Write I	evel	-	
Exce	otion Hand	lling:	Value after Power-u	p: Stored	Value ⊠	Act Va	lue 🗌 Def	ault Value	
Speci	ial Feature	s:							

### 3.3.6.34 Parameter NominalFlow

FB:	ADA	Proper	ty Name ( <u>Server</u> ):	No	minalFlo	ow		Mandato	ry 🛛 1) O	ptional
Desci	ription:			=				<del>-</del>		
Nomi	nal Flow of	the VAV	actuator in m <sup>3</sup> /h wit	h a	resolutio	on of 0.00	01m <sup>3</sup> /h			
DPT:	Name	DPT_Flo	owRate_m3/h		PT ID	13.002	Dat	atype format	V <sub>32</sub>	
Field							Sup.	Range	Unit	Default
Flow value								cs	m³/h	cs
Comr	nunicatior	<b>า</b> :				-			<del>-</del>	-
DP A	Address:		IO Type(ID):	36	362 (ADA)			rty ID:	114	
(in t	he server)	1	Start-Index:	1			N° of	elements	1	
Pro	perty acce	ss:	Read only			Read/W	/rite	$\boxtimes$		
Prof	tection		Read level	-			Write	level	-	
Exce	ption Hand	dling:	Value after Power-u	лр:	Stored	Value 🛚	Act V	alue 🔲 De	fault Value	
	· ·									
Speci	ial Feature	es:				_	-		_	-
1) mar	mandatory for VAV applications; not applicable for air dampers									

### 3.3.6.35 Parameter OpenCloseDirection

FB:	ADA	Propert	y Name ( <u>Server</u> ):	Mandato	ry 🔲 O	ptional				
Descr	ription:	_						<del></del>		
Paran	neter to sel	ect the di	rive direction of the	actı	uator					
DPT:	Name	DPT_Inv	ert		OPT ID	1.012	Data	atype format	B <sub>1</sub>	
Field			Description				Sup.	Range	Unit	Default
			- 0: Normal							0
			- 1: Inverted							
Comn	nunication	):				,			-	•
DP /	Address:		IO Type(ID):	3	62 (ADA	.)	Proper		115	
(in t	he server)		Start-Index:	1	1 N° of ele			lements	1	
Prop	perty acce	ss:	Read only			Read/W	/rite	$\boxtimes$		
Prot	ection		Read level	-			Write I	evel	-	
Excep	otion Hand	lling:	Value after Power-ر	лр:	Stored	Value 🛚	Act Va	lue 🗌 Def	ault Value	
Speci	al Feature	s:								
					•	•				

### 3.3.6.36 Parameter ActPosCOV

FB: A	ADA	Propert	y Name (Server): A	ActPosCO	V		Mandato	ry 🗌 O	ptional⊠
Descri	ption:	_	•				<del></del>		
Parame	eter to def	fine the C	OV condition for spo	ntaneous t	ransmiss	sion "Act	Pos…" outpu	ts	
DPT:	Name	DPT_Pe	rcent_U8	DPT ID	5.004	Data	atype format	U <sub>8</sub>	
Field	Field Description					Sup.	Range	Unit	Default
COV with 1% resolution							CS	%	1%
Communication:									
DP A	ddress:		IO Type(ID):	362 (ADA)		Property ID:		116	
(in the	e server)		Start-Index:	1		N° of elements		1	
Prope	erty acce	ss:	Read only		Read/W	/rite	$\boxtimes$		
Prote	ection		Read level	-		Write I	evel	-	
Except	tion Hand	lling:	Value after Power-up	o: Stored	Value 🛚	Act Va	lue 🔲 Def	ault Value	
Specia	I Feature	s:		_	_			_	_
	•				•	•			•

# ${\bf 3.3.6.37\ Parameter\ ActPosMinRepTime}$

FB:	ADA	Propert	ty Name ( <u>Server</u> ):	ActPosMin	RepTime	е	Mandato	ry 🗌 C	)ptional⊠
Descr	ription:	-					<del>-</del>		
Paran	neter to def	fine the n	ninimum wait time be	etween two	updates	of "ActP	os" outputs	3	
DPT:	Name	DPT_Tir	mePeriodSec	DPT ID	7.005	Data	atype format	U <sub>16</sub>	
Field Description						Sup.	Range	Unit	Default
			MinRepTime with 1s	s resolution			CS	S	10s
Comn	nunication	1:					<del>-</del>	-	-
DP /	Address:		IO Type(ID):	362 (ADA	)	Proper	ty ID:	117	
(in t	he server)		Start-Index:	1		N° of elements		1	
Prop	perty acce	ss:	Read only		Read/W	/rite 🛛			
Prot	ection		Read level	-		Write I	evel	-	
Excep	otion Hand	lling:	Value after Power-u	p: Stored	Value 🛚	Act Va	lue 🗌 Def	ault Valu	е 🗌
Speci	al Feature	:s:							

### 3.3.6.38 Parameter ActFlowCOV

FB:	ADA	Propert	y Name ( <u>Server</u> ):	Ac	tFlowC	ΟV		Mandato	ry 🗌 O <sub>l</sub>	otional⊠
Descr	iption:			-				-		
Based	arameter to define the COV condition [m³/h] for spontaneous transmission "ActFlowm3h" outputs. ased on "ActFlowCOV" and "NominalFlow" the corresponding COV [%] can be derived for the ActFlowPercent" outputs  PT: Name DPT_FlowRate_m3/h DPT ID 13.002 Datatype format V <sub>32</sub>									
DPT:	Name	DPT_Flo	wRate_m3/h	[	DPT ID	13.002	Data	atype format	$V_{32}$	
Field			Description				Sup.	Range	Unit	Default
Flow COV value Resolution of 0.0001m³/h cs								CS		
Comr	nunication	:								
DP /	Address:		IO Type(ID):	3	362 (ADA	()	Proper	rty ID:	118	
(in t	he server)		Start-Index:	1			N° of e	elements	1	
Prop	perty acce	ss:	Read only			Read/W	rite/	$\boxtimes$		
Prot	ection		Read level	-			Write I	evel	-	
Excep	otion Hand	ling:	Value after Power-	up:	Stored	Value 🛚	Act Va	alue 🗌 Def	ault Value	
Speci	al Feature	s:								
		•	•	•	•					

### 3.3.6.39 Parameter ActFlowMinRepTime

FB:	ADA	Property	y Name ( <u>Server</u> ):	<b>ActFlowMi</b>	inRepTin	ne	Mandato	ry 🗌 (	Optional $oxtime X$
Desc	ription:	-					<del>-</del>		
Parar	neter to de	fine the m	inimum wait time b	etween two	updates	of "ActF	low" outpu	ts	
DPT:	Name	DPT_Tim	nePeriodSec	DPT ID	7.005	Data	atype format	U <sub>16</sub>	
Field	Field Description						Range	Unit	Default
			MinRepTime with 1	s resolution			cs	S	10s
Com	municatior	<b>า</b> :				-		-	_
DP.	Address:		IO Type(ID):	362 (ADA)		Prope	rty ID:	119	
(in t	he server)	)	Start-Index:	1		N° of e	elements	1	
Pro	perty acce	ss:	Read only		Read/W	√rite	$\boxtimes$		
Pro	tection		Read level	-		Write I	level	-	
Exce	ption Hand	dling:	Value after Power-u	ip: Stored	Value ⊠	Act Va	alue 🔲 🛮 De	fault Valu	ie 🗌
Spec	ial Feature	:s:		_		-	·	-	
	•		_		•				

# 3.3.6.40 Parameter BackupMode

FB:	ADA	Propert	rty Name ( <u>Server</u> ): BackupMode Mandatory ☐ Optional ∑							
Desci	ription:	- <del>-</del>	<u>.                                      </u>				<del></del>			
This p	arameter i	s used to	define the behaviou	r of the act	uator duri	ing com	munication fa	ilure		
DPT:	Name	DPT_Ba	ckupMode	DPT ID	20.121	Data	atype format	$N_8$		
Field			Description			Sup.	Range	Unit	Default	
	- 0: BackupValue(default) Setpoint is set to a predefined value according to parameter BackupValueActPos						01	enum	0	
			- 1: KeepLastState - 2255: reserved			М				
Comr	nunicatior	<b></b>								
DP /	Address:		IO Type(ID):	362 (ADA	١)	Proper		120		
(in t	he server)		Start-Index:	1		N° of e	elements	1		
Pro	perty acce	ss:	Read only	]	Read/W	/rite	$\boxtimes$			
Prot	ection		Read level	-		Write I	evel	-		
Excep	otion Hand	lling:	Value after Power-u	p: Stored	Value 🛚	Act Va	lue 🗌 Def	ault Value		
Speci	al Feature	:s:								

### 3.3.6.41 Parameter BackupValueActSetp

FB:	ADA	Propert	y Name ( <u>Server</u> ):	Mandato	ry 🔲 1) op	otional 🛚			
Descri	ption:	-	<u> </u>						
			efault actuator setpo	int in case	of comm	unication	n failure if		
"Backu	ıpMode" =	'Backup'	Value'						
DPT:	Name	DPT_Pe	rcent_U8	DPT ID	5.004	Data	atype format	U <sub>8</sub>	
Field			Description			Sup.	Range	Unit	Default
Backup setpoint CS % CS									
Comm	unication	):							
DP A	ddress:		IO Type(ID):	362 (ADA	١)	Proper	ty ID:	121	
(in th	e server)		Start-Index:	1		N° of e	lements	1	
Prop	erty acce	ss:	Read only		Read/W	/rite	$\boxtimes$		
Prote	ection		Read level	-		Write I	evel	-	
Excep	tion Hand	lling:	Value after Power-up	o: Stored	Value 🛚	Act Va	lue 🔲 Def	ault Value	:
	Special Features:								
1) This	This parameters shall be implemented together with parameter "BackupMode"								

# ${\bf 3.3.6.42\ Parameter\ StartSynchronization}$

FB:	ADA	Propert	y Name ( <u>Server</u> ):	StartSync	hronizati	on	Mandato	ry 🗌 O	ptional
Descr	iption:	-					<del>_</del>		
			define the behavior	ur of a 3-sta	ate Air Da	mper ac	tuator after p	ower-retui	n or an
applic	ation resta	rt							
DPT:	Name	DPT_Sta	artSynchronization	DPT ID	20.122	Data	atype format	N <sub>8</sub>	
Field			Description			Sup.	Range	Unit	Default
			- 0: position unchar	nged		М	02	enum	cs
			- 1: single close	J		М			
			- 2: single open			М			
			- 3255: reserved						
Comn	nunication	<b>)</b> :							
DP A	Address:		IO Type(ID):	362 (ADA	4)	Proper	rty ID:	122	
(in t	he server)		Start-Index:	1		N° of e	elements	1	
Prop	perty acce	ss:	Read only		Read/W	/rite	$\boxtimes$		
Prot	ection		Read level	-		Write I	evel	-	
Excep	otion Hand	lling:	Value after Power-u	up: Stored	∣Value ⊠	Act Va	alue 🗌 Dei	fault Value	
Speci	al Feature	s:							

### 3.4 Fan Speed Actuator (FSA)

### 3.4.1 Aims and objectives

The Functional Block 'Fan Speed Actuator' is designed for simple fan speed actuators as e.g. in fancoils and translates the fan speed information which is in percent to the fan step. The Functional Block also provides a feedback with the active fan speed (in percent and as step).

### 3.4.2 Functional Specifications

The percent input value is translated to the fan speed step (100% divided by the number of steps gives the switch points). The real step position again is translated to a percent output value.

This offers a wide flexibility and even works if two devices with different step size are connected (0% always corresponds to no fan and 100% corresponds to full speed).

The 'Fan Speed Actuator' supports the following LTE zoning:

- "Apartment . Room . SubZone"
- "General Peripheral Tag"

#### Optional function:

- Faults in the fan speed actuator device may be detected and reported in the FanSpeed.
- The FanSpeedSetp may temporary be overridden by means of a tool for service purpose. The 'Overridden' condition must be reported.

Behaviour of the actuator if no valid setpoint is available (company specific):

- stop the fan
- leave speed unchanged

#### **Inputs**

•	FanSpeedSetp	This is the fan speed setpoint given by a controller.
•	DisableFan	There are situations, especially together with direct

electric heating, where the fan has to be switched off,

although the controller demands it.

(see also 3.6 Electrical Heating Element Actuator)

#### **Outputs**

• FanSpeed This information contains the feedback of the active

fan speed in percent.

• FanStep This information contains the feedback of the active

fan speed as step.

Fault indication in S-Mode

• Overridden indication in S-Mode

#### **Binding Group (LTE)**

• Apartment . Room . SubZone General Peripheral

This actuator 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.

#### 3.4.3 Constraints

For more sophisticated fan speed actuators for large fans (e.g. variable speed drives etc.) another Functional Block has to be designed.

#### Interworking of devices with different number of steps

With the coding below combinations of devices with different number of steps is possible. The stop of the actuator is defined and the highest speed of the controller always results in highest speed of the actuator. Steps in between are interpreted to the best.

#### Sender (Controller)

Single-Speed

Speed	Value
0	0
Ι	255

#### 2-Speed

Speed	Value
0	0
Ι	128
II	255

#### 3-Speed

Speed	Value
0	0
I	85
II	170
III	255

#### 4-Speed

Speed	Value
0	0
I	64
II	128
III	192
IV	255

#### 5-Speed

u	
Speed	Value
0	0
I	51
II	102
III	153
IV	204
V	255

#### Receiver (Actuator)

Single-Speed

Value	Speed
0	0
1 - 255	I

#### 2-Speed

Value S	peed
0	0
1 - 128	I
129 - 255	II

### 3-Speed

Value S	peed
0	0
1 - 85	I
86 - 170	II
171 - 255	III

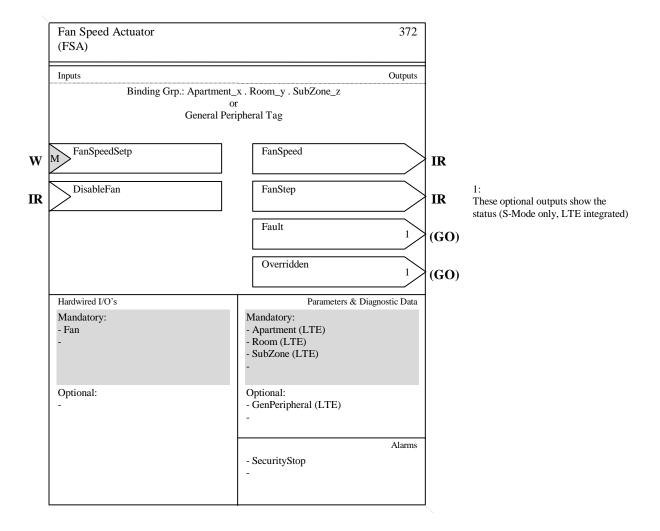
#### 4-Speed

Value S	peed
0	0
1 - 64	Ι
65 - 128	II
129 - 192	III
193 - 255	IV

#### 5-Speed

Value S	peed
0	0
1 - 51	Ι
52 - 102	II
103 - 153	III
154 - 204	IV
205 - 255	V

### 3.4.4 Functional Block Diagram



### 3.4.5 Datapoints Description

#### **3.4.5.1** Overview

Datapoints	Description / Remarks	Data Point Type	Additional Info
Inputs			
FanSpeedSetp	Setpoint value in percent to control the fan actuator with: - COV and RepPer - Z <sub>8</sub> STATUS and - Z <sub>8</sub> COMMAND supported from FB various controller	$ \begin{array}{ll} LTE: & 202.001 \\ DPT\_RelValue\_Z \\ U_8Z_8 \\ S: & 5.001 \\ DPT\_Scaling \\ U_8 \end{array} $	LTE: M S: GO %
DisableFan	Disable fan with: - COV and RepPer from FB supervisor	LTE: 1.003 DPT_Enable B <sub>1</sub> S: 1.003 DPT_Enable B <sub>1</sub>	LTE: O S: (GO)

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
FanSpeed	Active fan speed in percent with: - COV and RepPer - Z <sub>8</sub> STATUS supported to FB 'MMI or BMS'	LTE: 202.001 DPT_RelValue_Z $U_8Z_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O S: (GO)
FanStep	Active fan speed step with: - COV and RepPer - Z <sub>8</sub> STATUS supported to FB 'MMI or BMS'	$ \begin{array}{llllllllllllllllllllllllllllllllllll$	LTE: O S: (GO)
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA S: (GO) true/false
Overridden	The actuator is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA S: (GO) true/false

Datapoints	Description / Remarks	Data Point Type	Additional Info		
Parameters					
Apartment	LTE zoning number for Apartment	$\begin{array}{c} 202.002 \\ \text{DPT\_UcountValue8\_Z} \\ U_8Z_8 \end{array}$	M 1		
Room	LTE zoning number for Room	$\begin{array}{c} 202.002 \\ DPT\_UcountValue8\_Z \\ U_8Z_8 \end{array}$	M 1		
SubZone	LTE zoning number for SubZone	$\begin{array}{c} 202.002 \\ DPT\_UcountValue8\_Z \\ U_8Z_8 \end{array}$	M 1		
Gen Peripheral	LTE zoning number for general peripheral	$\begin{array}{c} 203.012 \\ DPT\_UcountValue16\_Z \\ U_{16}Z_8 \end{array}$	O 1		

Alarm	arm Description / Remarks		ror	Additional Info
		Code	Prio	
SecurityStop	Alarm for security stop e.g. open fan coil			

### 3.4.5.2 FSA Runtime Interworking - Dependence on Configuration Modes

			STANDARD MODE	EXTE Mo	*
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE
Inputs	FanSpeedSetp	$GO_b$	GO	GO	M
	DisableFan	(GO <sub>b</sub> )		(GO)	0
Outputs	FanSpeed	(GO <sub>b</sub> )		(GO)	0
	FanStep	(GO <sub>b</sub> )		(GO)	0
	Fault	(GO) <sub>b</sub>		(GO)	NA
	Overridden	(GO) <sub>b</sub>		(GO)	NA

### 3.4.5.3 FSA LTE specific Properties

		Support
Parameter	Apartment_x	M
	Room_y	M
	SubZone_z	M
	GenPeripheral	О

### 3.4.5.4 FSA Standard Properties of Interface Objects (or memory mapped DP)

	Support
Parameter	

# 3.4.6 Detailed Specification of the Datapoints

### 3.4.6.1 Input FanSpeedSetp

### **Standard Mode**

DP Name:	Fan	SpeedSet	)		Abb	or.:				Manda	tory	
FB Name:	FSA	SA Can be internal								al 🗌		
Description												
This input sign	nal co	ontains the	percent	t setpoint val	ue for th	e far	n spee	ed step.				
<b>Datapoint Ty</b>	ре											
DPT_Name:	DF	T_Scaling	1									
DPT Format:	U <sub>8</sub>							DPT_I	D:	5.001		
Field	De	scription						Supp		Range	Unit	Default
										0100 <sup>*)</sup>	%	CS
<b>Access Type</b>	)											
♦ Input												
$N \rightarrow this$		]	$1 \rightarrow th$	is 🛛								
Spontaneo	ous			Cyclically:	$\boxtimes$			Tin	ne-o	ut:	31 mir	n (rec.)
Request				Polling:				Pe	riod:			
Communicat	ion T	уре										
♦ Group Ob	oject I	Datapoint							Ν	/landatory	/:	
Default Gr	oup A	Address:										
Dynamics												
Power dov	vn:	Save:										
Power up:		Value:	No in	nitialisation:			Defau	ılt value	<b>:</b>		$\boxtimes$	
			Save	ed value:								
							Read	from b	us:			
<b>Exception Ha</b>	andli	ng										
Special Feat												
*) The coding	of the	actuator	setpoint	value is: 0%	$\rightarrow 0$ 1	00%	$\rightarrow 25$	55				

#### LTE-Mode

FB: FSA	LTE Server	Input Name:	Fa	nSpeedSetp	)			Mandatory ⊠ Optional □		
Description:	-		-							
	This input signal contains the percent setpoint value for the fan speed step with a STATUS information.									
The input may be overridden by means of COMMAND.										
<b>DPT:</b> Name	DPT_RelV	alue_Z		DPT ID	202.001	Data	type t	format	$U_8Z_8$	
Field		Description						Sup.	Unit	Default
Fan Speed		Percent value	of t	the fan spee	d step			M	%	0
STATUS		For Read Serv	vice	only					Bitset	
<ul> <li>OutOfService</li> </ul>		Input out of se						0	Bit 0	false
<ul> <li>Overridden</li> </ul>		Input is tempo	rari	ily overridder	ı			0	Bit 2	false
- all other bits		fixed to '0'						NA		false
COMMAND		For Write Serv							enum.	
- NormalWrite		Used for norm	ıal r	runtime comr	munication	on		M	0	
		(LTE Write Se								
- Override / Re	lease	Used for temporary override / release of the input						0	1/2	
		(mainly by a tool using Property Write access with								
		individual add	res	sing)						
- all other com	mands							NA		
Communication	on:									
Binding Gro	up:									
Class		Type				Default				
Geographic	al 🖂	Apartment . R	oor	n . SubZone		1.1.1				
Application	Specific 🖂	GenPeriphera	l			1				
Unassigned		Broadcast		Configural	ble 🗌					
DP Address:		IO Type(ID):		372 (FSA)		Proper	ty ID:		51	
LTE-Service Write	(event):	Timeout:			31	Min				
Property-Sei	rvice	Dead sale			D = = = 1/1/	\/!4 ~				
(individual a	ccess):	Read only	L	_	Read/V	vrite	$\boxtimes$			
Value after Power-up: Default Value ⊠								Stored Val	ue 🗌	
Exception Handling: Sar					Save	e at Pov	ver-down			
Special Featu	res:									

# 3.4.6.2 Input DisableFan

#### **Standard Mode**

DP Name:	Dis	DisableFan Abbr.: Mandatory 🔲									
FB Name:	FS	SA Can be internal									
Description	)										
This informa	ition r	may be provid	ed by a	a supervisor ar	nd may di	sable t	he fan.				
<b>Datapoint T</b>	уре										
DPT_Name	: D	DPT_Enable									
<b>DPT Format</b>	: B	1					DPT_ID	1.003	}		
Field	D	escription					Supp.	Range	Unit	Default	t
	0	= disabled, 1	= enab	oled				1	Bit	1	
Access Typ	е										
◆ Input											
$N \rightarrow this$	] [	□  1	$1 \rightarrow \text{this}$	s 🛛							
Spontane	eous	$\boxtimes$	(	Cyclically:			Time	-out:	31 min	(rec.)	
Request				Polling:			Perio	od:			
Communica	ation	Type									
♦ Group C	)bject	Datapoint						Mandato	ry: 🛛		
Default C	roup	Address: -									
Dynamics											
Power do	own:	Save:									
Power up	):	Value:	No ini	tialisation:		Defau	ılt value:		$\square$		
			Saved	d value:							
						Read	from bus	:			
Exception I	land	ling									
Special Fea	tures	S									

#### LTE-Mode

							1	l			
FB:	FSA	LTE Clie		DisableFa	n				IN	/landatory	
		Input Na	ıme:							Optiona	
Desc	ription:										
This i	nformation r	nay be pro	vided by	a supervis	or and ma	y disable	the fan.				
DPT:	Name [	OPT_Enab	le		DPT ID	1.003	Data	type fo	ormat	B <sub>1</sub>	
Field			Description						Sup.	Unit	Default
			0 = disa	bled, $1 = e$				Bit	1		
Com	munication:		<u> </u>	-				<u> </u>			
Bin	ding Group	:									
Cla	SS		Type				Default				
G	eographical	$\boxtimes$	Apartme	ent . Room	. SubZone	}	1.1.1				
Ap	oplication Sp	ecific 🛚	GenPer	ipheral			1				
Uı	nassigned		Broadca	ast 🗌	Configura	ble 🗌					
DP	Address:		IO Type	(ID):	369 (EHE	(A)	Proper	ty ID:		54	
LTE	-Service (e	vent):	InfoRep	ort Sniffer	on Bindin	g Group:					
In	foReport	$\boxtimes$	Timeout	t		31	Min				
	E <b>-Service (p</b> ead – Respo		Read W	ildcard / Re	esp Sniffer	on Bindi	ing Grou	p:			
Value	e after Powe	er-up:	=	Default Va	alue 🛚			-	5	Stored Va	lue 🗌
Exception Handling:								Save	at Pov	verdown	
Spec	ial Features	s:									

# 3.4.6.3 Output FanSpeed

#### **Standard Mode**

DP Name:	FanSpeed	FanSpeed Abbr.: Mandatory L								
FB Name:	FSA	FSA Can be internal								
Description										
This datapoint	contains the perc	ent value of the actual	fan speed.							
<b>Datapoint Ty</b>	ре									
DPT_Name:	DPT_Name: DPT_Scaling									
DPT Format:	U <sub>8</sub>			DPT_ID:	5.001					
Field	Description			Supp.	Range	Unit	Default			
					0100 <sup>*)</sup>	%	CS			
Access Type										
♦ Output										
this $\rightarrow M$	⊠   th	nis $\rightarrow$ 1 $\Box$								
Spontaneous 🛛 COV: 🔻 Delta-Value: 1 MinRepTime: 10 sec										
	Cyclic	Period:	15 min	(recommer	nded value)	1				
Request										
Communicat	on Type									
♦ Group Ob	ject Datapoint				Mandatory	: 🔲				
	oup Address:	· <b>-</b>								
Dynamics										
Power dow	n: Save:									
Power up:	Value:	No initialisation:		ault value:						
		Saved value:		ual value:		$ \boxtimes $				
	Transmit on	bus:								
<b>Exception Ha</b>	ndling									
Special Featu										
<sup>7</sup> The coding of	of the actuator set	point value is: $0\% \rightarrow 0$	100% →	255						

FB:	FSA	LTE Serv	ver	Output Name:	FanSpeed				M	landator Optiona	
	ription:							i.			
This o	output cor	tains the	pe	rcent value of the	actual fan sp	peed.					
DPT:	Name	DPT_Re	١V	alue_Z	DPT ID	202.00	)1	Datatype	format	U <sub>8</sub> Z <sub>8</sub>	
Field			De	escription		Sup.	Rar	nge	Unit	COV	Default
FanS	peed		Αc	ctual fan speed ir	n percent	0	0	100	%	1	cs
STAT	US		Fo	or LTE-Service In	foReport				bitset		
				d Property-Servi	ce						
			Re	esponse only							
- Out	OfService					NA			Bit 0		
- Faul			_	ctuator fault		0		ie/false	Bit 1	Y	false
	rridden			ctuator is temp. o		0		ie/false	Bit 2	Y	false
- InAla	arm		_	ctuator is in alarm		0	tru	ie/false	Bit 3	Y	false
- Alar	mUnAck			arm unacknowle	dged	0	tru	ie/false	Bit 4	Y	false
			all	other bits		NA			Bit 5.7		
Comr	nunicatio	n:									
Bine	ding Gro	up:									
Clas	SS			Type				Defa	ult		
Ge	eographic		$\boxtimes$	Apartment . Roo	om . SubZone	)		1.1.1			
Ap	plication	Specific	$\boxtimes$	GenPeripheral				1			
Ur	nassigned			Broadcast	Configu	rable 🗌	]				
	Address:			IO Type(ID):	372 (FSA			roperty II		55	
		s (event):		COV 🛛	MinRepTin	ne:	1	0 sec	Hear	tbeat:	15 min
Inf	oReport	$\boxtimes$		Output per defa	ult communic	ating [	В	inding Gr	oup Wild	card allo	wed 🗌
				Tx Prio:	High 🗌			Normal	$\boxtimes$	Lov	N 🗌
		Response	<del>)</del>								
	lling of th			Transm after Po	wer-up. Store	الدلا الم	<u> </u>	Δct \/s	lue 🖂	Default \	ا عباد/
	all always	s be		Transmatter r	wer up. Otore	o valu	- Ш	ACT VC	iiuc 🖂	Delault	aluc
	pported)										
	perty-Ser			Read only	$\boxtimes$	Read	/Writ	te [	7		
	ividual a								<del>-</del>	_	
Exce	ption Har	ndling:							Save	at Power	down
Spec	ial Featu	res:									

# 3.4.6.4 Output FanStep

DP Name:	Fan	Step				Abbı	r.:			Manda	tory		
FB Name:	FS/	4								Can be	e interna	al 🔲	
Description													
This datapoin	t con	ntains the	e step	o value of the	e actual fa	an spe	ed.						
<b>Datapoint Ty</b>	ре												
DPT_Name:	DI	PT_Valu	e_1_	_Ucount									
DPT Format:	U								DPT_ID:	5.010			
Field	De	escriptio	n						Supp.	Range	Unit	Default	
										0n		CS	
Access Type	<b>)</b>												
♦ Output													
this $\rightarrow$ M		<	tl	his $\rightarrow$ 1									
Spontaneo	ous		COV:		Delta-Va	alue:	1		/linRepTin	ne:	10 sec		
			Cyclic		Period:		15 m	in (	recommer	nded value	:)		
Request													
Communicat	ion <sup>-</sup>	Туре											
♦ Group Ob	ject	Datapoir	nt							Mandator	y:		
Default Gr	oup .	Address	:  -										
Dynamics													
Power dov	vn:	Save:											
Power up:		Value:		No initialisa	tion:				ılt value:				
				Saved value	e:		Ad	ctua	l value:				
		Transm	nit on	bus:		$\boxtimes$							
Exception Ha	andli	ing											
Special Feat	ures												

FB:	FSA	LTE Serv	/er	Output Name:	FanStep				٨	/landator Optiona	
Desc	ription:							-			
This	output cor	tains the	ste	p value of the act	ual fan spee	d.					
DPT:	Name	DPT_Uc	ou	ntValue8_Z	DPT ID	202.00	)2	Datatyp	e format	$U_8Z_8$	
Field			De	escription		Sup.	Rai	nge	Unit	COV	Default
FanS				tual fan speed st		0		0n		1	CS
STAT	TUS		an	r LTE-Service Inf d Property-Servicesponse only	•				bitset		
- Out	OfService			-		NA					
- Fau	lt		Ac	tuator fault		0	tru	ue/false		Υ	false
- Ove	rridden		Ac	tuator is temp. ov	/erridden	0	tru	ue/false		Υ	false
- InAl	arm		Ac	tuator is in alarm		0	tru	ue/false		Υ	false
- Alar	mUnAck		Ala	arm unacknowled	lged	0	tru	ue/false		Υ	false
Com	municatio	on:				-			-	-	
	ding Gro	up:									
Cla				Type				Defa			
	eographic			Apartment . Roo	m . SubZone	<u>,                                      </u>		1.1.	1		
	oplication		$\boxtimes$	GenPeripheral			<u></u>	1			
	nassigned			Broadcast	Configu						
	Address:			IO Type(ID):	372 (FSA			Property I		56	
		s (event):		COV 🛛	MinRepTin			10 sec		tbeat:	15 min
ln <sup>.</sup>	foReport	$\boxtimes$		Output per defau		ating L	_    E		roup Wild		
41		_		Tx Prio:	High 🗌			Normal		Lov	w 📙
pc sh	IE Read- olling of the nall always upported)		•	Transm after Pov	wer-up: Store	ed Valu	e [	] Act V	alue 🗵	Default \	/alue □
	perty-Ser lividual a			Read only	$\boxtimes$	Read	/Wri	te [			
Exce	ption Har	ndling:							Save	at Powe	rdown
Spec	ial Featu	res:									

# 3.4.6.5 Output Fault

#### LTE-Mode

Not available.

DF	Name:	Fau	ılt				Abbr.	.:		Manda	tory		
Ë	Name:	FSA	4							Can be	interna	al	
De	scription												
			y indic	ate a	fault in the ac	tuator (S-l	Mode (	only) se	ee also Fan	Speed			
	tapoint Ty												
	PT_Name:	DI	PT_Bo	ol									
DF	PT Format:	B₁							DPT_ID:	1.002			
Fie	eld	De	escripti	ion					Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Ac	cess Type												
<b>♦</b>	Output												
	$this \to M$		$\exists$		this $\rightarrow$ 1								
	Spontaneo	us		CO/	<b>√</b> : ⊠	Delta-Va	llue:		MinRepTir		10 sec		
				Сус	lic 🛛	Period:		15 min	(recomme	nded value	)		
	Request												
Co	mmunicati	ion i	Туре										
<b>♦</b>	Group Ob	•								Mandatory	/:		
	Default Gro	oup	Addres	SS:									
Dy	namics												
	Power dow	n:	Save:	-			_						
	Power up:		Value	<b>:</b> :	No initialisa				ault value:				
					Saved value	e:	<u> </u>	Actu	ıal value:				_
				smit o	n bus:								
Ex	ception Ha	ndl	ing										
Sp	ecial Featu	ıres											

# 3.4.6.6 Output Overridden

#### LTE-Mode

Not available.

DP I	Name:	Ove	erridden				Abbr.	:		Manda	tory		
FB N	Name:	FSA	4							Can be	interna	al	
Des	cription												
			y indicate	tha	t the actuato	r is overri	dden (	S-Mode	e only) see	also FanSp	peed		
	apoint Ty												
	_Name:		PT_Bool										
	Format:	B <sub>1</sub>							DPT_ID:	1.002			
Field	d	De	escription	1					Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Acc	ess Type												
•	Output												
tl	$his \to M$		3	th	his $\rightarrow$ 1								
S	Spontaneo	us	$\boxtimes$ C	OV:	$\boxtimes$	Delta-Va	ılue:		MinRepTir	ne:	10 sec		
			C	yclic	igtriangledown	Period:	•	15 min	(recomme	nded value	)		
	Request		$\boxtimes$										
Con	nmunicati	on <sup>-</sup>	Гуре										
•	Group Ob	ject	Datapoin	ıt						Mandatory	/:		
	Default Gro	oup .	Address:	-									
Dyn	amics												
F	Power dow	'n:	Save:										
F	Power up:		Value:		No initialisa	_		Defa	ault value:				
					Saved value	e:	]	Actu	al value:				
			Transm	it on	bus:								
Exc	eption Ha	ndli	ng										
Spe	cial Featu	ıres											

# 3.4.6.7 Parameter Apartment

FB:	FSA	Proper	ty Name ( <u>Server</u> ):	Α	partment					Mandator Optiona	• =
Desci	ription:	<u>l</u>								Ориона	<u> </u>
	er of the a	partment	t zone.								
DPT:	Name	DPT_Uc	countValue8_Z		DPT ID	202.002		Data	type format	U <sub>8</sub> Z <sub>8</sub>	
Field			Description				S	up.	Range	Unit	Default
Zone			Number of the apar	rtm	nent zone			Μ	(0) 1126		1
STAT	US									Bitset	
- Outo	ofService		zone active / inactive	ve				0	true/false	Bit 0	false
- all of	ther bits		not supported, fixed	d to	o '0'		١	۱A			false
COMI	MAND								enum		CS
- Norr	nalWrite							M	0		
- SetC	OSV & Res	etOSV	Set zone inactive /	ac	ctive			0	3 / 4		
- all of	ther comm	ands	not supported				١	١A			
Comr	nunicatio	n:				-					
DP A	Address:		IO Type(ID):		372 (FSA)		Pı	oper	ty ID:	101	
(in t	he server)		Start-Index:		1		N'	of e	lements	1	
Pro	perty acce	ess:	Read only			Read/W	rite	<b>;</b>	$\boxtimes$		
Prot	ection		Read level		-		W	rite l	evel	-	
Exce	otion Hand	dling:	Value after Power-	up	: Stored \	/alue ⊠	Α	ct Va	lue 🗌 Def	ault Value	
Speci	ial Feature	es:									
Zone	= 0 (wildca	ard): Sen	ds to all listeners								
The d	evice is no	t LTE co	mmunicating in this	ZO	one if it is 'C	OutOfSer	vic	e'			
If Apa	rtment is '0	OutOfSer	rvice' Room and Sub	οZ	one automa	atically a	re '	Out	OfService'		

#### 3.4.6.8 Parameter Room

FB:	FSA	Proper	erty Name ( <u>Server</u> ): Room							Mandator Optiona	• =
Descri	iption:	<u>l</u>								Орион	A1 🗀
	er of the ro	oom zone	e.								
DPT:	Name	DPT_U	countValue8_Z	DF	PT ID	202.002	2	Data	atype format	U <sub>8</sub> Z <sub>8</sub>	
Field	•		Description				S	up.	Range	Unit	Default
Zone			Number of the roon	n zone	е			M	(0) 163		1
							Bitset				
	- OutofService zone active / inactive							1A O	true/false	Bit 0	false
	her bits		not supported, fixed to '0'								false
COMM									enum		CS
_	nalWrite							M	0		
	SV & Res		Set zone inactive / active					NA O	3/4		
	her comm		not supported								-
	nunicatio	n:	•								
	Address:		IO Type(ID):	372	2 (FSA)	)			rty ID:	102	
	ne server	<u> </u>	Start-Index:	_ 1					elements	1	
	erty acce	ess:	Read only			Read/W			$\boxtimes$		
Prote	ection		Read level	-			W	rite I	evel	-	
Excep	tion Hand	dling:	Value after Power-u	лр: S	Stored	Value 🛚	A	ct Va	lue 🗌 Det	fault Value	;
	al Feature										
			ds to all listeners								
			mmunicating in this:	zone	if it is '	OutOfSer	rvic	e'			
'OutOf	utOfService' is taken over from Apartment										

# 3.4.6.9 Parameter SubZone

FB:	FSA	Proper	ty	Name ( <u>Server</u> ):	S	ubZone					Mandator Optiona	
Desc	ription:				-						Ориона	<u> </u>
Numb	er of the s	ub zone.										
DPT:	Name	DPT_U	201	untValue8_Z		DPT ID	202.002		Data	atype format	$U_8Z_8$	
Field			D	escription				S	up.	Range	Unit	Default
Zone			N	lumber of the Sub	Zc	ne			M	(0) 115		1
STAT	US										Bitset	
- Outo	ofService		Z	one active / inactive	ve				0	true/false	Bit 0	false
- all o	ther bits		n	ot supported, fixed	d t	o '0'		١	۱A			false
	MAND									enum		CS
	malWrite								M	0		
	OSV & Res		_	Set zone inactive /	ac	tive			0	3 / 4		
- all o	ther comm	ands	n	ot supported				<u> </u>	۱A			
Com	nunication	า:										
DP .	Address:			IO Type(ID):		372 (FSA)	)			ty ID:	103	
•	he server)			Start-Index:		1				elements	1	
	perty acce	ess:	_	Read only			Read/W			$\square$		
Pro	tection			Read level		-		W	rite l	evel	-	
Exce	ption Hand	dling:	V	alue after Power-	up	: Stored	Value 🛚	Α	ct Va	ılue 🗌 🛮 Def	fault Value	;
Spec	ial Feature	es:										
				to all listeners								
				municating in this		ne if it is '0	OutOfSer	vic	e'			
'OutO	utOfService' is taken over from Apartment											

# 3.4.6.10 Parameter GenPeripheral

FB:	FSA	Proper	ty Name ( <u>Server</u> ):	G	enPeriphe	ral			Mandator	
									Optiona	al 🖂
Desci	ription:									
Numb	er of the go	eneral pe	eripheral tag.							
DPT:	Name	DPT_U	countValue16_Z		DPT ID	203.012	Data	type format	$U_{16}Z_{8}$	
Field			Description				Sup.	Range	Unit	Default
Zone			Number of the Sub	Zc	one		M	full		1
STAT	US								Bitset	
- Outo	ofService		zone active / inactive	ve			0	true/false	Bit 0	false
- all of	ther bits		not supported, fixed	d t	o '0'		NA			false
COMI	MAND							enum		CS
- Norr	nalWrite						M	0		
- SetC	SV & Res	etOSV	Set zone inactive /	ac	ctive		0	3 / 4		
- all of	ther comma	ands	not supported				NA			
Comr	nunication	1:	-				-		-	
DP A	Address:		IO Type(ID):		372 (FSA)		Proper	ty ID:	104	
(in t	he server)		Start-Index:		1		N° of e	lements	1	
Pro	perty acce	ss:	Read only			Read/W	'rite	$\boxtimes$		
Prot	ection		Read level		-		Write le	evel	-	
Exce	otion Hand	lling:	Value after Power-	up	: Stored V	/alue 🛚	Act Va	lue 🗌 Def	ault Value	
	<del></del>									
Speci	ial Feature	s:								
Zone	= 0 (wildca	rd): Sen	ds to all listeners							
The d	ne device is not LTE communicating in this zone if it is 'OutOfService'									

## 3.5 Compressor Actuator (CPA)

### 3.5.1 Aims and objectives

The Functional Block 'Compressor Actuator' translates the bus information to the compressor control signal and eventually provides the system with the actual compressor status as feedback. The HeatCool information is used in thermodynamic machines which offer reversed process.

### 3.5.2 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 'Compressor Actuator' supports the following LTE zoning:

- "Apartment . Room . SubZone"
- "General Peripheral Tag".

### Optional function:

- Faults in the actuator device may be detected and reported in the CompressorPosEff.
- The CompressorPosSetp may temporary be overridden by means of a tool for service purpose.

The 'Overridden' condition must be reported.

Behaviour of the actuator if no valid setpoint is available (company specific):

- stop the compressor
- leave unchanged

#### **Inputs**

• CompressorPosSetp This is the actuator setpoint given by a controller.

• HeatCoolMode This is the mode given by the controller.

• ElectricalPowerLimitation Percentage value form a supervisor or a loadshedder to

limit the electrical power (percent of max power).

• DisableElPowerLim For disabling the above limitation.

**Outputs** 

• CompressorPosEff This is the effective percentage of energy applied to

the resistor, in LTE together with attribute Z8.

• Fault indication in S-Mode

• Overridden Overridden indication in S-Mode

**Binding Group (LTE)** 

• Apartment . Room . SubZone This actuator can be used in different applications.

General Peripheral For this reason different binding possibilities are offered. t.b.d. 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** 

• MinRunTime This parameter defines the minimum run time for

the compressor.

MinDwellTime This parameter defines the minimum dwell time for

the compressor.

#### **Alarms**

• HighPressureAlarm Alarm from the compressor.

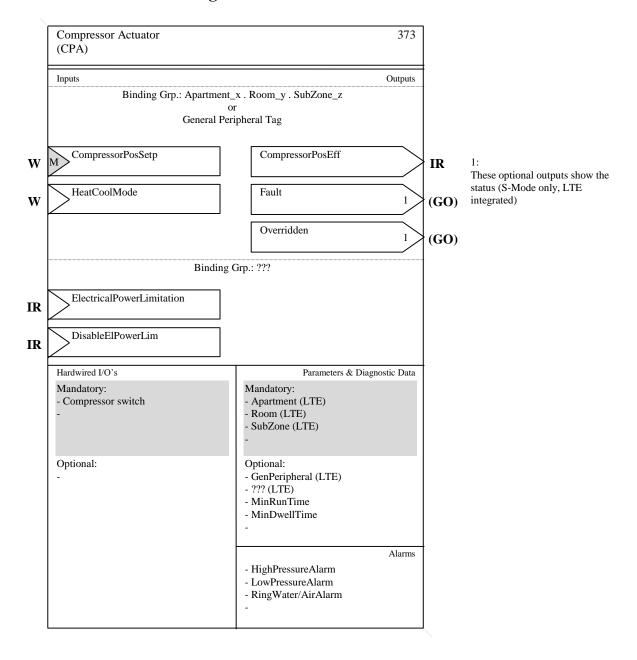
LowPressureAlarm Alarm from the compressor.

• RingWater/AirAlarm Alarm if medium is too hot or too cold.

#### 3.5.3 Constraints

None.

# 3.5.4 Functional Block Diagram



# 3.5.5 Datapoint Description

## Overview

Datapoints	Description / Remarks	Data Point Type	Additional Info
Inputs			
Compressor Pos Setp	Position value for the compressor actuator with: - COV and RepPer - Z <sub>8</sub> STATUS and - Z <sub>8</sub> COMMAND supported from FB various controller	$ \begin{array}{ll} LTE: & 202.001 \\ DPT\_RelValue\_Z \\ U_8Z_8 \\ \\ S: & 5.001 \\ DPT\_Scaling \\ U_8 \end{array} $	LTE: M S: GO %
Heat Cool Mode	Status heating or cooling with: - COV and RepPer from FB: various controller	LTE: 1.100 DPT_Heat/Cool B <sub>1</sub> S: 1.100 DPT_Heat/Cool B <sub>1</sub>	LTE: O S: (GO) 0 = cooling 1 = heating
Electrical Power Limitation	t.b.d by DEH	$ \begin{array}{ll} LTE: & 202.001 \\ DPT\_RelValue\_Z \\ U_8Z_8 \\ S: & 5.001 \\ DPT\_Scaling \\ U_8 \end{array} $	LTE: O S: (GO)
Disable ElPower Lim	t.b.d by DEH	$ \begin{array}{ll} \text{LTE:} & 1.003 \\ \text{DPT\_Enable} \\ B_1 \\ \text{S:} & 1.003 \\ \text{DPT\_Enable} \\ B_1 \end{array} $	LTE: O S: (GO) enable / disable

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
Compressor Pos Eff	Position value of the compressor with - COV and RepPer - Status $Z_8$ mainly to FB 'HMI' or supervisor	$ \begin{array}{ll} LTE: & 202.001 \\ DPT\_RelValue\_Z \\ U_8Z_8 \\ \\ S: & 5.001 \\ DPT\_Scaling \\ U_8 \end{array} $	LTE: O S: (GO)
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA S: (GO) true/false
Overridden	The actuator is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA S: (GO) true/false

Datapoints	Description / Remarks	Additional Info	
Parameters			
Apartment	LTE zoning number for Apartment	$\begin{array}{c} 202.002\\ \text{DPT\_UcountValue8\_Z}\\ U_8Z_8 \end{array}$	M 1
Room	LTE zoning number for Room	$\begin{array}{c} 202.002\\ \text{DPT\_UcountValue8\_Z}\\ U_8Z_8 \end{array}$	M 1
SubZone	LTE zoning number for SubZone	$\begin{array}{c} 202.002 \\ \text{DPT\_UcountValue8\_Z} \\ U_8Z_8 \end{array}$	M 1
Gen Peripheral	LTE zoning number for general peripheral	$\begin{array}{c} 203.012\\ \text{DPT\_UcountValue16\_Z}\\ U_{16}Z_{8} \end{array}$	O 1
t.b.d.	To be defined by DEH		
Min Run Time	Minimum run time for the compressor.	$\begin{array}{c} 7.005 \\ \text{DPT\_TimePeriodSec} \\ U_{16} \end{array}$	O cs
Min Dwell Time	Minimum dwell time for the compressor.	$\begin{array}{c} 7.005 \\ \text{DPT\_TimePeriodSec} \\ U_{16} \end{array}$	O cs

Alarm	Description / Remarks	Code Er	ror   Prio	Additional Info
High Pressure Alarm				
Low Pressure Alarm				
RingWater Air Alarm				

## **CPA Runtime Interworking - Dependence on Configuration Modes**

			STANDARD MODE		NDED ODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE	
Inputs	CompressorPosSetp	$GO_b$	GO	GO	M	
	ElectricalPowerLimitation	(GO)		(GO)	0	
	DisableElPowerLim	(GO)		(GO)	0	
Outputs	CompressorPosEff	(GO) <sub>b</sub>		(GO)	0	
	Fault	(GO) <sub>b</sub>	_	(GO)	NA	
	Overridden	(GO) <sub>b</sub>		(GO) NA		

#### **CPA LTE specific Properties**

		Support
Parameter	Apartment	M
	Room	M
	SubZone	M
	GenPeripheral	0
	t.b.d. *)	0

\*) ev. Distribution Segment t.b.d. by DEH CPA Standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	MinRunTime	0
	MinDwellTime	0

# 3.5.6 Detailed Specification of the Datapoints

# 3.5.6.1 Input CompressorPosSetp

DP Name:	Com	pressorPo	sSetp		Abb	<u>r.:</u>				Manda	atory	
FB Name:	CPA	l								Can be	e interna	al 🗌
Description												
This input sig	nal co	ontains the	percent	t setpoint val	ue for the	con	npres	sor ac	ctuate	or.		
<b>Datapoint Ty</b>	ре											
DPT_Name:	DF	T_Scaling										
DPT Format:	U <sub>8</sub>							DPT_	_ID:	5.001		
Field	De	scription						Sup	p.	Range	Unit	Default
										0100 <sup>*)</sup>	%	CS
Access Type	)											
◆ Input												
$N \rightarrow this$		]	$1 \rightarrow th$	is 🛛								
Spontaneo	ous	$\square$		Cyclically:	$\boxtimes$			Ti	ime-d	out:	31 mir	n (rec.)
Request				Polling:				P	erioc	l:		
Communicat	ion T	уре										
♦ Group Ob	oject [	Datapoint								Mandator	y: 🛛	
Default Gr	oup A	Address:										
Dynamics												
Power dov	vn:	Save:										
Power up:		Value:	No in	itialisation:		[	Defau	ılt valu	ıe:		$\boxtimes$	
			Save	d value:								
						F	Read	from I	ous:			
<b>Exception Ha</b>	andli	ng										
Special Feat												
*) The coding	of the	actuator:	setpoint	value is: 0%	$\rightarrow 0$ 10	00%	$\rightarrow$ 25	55				

FB:	CPA	LTE Server	Input Name:	nput Name: CompressorPosSetp						Mandatory ⊠ Optional □				
Descr	iption:							<u>'</u>		•				
This in	nput signa	al contains th	e percent setp	oint v	alue for th	ne compre	essor ac	tuato	r with a	STATUS				
inform	ation. Th	e input may	be overridden l	oy me	eans of Co	DMMAND	).							
DPT:	Name	DPT_RelV	alue_Z		DPT ID	202.001	Data	type	format	$U_8Z_8$				
Field			Description						Sup.	Unit	Default			
Actuat	tor positio	n	Percent value	of th	e actuator	position			M	%	0			
STATI	US		For Read Serv	ice c	only					Bitset				
- OutC	OfService 1 4 1		Input out of se						0	Bit 0	false			
- Over	ridden		Input is tempo	rarily	overridde	en			0	Bit 2	false			
- all ot	her bits		fixed to '0'						NA		false			
COMN			For Write Serv							enum.				
- Norn	nalWrite		Used for norm			nmunication	on		M	0				
			(LTE Write Se											
- Over	ride / Rel	ease	Used for temp						0	1/2				
			(mainly by a to			erty Write	access v	with						
			individual add	ressii	ng)									
- all ot	her comn	nands							NA					
Comn	nunicatio	n:												
Bind	ling Grou	ıp:												
Clas			Туре				Default							
Ge	ographic	al 🖂	Apartment . R	oom	. SubZone	<u> </u>	1.1.1							
Ар	plication	Specific 🛛	GenPeriphera				1							
	assigned		Broadcast		Configura	able 🗌								
DP A	Address:		IO Type(ID):		373 (CPA	۹)	Proper	ty ID:		51				
LTE- Wr	-Service ite	(event): ⊠	Timeout:			31	Min							
	erty-Ser ividual a		Read only			Read/V	Vrite							
Value	after Po	wer-up:	Default Value 🛛							Stored Val	ue 🗌			
Excep	tion Han	dling:						Sav	e at Pov	wer-down				
Speci	al Featur	es:												

# 3.5.6.2 Input HeatCoolMode

DP Name:											latory			
FB Name:	CPA	4								Can b	oe interna			
Description														
This informati	ion m	nay be prov	vided by	the controlle	r and c	defines h	neati	ng or	cooli	ng.				
<b>Datapoint Ty</b>	/pe													
DPT_Name:	DI	PT_Heat/C	ool											
DPT Format:	B <sub>1</sub>							DPT	_ID:	1.100	)			
Field Description Su										Range	Unit	Default		
0 = cooling, 1 = heating									)	0/1	Bit	CS		
Access Type	•													
♦ Input														
$N \rightarrow this$			$1 \rightarrow th$	is 🛛										
Spontaneo	ous			Cyclically:		$\boxtimes$		1	Time-c	out:	31 min	31 min (rec.)		
Request				Polling:				F	Period	:				
Communicat	tion <sup>-</sup>	Туре												
♦ Group Ob	bject	Datapoint							1	Mandato	ry: 🛛			
Default Gr	roup	Address:									-			
Dynamics														
Power dov	wn:	Save:												
Power up:		Value:	No in	itialisation:		D	efau	ılt val	ue:					
			Save	d value:										
						R	ead	from	bus:					
Exception Ha	andli	ng												
<b>Special Feat</b>	ures													
		·					-							
LTE-Mode														

FB:	CPA	LTE Serve	r Input Name: H	leatCoolMode				١	/landatory	
									Optiona	
Desc	ription:									
This	informatio	n may be pr	ovided by the con	troller and defines h	heat	ing or d	cooling.			
DPT:	Name	DPT_Hea	t/Cool	DPT ID 1.100	)	Data	type form	nat	B <sub>1</sub>	
Field			Description				Su	ıp.	Unit	Default
			0 = cooling, 1 =	heating			C	)	Bit	1
Com	municatio	on:	<u> </u>	-			<del>"</del>			<del>-</del>
Bin	ding Gro	up:								
Cla	SS	•	Туре							
G	eographic	al 🖂	Apartment . Roc	1.1.1						
	plication	<u></u>			7					
U	nassigned		Broadcast	Configurable						
DP	Address:		IO Type(ID):	373 (CPA)		Proper	ty ID:		52	
	E-Service rite	(event):	Timeout:	;	31	⁄lin				
	perty-Ser lividual a		Read only	Read	d/W	rite	$\boxtimes$			
Value	e after Po	wer-up:	Defaul	t Value 🛛				5	Stored Va	lue 🗌
Exce	ption Har	ndling:					Save at	Pov	ver-down	
		_								
Spec	ial Featur	res:								

# 3.5.6.3 Input ElectricalPowerLimitation

DF	Name:	Elec	<u>tricalPowe</u>	<u>rLimitati</u>	ion	Abb	or.:				Mai	ndat	ory		
FB	Name:	CPA	L								Car	า be	internal		
De	scription														
Th	is information	on m	ay be prov	ided by	t.b.d.										
Da	tapoint Ty	ре													
DF	PT_Name:	DF	T_Scaling												
DF	PT Format:	U <sub>8</sub>							DPT	_ID:	5.00	01			
Fie	eld	De	scription						Sup	p.	Range	Φ	Unit	Defa	ault
									0		0 100	) <sup>*)</sup>	Bit	CS	6
Ac	cess Type														
<b>♦</b>	Input														
	$N \rightarrow this$		]	$1 \rightarrow th$	is 🛚										
	Spontaneo	us	$\boxtimes$		Cyclically:	$\boxtimes$			Т	īme	-out:		31 min	(rec.)	
	Request				Polling:				P	erio	od:				
Co	mmunicati	on T	уре												
•	Group Ob	ject [	Datapoint								Manda	atory	: 🛛		
	Default Gro	oup A	Address:												
Dy	namics														
	Power dow	'n:	Save:												
	Power up:		Value:	No in	itialisation:			Defau	ılt valı	ue:			$\boxtimes$		
				Save	d value:										
								Read	from	bus	:				
Ex	ception Ha	ndli	ng												
	ecial Featu														
<sup>*)</sup> T	he encodin	g of	the limitation	on is: $\overline{0}^{\circ}$	% <b>→</b> 0 1009	$% \rightarrow 2\overline{55}$	5						·		

FB: CPA LTE Client ElectricalPowerLimitation Input Name:				landatory ☐ Optional ⊠	
Description:					
This information may be provided by t.b.d.					
DPT: Name DPT_RelValue_Z DPT ID 202.001	Datatype	format	$U_8Z_8$		
Field Description		Sup.	Unit	Default	
Limitation Percent value of limitation		0	%	cs	
STATUS		М	Bitset		
Bit 0 - OutOfService Function out of service		0	t/f	false	
Bit 1 - Fault Information is corrupted		0	t/f	false	
Bit 2 - Overridden Information is temporarily overridden		0	t/f	false	
Bit 3 - InAlarm Information with alarm		0	t/f	false	
Bit 4 - AlarmUnAck Acknowledgement of alarm		0	t/f	false	
all other bits reserved		NA			
Communication:					
Binding Group:					
71	Default				
<u> </u>	.1.1				
Application Specific ☐ GenPeripheral 1					
Unassigned Broadcast Configurable					
	Property ID:		t.b.d.		
LTE-Service (event): InfoReport Sniffer on Binding Group:		•			
InfoReport	⁄lin				
LTE-Service (polling):  Read − Response  Read Wildcard / Resp Sniffer on Binding	Group:	-			
Value after Power-up:   Default Value ∑		,	Stored Va	lue 🗌	
Exception Handling:	Sa	ve at Po	owerdown		
Special Features:		_			

# 3.5.6.4 Input DisableElPowerLim

#### **Standard Mode**

DP Name:	Dis	ableElPowerl	_im		Abbr.:				Mandatory				
FB Name:	CP	Α						C	Can be	e internal			
<b>Description</b>													
This information	tion r	nay be provid	ed by t	.b.d.									
<b>Datapoint T</b>	ype												
DPT_Name:	D	PT_Enable											
<b>DPT Format</b>	: B	1					DPT_ID	D: 1	.003				
Field Description Supp. Range Unit Defa										Defa	ult		
0 = disable, 1 = enable O 0 / 1									Bit	cs			
<b>Access Typ</b>	е												
♦ Input													
$N \rightarrow this$		□  1	$1 \rightarrow \text{this}$	s 🛛									
Spontaneous							Tim	e-out:		31 min	31 min (rec.)		
Request				Polling:			Peri	iod:					
Communica	tion	Туре											
♦ Group O	bject	Datapoint						Man	ndator	y: 🛛			
Default G	roup	Address: -											
Dynamics													
Power do	wn:	Save:											
Power up	):	Value:	No ini	tialisation:		Defau	ılt value:			$\boxtimes$			
			Saved	d value:	]								
						Read	from bu	s:					
<b>Exception F</b>	land	ling											
Special Fea	tures	<b>S</b>											

FB:	CPA	LTE Clie	ent DisableElPowerLim						N	Mandatory	<i>,</i> $\Box$
. D.	OI A	Input Na		DISABICEI	OWCILIII	l			•	Optiona	
Desc	ription:	•									
This i	nformation r	may be pro	ovided by	/ t.b.d.							
DPT:	Name [	OPT_Enab	le		DPT ID	1.003	Da	atatype	e format	B <sub>1</sub>	
Field			Description						Sup.	Unit	Default
			0 = disa	able, 1 = en	able				0	Bit	1
Com	munication								•	=	
Bin	ding Group	:									
Cla	ss		Type Defa					ult			
G	eographical	$\boxtimes$					1.1.1				
	oplication Sp	ecific 🖂	GenPer				1				
	nassigned		Broadca	ast 🗌	Configura	ıble 🗌					
	Address:		Ю Туре		t.b.d.			erty II	D:	t.b.d.	
	E-Service (e	vent <u>):</u>	InfoRep	ort Sniffer	on Bindin	· .					
	foReport	$\boxtimes$	Timeou	t:		31	Min				
	E <b>-Service (p</b> ead – Respo		Read W	/ildcard / Ro	esp Sniffer	on Bindi	ng Gr	oup:			
Value	e after Powe	er-up:		Default V	alue 🛚			_		Stored Va	lue 🗌
Exce	ption Hand	ling:						Sa	ve at Pov	verdown	
			-							·	
Spec	ial Features	s:									
					•						

# 3.5.6.5 Output CompressorPosEff

DP	Name:	Con	npressorP	osE	Eff <u>ι</u>	Abbr.:			Mandat	ory		
FΒ	Name:	CP/	4						Can be	interna		
De	scription											
ħ	is datapoint	con	tains the	oer	cent value of the actual	compr	essor a	actuator po	osition.			
Da	tapoint Ty	ре										
	PT_Name:	DI	PT_Scalin	g								
DP	T Format:	U	}					DPT_ID:	5.001			
Fie	eld	De	escription					Supp.	Range	Unit	Default	
									0100 <sup>*)</sup>	%	CS	
Ac	cess Type											
<b>♦</b>	Output											
	this $\rightarrow$ M	lacksquare		tl	his $\rightarrow$ 1							
	Spontaneo	us		)V:		ue: 1	N	/linRepTin	ne:	10 sec		
				clic	C ⊠ Period:	15	ī min (	recommer	nded value)	)		
	Request											
Co	mmunicati	ion <sup>-</sup>	Гуре									
<b>♦</b>	Group Ob	ject	Datapoint						Mandatory	· [		
	Default Gro	oup .	Address:	-								
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value:		No initialisation:		_ 0.0.0	ılt value:				
					Saved value:		Actua	l value:		$\square$		
			Transmit	on	bus:							
Ex	ception Ha	ndli	ng									
	ecial Featu											
<sup>'</sup> T	he coding of	of the	e actuator	set	tpoint value is: 0% → 0	100%	$\% \rightarrow 25$	5				

FB:	СРА	LTE Ser	ver	Output Name: Co	mpresso	rPosEf	f		M	landator Optiona	
Desci	ription:			<del>-</del>				·			
This c	output cor	tains the	val	ue of the actual com	npressor a	ctuator	posi	tion as w	ell as a S	TATUS	
inform	nation.										
DPT:	Name	DPT_R	elV	alue_Z	DPT ID	202.00			e format	$U_8Z_8$	
Field			De	escription		Sup.	Rar		Unit	COV	Default
ActPo				ctual actuator position		M	C	100	%	1	CS
STAT	US			or LTE-Service InfoR	Report				bitset		
				nd Property-Service							
			Re	esponse only							
	OfService					NA			Bit 0		
- Faul				ctuator fault		0		ie/false	Bit 1	Y	false
	rridden			ctuator is temp. over	ridden	0		ie/false	Bit 2	Y	false
- InAla				ctuator is in alarm	.1	0		ie/false	Bit 3	Y	false
- Aları	mUnAck			arm unacknowledge	ea	0	tru	ıe/false	Bit 4	Y	false
0	•		all	other bits		NA			Bit 5-7		
	nunicatio										
Clas	ding Gro	up:		T				Defe	14		
		ol.	$\boxtimes$	Type	Cub Zono			1.1.1			
	eographic plication			Apartment . Room GenPeripheral	. Subzone	;		<u>                                  </u>	l 		
	nassigned		<del> </del>	Broadcast	Configu	rabla [	7				
	Address:		<u> </u>	IO Type(ID):	373 (CPA			roperty I	D.	55	
		s (event):			MinRepTir			0 sec		tbeat:	15 min
	oReport			Output per default					roup Wild		
	ortoport			Tx Prio:	High	ating L	_	Normal		Lov	
(L	TE Read-	Response	)	TX T IIO.	ı ııgıı 🗀			Homia			" Ш
	lling of th			_	٥.				. 🖂	<b>5</b> ( ),	, .
	all always			Transm after Powe	r-up: Store	ed Valu	е 🗀	Act V	alue 🛚	Default \	/alue 🔲
su	pported)										
	perty-Ser			Read only		Read	/\//ri	<sub>го</sub> Г	7		
	ividual a			read only		rtcau	/ V V I I		<u> </u>		
Exce	otion Har	ndling:							Save	at Power	rdown 🗌
Speci	ial Featu	res:									

# 3.5.6.6 Output Fault

#### LTE-Mode

Not available.

DP Name:	Faul	t				Abl	or.:			Mandat	tory		
FB Name:	CPA	١								Can be	interna	al	
Description													
This datapoint	t may	/ indicate	a fau	It in the ac	tuator	(S-Mod	e only	y) see	also Con	npressorPo	sEff		
Datapoint Ty													
DPT_Name:	DF	T_Bool											
DPT Format:	B <sub>1</sub>								DPT_ID:				
Field	De	scription							Supp.	Range	Unit	Defau	ılt
										true/false	bool	0	
Access Type													
♦ Output		_											
this $\rightarrow$ M				$s \rightarrow 1$									
Spontaneo	us		OV:			-Value:			/linRepTir		10 sec		
			yclic		Perio	d:	15 ı	min (	recomme	nded value)	)		
Request													
Communicat										T			
♦ Group Ob			t							Mandatory	":		
Default Gro	oup <i>F</i>	\ddress:											
Dynamics													
Power dow		Save:	L			-							
Power up:		Value:		lo initialisa		Щ			ılt value:				
				Saved valu	e:			Actua	l value:				1
		Transmi	t on b	us:									
Exception Ha	andli	ng											
Special Featu	ıres												

# 3.5.6.7 Output Overridden

#### LTE-Mode

Not available.

DF	P Name:		erriddei	n				Abb	r.:			Manda			
FB	Name:	CP	A									Can be	interna	al	
De	escription														
Th	is datapoint	ma	y indica	ate th	nat the a	ctuato	or is ove	erridden	(S-N	/lode	only) see	also Comp	ressorF	PosEff	
Da	tapoint Ty	ре													
	PT_Name:	DI	PT_Bo	ol											
DF	PT Format:	B₁									DPT_ID:	1.002			
Fie	eld	De	escripti	ion							Supp.	Range	Unit	Defa	ult
												true/false	bool	0	
Ac	cess Type														
<b>♦</b>	Output														
	this $\rightarrow$ M				this $\rightarrow$	1									
	Spontaneo	us		CO	V:	$\boxtimes$	Delta-	-Value:		N	<b>MinRepTir</b>	ne:	10 sec		
				Cyc	lic	$\boxtimes$	Perio	d:	15 r	min (	recomme	nded value	)		
	Request		$\square$												
ŭ	ommunicati	ion '	Туре												
•	Group Ob	ject	Datapo	oint								Mandatory	<b>'</b> :		
	Default Gro	oup.	Addres	ss:											
Dy	namics														
	Power dow	n:	Save:	:											
	Power up:		Value	<b>:</b> :	No in	itialisa	ition:		[	Defau	ılt value:				
					Save	d valu	e:			Actua	ıl value:		$\boxtimes$		
				smit c	on bus:				]						
Ex	ception Ha	ndl	ing												
Sp	ecial Featu	ıres													

# 3.5.6.8 Parameter Apartment

FB:	СРА	Proper	ty Name ( <u>Ser</u>	<u>rver</u> ):	Αį	partment					Mandator Optiona	• =
Desc	ription:									<del></del>	•	
Numb	er of the a	partment	zone.									
DPT:	Name	DPT_U	countValue8_	Z		DPT ID	202.002	2	Data	atype format	$U_8Z_8$	
Field			Description					S	up.	Range	Unit	Default
Zone			Number of th	ne apai	rtm	nent zone			M	(0) 1126		1
STAT	US										Bitset	
- Outo	ofService		zone active /	' inactiv	/e				0	true/false	Bit 0	false
- all o	ther bits		not supporte	d, fixed	d to	o '0'		١	۱A			false
COM	MAND									enum		CS
- Norr	malWrite								M	0		
- SetC	DSV & Res	setOSV	Set zone ina		ac	tive			0	3 / 4		
- all o	ther comm	ands	not supporte	<u>d</u>				١	NA_			
Comr	nunicatio	n:										
DP.	Address:		IO Type(ID	):		373 (CPA	)			ty ID:	101	
(in t	he server	)	Start-Index	:		1		N	° of e	lements	1	
Pro	perty acce	ess:	Read only				Read/W	/rite	)	$\boxtimes$		
Pro	tection		Read level			-		W	rite l	evel	-	
Exce	ption Han	dling:	Value after F	ower-	up:	Stored	Value 🛚	Α	ct Va	lue 🗌 Def	ault Value	: 🗌
Spec	ial Feature	es:										
			ds to all listen									
The d	evice is no	ot LTE co	mmunicating	in this	ZΟ	ne if it is '	OutOfSe	vic	e'			
If Apa	rtment is '	OutOfSei	vice' Room a	nd Sub	Σc	one autom	natically a	ire	'OutC	OfService'		

#### 3.5.6.9 Parameter Room

FB:	СРА	Proper	ty Name ( <u>Server</u> ):	Room				Mandator Optiona	•
Desc	ription:	<u>l</u>						Орион	
	er of the re	oom zone	9.						
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	2 Data	atype format	U <sub>8</sub> Z <sub>8</sub>	
Field			Description	•		Sup.	Range	Unit	Default
Zone			Number of the room	n zone		M	(0) 163		1
	US ofService ther bits		zone active / inactiv	•		O NA	true/false	Bitset Bit 0	false false
- Norr	MAND nalWrite OSV & Res ther comm		Set zone inactive / a			M O NA	enum 0 3 / 4		cs
	nunicatio						<u></u>	<u> </u>	l
	Address: he server	)	IO Type(ID): Start-Index:	373 (CP/	4)	Proper N° of e	rty ID: elements	102 1	
	perty acce	<u> </u>	Read only		Read/W		$\square$		
	tection		Read level	-		Write I	evel	-	
Exce	otion Hand	dling:	Value after Power-u	ıp: Stored	Value ⊠	Act Va	lue 🗌 Det	fault Value	
	ial Feature								
The d	evice is no	t LTE co	ds to all listeners mmunicating in this a ver from Apartment	zone if it is	'OutOfSer	rvice'			

# 3.5.6.10 Parameter SubZone

FB:	СРА	Proper	ty	Name ( <u>Server</u> ):	S	ubZone					Mandator Optiona	
Desc	ription:	-			_					<u>.</u>		
Numb	er of the s	ub zone.										
DPT:	Name	DPT_U	00	untValue8_Z		DPT ID	202.002	)	Data	atype format	$U_8Z_8$	
Field			_	Description				S	up.	Range	Unit	Default
Zone			Ν	lumber of the Sub	Zo	ne			M	(0) 115		1
STAT	US										Bitset	
- Outo	ofService		1 –	one active / inactive					0	true/false	Bit 0	false
- all o	ther bits		n	ot supported, fixed	d to	o '0'		١	۱A			false
	MAND									enum		CS
	malWrite								M	0		
	DSV & Res		S	Set zone inactive /	ac	tive			O	3 / 4		
	ther comm		n	ot supported				1	NA_			
Comr	munication	า:										
DP .	Address:			IO Type(ID):		373 (CPA	<b>(</b> )			ty ID:	103	
(in t	he server)			Start-Index:		1		N'	° of e	elements	1	
Pro	perty acce	ess:		Read only			Read/W	rite	)	$\boxtimes$		
Pro	tection			Read level		-		W	rite l	evel	-	
Exce	ption Hand	dling:	٧	alue after Power-	up	: Stored	Value 🛚	Α	ct Va	lue 🗌 Def	fault Value	: 🗌
Spec	ial Feature	es:										
Zone	= 0 (wildca	rd): Sen	ds	to all listeners								
				municating in this	ZO	ne if it is '	OutOfSer	vic	e'			
'OutO	fService' is	taken o	ve	er from Apartment								

# 3.5.6.11 Parameter GenPeripheral

FB:	СРА	Proper	ty Name ( <u>Server</u> ):	GenPeripheral			Mandator Optiona	
Descr	ription:					<u></u>	<u> </u>	
		eneral pe	eripheral tag.					
DPT:	Name	DPT_U	countValue16_Z	DPT ID 203.01	2 Data	type format	U <sub>16</sub> Z <sub>8</sub>	
Field	•		Description		Sup.	Range	Unit	Default
Zone			Number of the Sub	Zone	M	full		1
STAT	US						Bitset	
- Outo	ofService		zone active / inacti	ve	0	true/false	Bit 0	false
- all ot	ther bits		not supported, fixe	d to '0'	NA			false
COM	MAND					enum		cs
- Norn	nalWrite				M	0		
	OSV & Rese		Set zone inactive /	active	0	3 / 4		
- all ot	ther comma	ands	not supported		NA			
Comn	nunication	:						
DP /	Address:		IO Type(ID):	373 (CPA)	Proper	ty ID:	104	
(in t	he server)		Start-Index:	1	N° of e	lements	1	
Prop	perty acce	ss:	Read only	☐ Read/\	Vrite	$\boxtimes$		
Prot	ection		Read level	-	Write le	evel	-	
Excep	otion Hand	ling:	Value after Power-	up: Stored Value 🛭	Act Va	lue 🗌 De	fault Value	)
Speci	ial Feature	s:						
			ds to all listeners					
The d	evice is not	LTE co	mmunicating in this	zone if it is 'OutOfSe	ervice'			

## 3.5.6.12 Zone t.b.d.

ev. Distribution Segment

## 3.5.6.13 Parameter MinRunTime

FB:	СРА	Propert	y Name ( <u>Server</u> ):	MinRu	ınTim	ie				Mandator Optiona	
Desci	ription:										
Minim	ium run tim	e of the c	compressor.								
DPT:	Name	DPT_Tim	nePeriodSec	DPT	ΓID	7.005	D	ata	type format	U <sub>16</sub>	
Field			Description				Sup	١.	Range	Unit	Default
									full	sec.	CS
Comr	nunication	1:				•				-	
DP A	Address:		IO Type(ID):	373	(CPA	)			y ID:	111	
(in t	he server)		Start-Index:	1			N° o	f el	ements	1	
Pro	perty acce	ss:	Read only			Read/W	rite/		$\boxtimes$		
Prot	tection		Read level	-			Writ	e le	vel	-	
Exce	otion Hand	lling:	Value after Power-u	p: St	tored '	Value 🛚	Act	Val	ue 🔲 Def	ault Value	· 🗌
Speci	ial Feature	s:									
		•		<u> </u>						•	•

## 3.5.6.14 Parameter MinDwellTime

FB:	CPA	Propert	y Name (Server):	Min	าDwellT	ime			Mandator	v
		•	,						Optiona	
				_					Ориона	ai 🔼
Desc	ription:									
Minim	num dwell ti	ime of the	e compressor.							
DPT:	Name	DPT_Tir	nePeriodSec		OPT ID	7.005	Data	atype format	U <sub>16</sub>	
Field			Description				Sup.	Range	Unit	Default
								full	sec.	CS
Com	municatior	1:							-	
DP	Address:		IO Type(ID):	3	73 (CPA	۸)	Proper		112	
(in t	he server)		Start-Index:	1			N° of e	lements	1	
Pro	perty acce	ss:	Read only			Read/W	/rite	$\boxtimes$		
Pro	tection		Read level	-			Write I	evel	-	
Exce	ption Hand	lling:	Value after Power-	up:	Stored	Value 🛚	Act Va	lue 🔲 Def	ault Value	· 🔲
Spec	ial Feature	s:								
		•				•			•	

### 3.6 Electrical Heating Element Actuator (EHEA)

## 3.6.1 Aims and objectives

The Functional Block 'Electrical Heating Element Actuator' contains the functionality for the following "elements":

- Heat Stage A ON/OFF
- Heat Stage A Proportional
- Heat Stage B Proportional

It is possible to implement only part of this functions.

The Functional Block translates the actuator setpoint information to the heating element control signal and eventually provides the system with the actual heating element status as feedback.

## 3.6.2 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 'Electrical Heating Element Actuator' supports the following LTE zoning:

- "Apartment . Room . SubZone"
- "General Peripheral Tag".

#### Optional function:

- Faults in the actuator device may be detected and reported in the ActPosHeatStageA etc.
- The ActPosSetpHeatStageA etc. may temporary be overridden by means of a tool for service purpose.

The 'Overridden' condition must be reported.

Behaviour of the actuator if no valid setpoint is available (company specific):

- stop the heater
- leave unchanged

#### **Inputs**

• ON/OFFHeatStageA This is the ON/OFF input for the heat
--

• ActPosSetpHeatStageA This is the actuator setpoint given by a controller.

ActPosSetpHeatStageB ditto

• ElectricalPowerLimitation Percentage value form a supervisor or a loadshedder to

limit the electrical power (percent of max power).

• DisableElPowerLim For disabling the above limitation.

LoadSheddingLimitation
 This percentage value limits the output to a max value

given by a loadshedder.

• DisableLoadShedding For disabling the above limitation.

#### **Outputs**

• ON/OFFHeatStageAEff This is the effective ON/OFF position of the actuator.

• ActPosHeatStageA This is the effective percentage of energy applied to

the resistor, in LTE together with attributes.

• ActPosHeatStageB ditto

DisableFan
 This output is used to disable the fan in case of

power limitation to zero.

Fault indication in S-Mode

• Overridden indication in S-Mode

#### **Binding Group (LTE)**

• Apartment . Room . SubZone

General Peripheral

t.b.d. \*)

This actuator 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**

• HeaterMode This parameter is used when a device contains more

than one actuator function. The following table shows the modes and the corresponding implementation of

the inputs / outputs:

				In	npleme	ntation	of		
			Inputs			(	Outputs	3	
Heate	rMode	ON/OFF HeatStageA	ActPosSetp HeatStageA	ActPosSetp HeatStageB	ON/OFF HeatStagAEff	ActPos HeatStagA	ActPos HeatStagB	Fault	Overridden
1	Heat Stage A ON/OFF	M			О			(GO)	(GO)
2	Heat Stage A Proportional	M	M			О		(GO)	(GO)
3	Heat Stage B Proportional			M			О	(GO)	(GO)

So if a device shall contain the functionality of a Heating Actuator Stage A and a Heating Actuator Stage B the parameter ActuatorMode is necessary and can be 2 or 3 and the following inputs are mandatory:

- ActPosSetpHeatStageA
- ActPosSetpHeatStageB

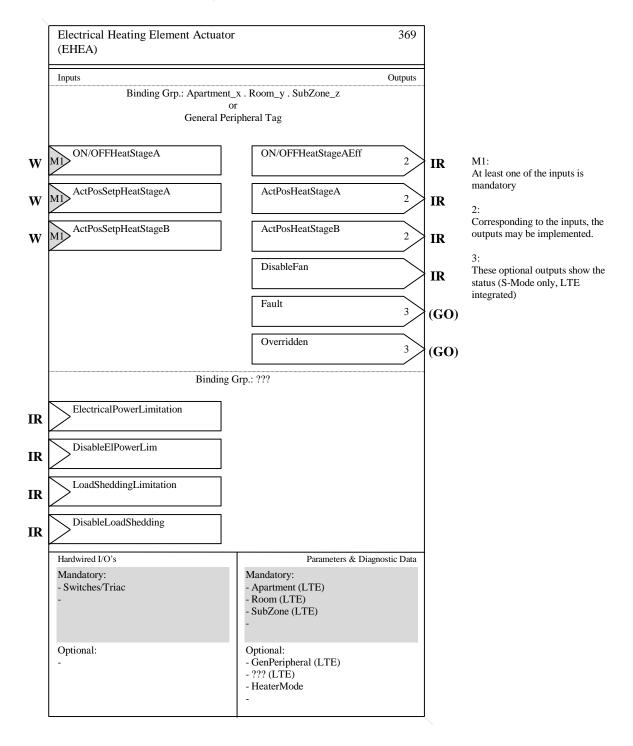
The corresponding outputs are optional.

<sup>\*)</sup> eventually distribution segment

### 3.6.3 Constraints

None.

## 3.6.4 Functional Block Diagram



# 3.6.5 Datapoint Description

#### Overview

Datapoints	Description / Remarks	Data Point Type	Additional Info
Inputs			
ON/OFF Heat StageA	ON/OFF for the heating actuator stage A with: - COV and RepPer - Z <sub>8</sub> not supported from FB various controller	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: M1 1) S: GO ON/OFF
Act Pos Setp Heat StageA	Position value for the heating actuator stage A with: - COV and RepPer - Z <sub>8</sub> STATUS and - Z <sub>8</sub> 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 <sub>8</sub> STATUS and - Z <sub>8</sub> 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 %
Electrical Power Limitation	t.b.d by DEH	LTE: 202.001 DPT_RelValue_Z $U_8Z_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O S: (GO)
Disable ElPower Lim	t.b.d by DEH	LTE: 1.003 DPT_Enable B <sub>1</sub> S: 1.003 DPT_Enable B <sub>1</sub>	LTE: O S: (GO) enable / disable
Load Shedding Limitation	t.b.d by DEH	LTE: 202.001 DPT_RelValue_Z $U_8Z_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O S: (GO)
Disable Load Shedding	t.b.d by DEH	LTE: 1.003 DPT_Enable B <sub>1</sub> S: 1.003 DPT_Enable B <sub>1</sub>	LTE: O S: (GO) enable / disable

See Aims and objectives in clause 3.6.1.

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
ON/OFF Heat StageA Eff	Status of ON/OFF heating actuator stage A with - COV and RepPer mainly to FB 'HMI' or supervisor	$ \begin{tabular}{lllllllllllllllllllllllllllllllllll$	LTE: O2 1) S: (GO) ON / OFF
Act Pos Heat StageA	Position value of heating valve stage A with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI' or supervisor	$LTE: 207.105 \\ DPT\_StatusAct \\ U_8B_8 \\ S: 5.001 \\ DPT\_Scaling \\ U_8$	LTE: O2 1) S: (GO) %
Act Pos Heat StageB	Position value of heating valve stage B with - COV and RepPer - Status B <sub>8</sub> mainly to FB 'HMI or supervisor	LTE: 207.105 DPT_StatusAct $U_8B_8$ S: 5.001 DPT_Scaling $U_8$	LTE: O2 1) S: (GO) %
Disable Fan	Disable fan in case of limitation to zero with - COV and RepPer mainly to FB Fan Speed Actuator	$LTE: 1.003\\ DPT\_Disable\\ U_8B_8\\ S: 1.003\\ DPT\_Disable\\ B_1$	LTE: O S: (GO) enable / disable
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
Overridden	The actuator is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false

See Aims and objectives in clause 3.6.1.

Datapoints	Description / Remarks	Data Point Type	Additional Info
Parameters			
Apartment	LTE zoning number for Apartment	$\begin{array}{c} 202.002\\ DPT\_UcountValue8\_Z\\ U_8Z_8 \end{array}$	M 1
Room	LTE zoning number for Room	$\begin{array}{c} 202.002\\ DPT\_UcountValue8\_Z\\ U_8Z_8 \end{array}$	M 1
SubZone	LTE zoning number for SubZone	$\begin{array}{c} 202.002\\ \text{DPT\_UcountValue8\_Z}\\ U_8Z_8 \end{array}$	M 1
Gen Peripheral	LTE zoning number for general peripheral	$\begin{array}{c} 203.012\\ \text{DPT\_UcountValue16\_Z}\\ U_{16}Z_{8} \end{array}$	O 1
t.b.d.	Zoning to be defined by DEH		
Heater Mode	Heater Mode: Defining the usage of the actuator	20.110 2) DPT_HeaterMode N <sub>8</sub>	O 1

 $<sup>^{2)}</sup>$  Implementation of Properties using standard DPT see clause 1.3.2

**EHEA Runtime Interworking - Dependence on Configuration Modes** 

			STANDARD MODE	Exte Mo	NDED DDE
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE
Inputs	ON/OFFHeatStageA	$GO_b$	GO	GO	M 1)
	ActPosSetpHeatStageA	$GO_b$	GO	GO	M 1)
	ActPosSetpHeatStageB	$GO_b$	GO	GO	M 1)
	ElectricalPowerLimitation	(GO)		(GO)	0
	DisableElPowerLim	(GO)		(GO)	0
	LoadSheddingLimitation	( <b>GO</b> ) (GO)	(GO)	0	
	DisableLoadShedding	(GO)		(GO)	0
Outputs	ON/OFFHeatStageAEff	(GO) <sub>b</sub>		(GO)	0
	ActPosHeatStageA	(GO) <sub>b</sub>		(GO)	0
	ActPosHeatStageB	(GO) <sub>b</sub>		(GO)	0
	DisableFan	(GO) <sub>b</sub>		(GO)	0
	Fault	(GO) <sub>b</sub>		(GO)	NA
	Overridden	(GO) <sub>b</sub>		(GO)	NA

<sup>1)</sup> See Aims and objectives in clause 3.6.1.

## **EHEA LTE specific Properties**

		Support
Parameter	Apartment	M
	Room	M
	SubZone	M
	GenPeripheral	0
	t.b.d. *)	0

\*) ev. Distribution Segment

# **EHEA Standard Properties of Interface Objects (or memory mapped DP)**

		Support
Parameter	HeaterMode	0

# 3.6.6 Detailed Specification of the Datapoints

## 3.6.6.1 Input ON/OFFHeatStageA

DP Nar	ne: C	N/O	FFHeatSta	ageA			Abbr.:				Manda	itory	
FB Nan	ne: E	HEA	4								Can be	e interna	al 🔲
Descrip	otion												
This inp	ut signa	l cor	ntains the	ON/OF	F for the actu	ator							
Datapo	int Type	)											
DPT_N	ame:	DPT	_Switch										
DPT Fo	rmat:	B <sub>1</sub>							DP	T_ID:	1.001		
Field		Des	cription						Sı	ıpp.	Range	Unit	Default
											ON/OFF	Bit	CS
Access	Туре												
♦ Inp	ut												
$N \rightarrow$	this			$1 \rightarrow th$	is 🛛								
Spo	ntaneou	S	$\boxtimes$		Cyclically:		$\boxtimes$			Time-	out:	31 mir	rec.)
Req	uest				Polling:					Perio	d:		
Commi	unicatio	n Ty	/ре										
♦ Gro	up Obje	ct D	atapoint								Mandator	y:   🖂	
Defa	ault Grou	ір Ас	ddress:										
Dynam	ics												
Pow	er down		Save:										
Pow	er up:	\	/alue:	No in	itialisation:			Defau	ılt va	alue:			
				Save	d value:								
								Read	fron	n bus:			
Except	ion Han	dlin	g										
Specia	l Featur	es											

FB:	EHEA	LTE Serv	/er	Input Name:	ON/	OFFHeat	StageA				I	Mandatory Optiona		
Desci	ription:									<u>.                                    </u>		•		
This in	nput signa	al contains	th:	e ON/OFF for t	he a	ctuator.								
DPT:	Name	DPT_Sw	vitc	:h		DPT ID	1.001		Datat	ype	format	B <sub>1</sub>		
Field		•		Description							Sup.	Unit	De	fault
												Bit	C	cs
Comr	nunicatio	n:										-		
Bind	ding Grou	ıp:												
Clas	SS			Туре				D	efault					
Ge	eographic	al [	$\boxtimes$	Apartment . Ro	om	. SubZone	Э	1.	1.1					
Ap	plication	Specific [	$\boxtimes$	GenPeripheral				1						
Ur	assigned			Broadcast		Configura	able 🗌							
DP A	Address:			IO Type(ID):		369 (EHI	ΞΑ)	F	ropert	y ID:		51		
	-Service rite	(event):		Timeout:			3	1 M	in					
	perty-Ser ividual a			Read only			Read	/Writ	e	$\boxtimes$				
Value	after Po	wer-up:		Defa	ult V	alue 🛚					,	Stored Val	ue [	
Exce	otion Har	ndling:								Sav	e at Po	wer-down		
					•				•	•				
Speci	ial Featur	es:												_

# 3.6.6.2 Input ActPosSetpHeatStageA

DP Nai	me:	ActF	PosSetpHeat	Stage	A	Abbr.:				Manda	tory	$\boxtimes$
FB Nar	ne:	EHE	A							Can be	interna	al 🗌
Descri	ption											
This in	out sign	al c	ontains the p	ercent	t setpoint value	for the act	uator					
Datapo	oint Typ	эе										
DPT_N	lame:	DF	PT_Scaling									
DPT F	ormat:	U <sub>8</sub>						DPT.	_ID:	5.001		
Field		De	scription					Sup		Range	Unit	Default
									(	)100 <sup>*)</sup>	%	CS
Acces	s Type											
♦ Inp	ut											
N -:	→ this		] /	$1 \rightarrow th$	is 🛛							
Spo	ntaneo	us			Cyclically:			Т	ïme-οι	ıt:	31 min	(rec.)
Rec	uest				Polling:			Р	eriod:			
Comm	unicati	on 1	уре									
♦ Gro	oup Obj	ect l	Datapoint						M	andatory	<i>'</i> : 🛛	
Defa	ault Gro	up A	Address: -									
Dynam	nics		<u>.</u>									
Pow	ver dow	n:	Save:									
Pow	ver up:		Value:	No in	itialisation:		Defau	ılt valı	ıe:			
				Save	d value:							
					·		Read	from	bus:			
Except	tion Ha	ndli	ng									
Specia	I Featu	res										
The c	oding c	of the	actuator se	tpoint	value is: 0% →	0 100%	→ 25	55	•	•		

FB: EHEA	LTE Server	Input Name:	ActPosSetpl	leatStage	eΑ		Mandatory ⊠ Optional □			
Description:								<u> </u>		
This input signa	al contains th	e percent setpo	oint value for t	he actuato	or with a	STA	TUS inf	ormation.	The	
input may be o			MAND.							
	DPT_RelV		DPT ID	202.001	Data	type f	format	U <sub>8</sub> Z <sub>8</sub>		
Field		Description					Sup.	Unit	Default	
Actuator position	on	Percent value		r position			M	%	0	
STATUS		For Read Serv						Bitset		
<ul> <li>OutOfService</li> </ul>		Input out of se					0	Bit 0	false	
<ul> <li>Overridden</li> </ul>		Input is tempo	rarily overridd	en			0	Bit 2	false	
- all other bits		fixed to '0'					NA		false	
COMMAND		For Write Serv						enum.		
- NormalWrite		Used for norm		nmunication	on		M	0		
,_	_	(LTE Write Se					0			
- Override / Re	lease	Used for temporary override / release of the input						1/2		
		(mainly by a tool using Property Write access with								
		individual addressing)								
- all other comr		-				L	NA			
Communication										
Binding Gro	up:	-			5 ( );					
Class		Туре			Default					
Geographic		Apartment . Ro		е	1.1.1					
Application		GenPeripheral			1					
Unassigned		Broadcast	Configur		_					
DP Address:		IO Type(ID):	369 (EH	EA)	Proper	ty ID:		52		
LTE-Service Write	(event):	Timeout:		31	Min					
Property-Sei										
(individual a	ccess):	Read only		Read/V	Vrite					
Value after Po		Defa	ult Value 🛚					Stored Val	ue 🗌	
<b>Exception Hai</b>	ndling:					Save	e at Pov	wer-down		
Special Featur	res:									
							·			

# ${\bf 3.6.6.3} \quad Input\ ActPosSetpHeatStageB$

DF	P Name:	ActF	PosSetpHeat	tStagel	В		Abbr.:		•		Λ	/landat	tory		
FB	Name:	EHE	ΞA								C	can be	interna	al	
De	scription														
Th	is input sigr	nal c	ontains the p	ercent	t setpoint val	ue fo	or the ac	ctuator	r						
Da	tapoint Ty	ре													
DF	PT_Name:	DF	T_Scaling												
DF	PT Format:	U <sub>8</sub>							DP	T_ID:	5	.001			
Fie	eld	De	scription						S	upp.		nge	Unit	Def	ault
											0	100 <sup>*)</sup>	%	С	s
Ac	cess Type														
<b>♦</b>	Input														
	$N \rightarrow this$		] [	$1 \rightarrow th$	is 🛛										
	Spontaneo	us	$\boxtimes$		Cyclically:		$\boxtimes$			Time-	out:		31 mir	rec.	.)
	Request				Polling:					Perio	d:				
Cc	mmunicati	ion 1	уре												
•	Group Ob	ject l	Datapoint								Man	datory	<i>'</i> : ⊠		
	Default Gro	oup A	Address:												
Dy	namics														
	Power dow	n:	Save:												
	Power up:		Value:	No in	itialisation:			Defa	ult va	alue:					
				Save	d value:										
								Read	l fror	n bus:					
Ex	ception Ha	ndli	ng												
	ecial Featu														
<sup>7)</sup> T	he coding of	of the	actuator se	tpoint	value is: 0%	$6 \rightarrow 6$	100%	$6 \rightarrow 25$	55						

FB: EHEA LTE	E Server	Input Name:	ActPosSetpF		Mandatory ⊠ Optional □				
Description:								Ориона	
This input signal co	ntains th	e percent setp	oint value for t	ne actuato	r with a	STAT	US inf	ormation.	The
input may be overri									
	PT_RelVa	alue_Z	DPT ID	202.001	Datat	type fo	ormat	$U_8Z_8$	
Field		Description					Sup.	Unit	Default
Actuator position		Percent value	of the actuator	r position			M	%	0
STATUS		For Read Serv	ice only					Bitset	
<ul> <li>OutOfService</li> </ul>		Input out of se					0	Bit 0	false
- Overridden		Input is tempo	rarily overridde	en			0	Bit 2	false
- all other bits		fixed to '0'					NA		false
COMMAND		For Write Serv	rice only					enum.	
<ul> <li>NormalWrite</li> </ul>		Used for norm	al runtime con	nmunicatio	n		M	0	
		(LTE Write Se	rvice)						
- Override / Release	е	Used for temp	orary override	/ release	of the in	put	0	1/2	
		(mainly by a tool using Property Write access with							
		individual add	ressing)						
- all other command	ds								
Communication:									-
Binding Group:									
Class		Type			Default				
Geographical	$\square$	Apartment . R	oom . SubZon	Э	1.1.1				
Application Spec	cific 🛛	GenPeriphera	<u> </u>		1				
Unassigned		Broadcast	Configura	able 🗌					
DP Address:		IO Type(ID):	369 (EHI	ΞΑ)	Proper	ty ID:		53	
LTE-Service (eve Write	ent):	Timeout:		31	Min				
Property-Service (individual acces		Read only		Read/W	/rite	$\boxtimes$			
Value after Power-	-up:	Defa	ult Value 🛚					Stored Val	ue 🗌
<b>Exception Handlin</b>						Save	at Pov	wer-down	
<b>Special Features:</b>									
					·			<u></u>	

### 3.6.6.4 Input ElectricalPowerLimitation

DF	Name:	Elec	tricalPow	erLimitat	ion			Abbr.:				ľ	Mandat	ory		
FB	Name:	EHE	A									(	Can be	internal		
De	scription															
Th	is information	on ma	ay be pro	vided by	t.b.d.											
Da	tapoint Ty	ре														
	PT_Name:	DP	T_Scalin	g												
DF	PT Format:	U <sub>8</sub>								DP	T_ID	): 5	5.001			
Fie	eld	De	scription							Su	pp.		nge	Unit	Defa	ult
										(	C	0 ′	100 <sup>*)</sup>	Bit	cs	
Ac	cess Type															
<b>♦</b>	Input															
	$N \rightarrow this$			$1 \rightarrow th$	is											
	Spontaneo	us	$\boxtimes$		Cycli	cally:		$\boxtimes$			Time	e-out:		31 min	(rec.)	
	Request				Pollir	ng:					Peri	od:				
Co	mmunicati	ion T	уре													
<b>♦</b>	Group Ob	ject [	<b>Datapoint</b>									Mar	ndatory	':   🖂		
	Default Gro	oup A	ddress:													
Dy	namics															
	Power dow	n:	Save:													
	Power up:		Value:	No ir	nitialisa	ation:			Defau	ult va	alue:			$\boxtimes$		
				Save	d valu	ıe:										
									Read	fror	n bus	s:				
Ex	ception Ha	ndlir	ng													
	ecial Featu															
<sup>*)</sup> T	he encodin	g of t	he limitat	tion is: 0	% → (	0 100%	$\rightarrow$	255								

FB: EHEA LTE Cli		Electrica	alPowerLin			Mandatory Optiona		
Description:		•			•			
This information may be pr		/ t.b.d.						
<b>DPT:</b> Name DPT_RelV	/alue_Z		DPT ID	202.001	Datat	ype format	$U_8Z_8$	
Field	Descrip					Sup.	Unit	Default
Limitation	Percent	t value of l	limitation			0	%	CS
STATUS						M	Bitset	
Bit 0 - OutOfService		n out of se				0	t/f	false
Bit 1 - Fault		tion is cor				0	t/f	false
Bit 2 - Overridden			nporarily ov	erridden		0	t/f	false
Bit 3 - InAlarm		tion with a				0	t/f	false
Bit 4 - AlarmUnAck		•	nt of alarm			0	t/f	false
all other bits	reserve	d				NA		
Communication:								
Binding Group:								
Class	Type				Default			
Geographical 🖂	Apartm	ent . Roor	n . SubZon	е	1.1.1			
Application Specific	GenPe	ripheral			1			
Unassigned	Broadc	ast 🗌	Configur	able 🗌				
DP Address:	Ю Туре		t.b.d.		Propert	y ID:	t.b.d.	
LTE-Service (event):			er on Bindii					
InfoReport 🖂	Timeou	t:		31	Min			
LTE-Service (polling):  Read – Response	):							
Value after Power-up:	<del>-</del>	Default	Value 🛚			<del>-</del>	Stored Va	lue 🗌
Exception Handling:						Save at Po	werdown	
Special Features:								

# 3.6.6.5 Input DisableElPowerLim

#### **Standard Mode**

DP N	lame:	Disa	bleElPower	Lim		Abbr.:		-		M	anda	tory		
FB N	lame:	EHE	A							Ca	an be	internal		
Desc	ription													
This	information	on ma	ay be provid	ded by	t.b.d.									
Data	point Typ	эе												
DPT_	_Name:	DP	T_Enable											
DPT	Format:	B <sub>1</sub>						DP	T_ID:	1.0	003			
Field		De	scription					S	upp.	Ran	ge	Unit	Defa	ult
		0 =	disable, 1	= enab	le				0	0 /	1	Bit	cs	
Acce	ess Type													
♦ li	nput													
Ν	$\rightarrow$ this			$1 \rightarrow th$	is 🛛									
S	pontaneo	us			Cyclically:				Time-	out:		31 min	(rec.)	
R	equest				Polling:				Perio	d:				
Com	municati	on T	уре											
<b>♦</b> (	Group Ob	ject [	Datapoint							Mano	datory	/:		
D	efault Gro	oup A	ddress:											
Dyna	amics													
P	ower dow	n:	Save:											
P	ower up:		Value:	No in	itialisation:		Defa	ult va	alue:			$\boxtimes$		
				Save	d value:									
							Read	d fror	n bus:					
Exce	eption Ha	ndlir	ng											
Spec	ial Featu	ires												
						·								

		T									_
FB:	EHEA	LTE Clie		DisableEl	PowerLim	1			N	Mandatory	
		Input Na	ame:							Optiona	
Desc	ription:										
This i	information r	may be pro	ovided by	/ t.b.d.							
DPT:	Name [	OPT_Enab	le		DPT ID	1.003	Data	type	format	B <sub>1</sub>	
Field			Descrip	tion					Sup.	Unit	Default
			0 = disa	ble, 1 = en	able				0	Bit	1
Com	munication:		=							i .	<del>-</del>
Bin	ding Group	:									
Cla	SS		Туре				Default				
G	eographical	$\boxtimes$	Apartme	ent . Room	. SubZone	)	1.1.1				
Ap	oplication Sp	ecific 🛚	GenPer	ipheral			1				
Uı	nassigned		Broadca	ast 🗌	Configura	able 🗌					
DP	Address:		Ю Туре	e(ID):	t.b.d.		Proper	ty ID	:	t.b.d.	
LTE	E-Service (e	vent):	InfoRep	ort Sniffer	on Bindin	g Group:		-	-		
In	foReport		Timeou	t:		31	Min				
	E <b>-Service (p</b> ead – Respo		Read W	/ildcard / Re	esp Sniffe	on Bind	ing Grou	ıp: -	-		
Value	e after Powe	er-up:	-	Default V	alue 🛚			-	5	Stored Va	lue 🗌
Exce	ption Hand	ling:						Sav	e at Pov	verdown	
Spec	ial Features	S:	•	_	-	•			•		•

# 3.6.6.6 Input LoadSheddingLimitation

DF	P Name:	Load	dSheddingL	<u>imitatio</u>	n	Abbr.:				Manda	tory	
FB	Name:	EHE	A							Can be	internal	
De	scription											
Th	is information	n m	ay be provi	ded by	t.b.d.							
Da	tapoint Ty	эе										
DF	PT_Name:	DF	T_Scaling									
DF	PT Format:	U <sub>8</sub>						DPT_	ID:	5.001		
Fie	eld	De	scription					Supp	. R	ange	Unit	Default
								0	0	. 100 <sup>*)</sup>	Bit	CS
Ac	cess Type											
<b>♦</b>	Input											
	$N \rightarrow this$		]	$1 \rightarrow th$	is 🛛							
	Spontaneo	us	$\boxtimes$		Cyclically:	$\boxtimes$		Tir	ne-ou	t:	31 min	(rec.)
	Request				Polling:			Pe	riod:			
Cc	mmunicati	on 1	уре									
<b>♦</b>	Group Ob	ject l	Datapoint						Ma	andatory	/:   🖂	
	Default Gro	oup A	Address:									
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value:	No in	itialisation:		Defa	ult value	e:		$\boxtimes$	
				Save	d value:							
							Read	from b	us:			
Ex	ception Ha	ndli	ng									
	ecial Featu											
<sup>*)</sup> T	The encodin	g of	the limitatio	n is: 0°	% → 0 100°	% <del>→</del> 255		·				

FB: EHEA LTE Cli Input N		LoadShe	eddingLim			Mandatory Optiona		
Description:		•			•			
This information may be pr	ovided by	y t.b.d.						
<b>DPT:</b> Name DPT_Rel\	/alue_Z		DPT ID	202.001	Datat	ype format		
Field	Descrip					Sup.		Default
Limitation	Percen	t value of	limitation			0	%	CS
STATUS						M	Bitset	
Bit 0 - OutOfService		n out of se				0	t/f	false
Bit 1 - Fault		ition is cor				0	t/f	false
Bit 2 - Overridden			nporarily ov	erridden		0	t/f	false
Bit 3 - InAlarm		tion with a				0	t/f	false
Bit 4 - AlarmUnAck		•	nt of alarm			0	t/f	false
all other bits	reserve	<u>d</u>				NA		
Communication:								
Binding Group:					r			
Class	Туре				Default			
Geographical 🖂			n . SubZon	е	1.1.1			
Application Specific	GenPe				1			
Unassigned	Broadc		Configur	able 🗌				
DP Address:	IO Type		t.b.d.		Propert	y ID:	t.b.d.	
LTE-Service (event):			er on Bindir					
InfoReport 🖂	Timeou	t:		31	Min			
LTE-Service (polling):  Read – Response	Read V	/ildcard / I	Resp Sniffe	r on Bindi	ng Group	):		
Value after Power-up:	<del>-</del>	Default	Value 🛚			<del>-</del>	Stored Va	lue 🗌
Exception Handling:						Save at Po	owerdown	
Special Features:						_	_	

# 3.6.6.7 Input DisableLoadShedding

#### **Standard Mode**

DP	Name:	Disa	bleLoadSh	edding		Abbr.:			Mano	datory	
FΒ	Name:	EHE	Α						Can	be interna	
De	scription										
Th	is information	on ma	ay be provi	ided by	t.b.d.						
Da	tapoint Ty	ре									
DP	T_Name:	DP	T_Enable								
DP	T Format:	B <sub>1</sub>						DPT_ID:	1.003	3	
Fie	eld	De	scription					Supp.	Range	Unit	Default
		0 =	disable, 1	= enab	le			0	0/1	Bit	cs
Ac	cess Type										
<b>♦</b>	Input										
	$N \rightarrow this$			$1 \rightarrow th$	is 🛛						
	Spontaneo	us			Cyclically:			Time	-out:	31 min	(rec.)
	Request				Polling:			Perio	od:		
Со	mmunicati	ion T	уре								
<b>♦</b>	Group Ob	ject [	Datapoint						Mandato	ory: 🛛	
	Default Gro	oup A	ddress:								
Dy	namics										
	Power dow	n:	Save:								
	Power up:		Value:	No in	itialisation:		Defau	ılt value:		$\boxtimes$	
				Save	d value:						
							Read	from bus	:		
Ex	ception Ha	ndlii	ng								
Sp	ecial Featu	ıres									
			·							·	

		T									_
FB:	EHEA	LTE Clie		DisableLo	adShedd	ing			N	Mandatory	
		Input Na	ame:							Optiona	ΙΔ
Desc	ription:										
This i	nformation r	may be pro	ovided by	t.b.d.							
DPT:	Name [	OPT_Enab	le		DPT ID	1.003	Data	type	format	B <sub>1</sub>	
Field			Descrip	tion					Sup.	Unit	Default
			0 = disa	ble, 1 = en	able				0	Bit	1
Com	munication	:	=							i .	<del>-</del>
Bin	ding Group	:									
Cla	SS		Туре				Default				
G	eographical	$\boxtimes$	Apartme	ent . Room	. SubZone	)	1.1.1				
Ap	oplication Sp	ecific 🛚	GenPer	ipheral			1				
Uı	nassigned		Broadca	ast 🗌	Configura	able 🗌					
DP	Address:		IO Type	e(ID):	t.b.d.		Proper	ty ID	:	t.b.d.	
LTE	-Service (e	vent):	InfoRep	ort Sniffer	on Bindir	g Group:		-	-		
ln <sup>-</sup>	foReport		Timeout	t:		31	Min				
	E <b>-Service (p</b> ead – Respo		Read W	/ildcard / Re	esp Sniffe	on Bind	ing Grou	ıp: -	-		
Value	e after Powe	er-up:	-	Default V	alue 🛚			-	5	Stored Va	lue 🗌
Exce	ption Hand	ling:						Sav	e at Pov	verdown	
Spec	ial Features	S:	•	_	•	•			•		

# ${\bf 3.6.6.8} \quad {\bf Output} \quad {\bf ON/OFFHeatStageAEff}$

DF	Name:	ON	/OFFHea	atStag	geAEff		Abb	r.:			M	landat	ory		
FΒ	Name:	EH	EA								С	an be	interna	ıl	
De	scription														
Th	is datapoint	cor	ntains the	actu	ual ON/OFF	actuator	positio	n.							
	tapoint Ty														
	PT_Name:	D	PT_Swite	ch											
DF	PT Format:	B.	•							DPT_ID:		.001			
Fie	eld	D	escriptior	1						Supp.		nge	Unit	Defa	ult
											ON/	OFF	Bit	CS	5
Ac	cess Type														
<b>♦</b>	Output														
	this $\rightarrow$ M		<u> </u>		his $\rightarrow$ 1										
	Spontaneo	us		OV:		Delta-V	alue:	1		/linRepTin			10 sec		
	Cyclic Period: 15 min (recommended value)														
	Request														
Co	mmunicati														
<b>♦</b>	Group Ob	•									Mand	datory	: [		
	Default Gro	oup	Address:		<b></b>										
Dy	namics														
	Power dow	n:	Save:												
	Power up:		Value:		No initialisa	tion:				ılt value:					
					Saved value	e: [		А	ctua	l value:					
			Transm	it on	bus:										
Ex	ception Ha	ndl	ing												
Sp	ecial Featu	ıres													

FB:	EHEA	LTE Serv	/er	Output Name:	10	N/OFFHeat	tStage/	AEff		N	Mandator Optiona	
	ription:								•			
This c	datapoint	contains th	he	actual ON/OFF a	actu	uator positi	on.					
DPT:	Name	DPT_Sv	vitc	:h		DPT ID	1.001		atatype	format	B <sub>1</sub>	
Field			De	escription			Sup.	Rang	е	Unit	COV	Default
										Bit	Υ	CS
Comr	nunicatio	n:					-		-		-	
Bine	ding Gro	up:										
Clas	SS			Type					Defa	ult		
Ge	eographic	al [	$\mathbb X$	Apartment . Roo	om	. SubZone	!		1.1.1			
Ap	plication	Specific [	$\boxtimes$	GenPeripheral					1			
Ur	nassigned			Broadcast		Configu	rable 🗌					
DP	Address:			IO Type(ID):		369 (EHE	(A)	Pro	perty II	D:	55	
LTE	-Services	s (event):		cov 🖂		MinRepTin	ne:	10	sec	Hear	rtbeat:	15 min
Inf	oReport	$\boxtimes$		Output per defa	ult	communic	ating [	Bin	iding Gr	oup Wild	card allo	wed 🗌
				Tx Prio:		High 🗌			Normal	$\boxtimes$	Lov	w 🗌
po sh su	lling of the all always pported)	be	•	Transm after Po	we	er-up: Store	ed Valu	e 🗌	Act Va	alue 🛚	Default \	/alue □
	perty-Ser ividual a			Read only	$\boxtimes$		Read	/Write				
Exce	otion Har	ndling:								Save	at Power	down
Spec	ial Featui	es:										

# 3.6.6.9 Output ActPosHeatStageA

DP	Name:	Actl	PosHeatSta	age	Α		Abbı	r.:			Mandat	tory		
FΒ	Name:	EHE	ĒΑ								Can be	interna	al	
De	scription													
Th	is datapoint	con	itains the p	erce	ent value of	the actu	al actu	ator <sub>l</sub>	posi	tion (Heat	StageA).			
	tapoint Ty													
	PT_Name:	DI	PT_Scaling											
	PT Format:	U								DPT_ID:	5.001			
Fie	eld	De	escription							Supp.	Range	Unit	Defa	ult
											0100 <sup>*)</sup>	%	CS	
Ac	cess Type													
<b>♦</b>	♦ Output													
	$this \to M$	$\triangleright$		thi	$is \rightarrow 1$									
	Spontaneous 🛛 COV: 🔻 Delta-Value: 1 MinRepTime: 10 sec													
	Cyclic Period: 15 min (recommended value)													
	Request													
Co	Communication Type													
<b>♦</b>	Group Ob	ject	Datapoint								Mandatory	<b>′</b> :		
	Default Gro	oup .	Address:											
Dy	namics													
	Power dow	n:	Save:											
	Power up:		Value:		No initialisat					ılt value:				
					Saved value	<b>∋</b> : [		Α	ctua	l value:		$\boxtimes$		
			Transmit	on b	ous:									
Ex	ception Ha	ndli	ng											
	ecial Featu													
<sup>(1)</sup> T	he coding of	of the	e actuator :	setp	ooint value is	s: 0% <del>&gt;</del>	0 10	0% -	→ 25	55				

FB:	EHEA	LTE Serv	/er	Output Name: A	ctPosHeat	1		N	landator Optiona		
	ription:			-							
	output con nation.	tains the	val	ue of the actual ac	tuator posit	ion (He	atStage	A) as	well as a	STATUS	3
DPT:	Name	DPT_Sta	atu	sAct	DPT ID	207.10	)5 Da	tatype	e format	U <sub>8</sub> B <sub>8</sub>	
Field			De	escription		Sup.	Range		Unit	COV	Default
ActPo	S		Αc	tual actuator posit	ion	M	Full Ra	ange	%	1	cs
STAT	US		an	or LTE-Service Info nd Property-Service esponse only					bitset		
- Faul	t		Αc	tuator fault		0	true/fa	alse	Bit 0	Υ	false
- Ove	rridden			tuator is temp. ove		0	true/fa	alse	Bit 1	Υ	false
- Calib	orationMo	de	Αc	tuator is in calibrat	tion mode	NA			Bit 2		false
- Valv	eKick			tuator is in valve k	ick mode	NA			Bit 3		false
			all	other bits		NA			Bit 4-7		
	nunicatio										
	ding Gro	up:		_							
Clas				Туре				Defa			
	eographic		X.	Apartment . Room	ո . SubZone	<del>)</del>		1.1.1			
	plication		X	GenPeripheral			<del></del>	1			
	assigned			Broadcast	Configu				_		
	Address:			IO Type(ID):	369 (EHE			erty II		56	
		s (event):		COV 🛛	MinRepTin		10 9			tbeat:	15 min
Inf	oReport	$\bowtie$		Output per default		ating L			roup Wild	-	
		Response	)	Tx Prio:	High 🗌		N	ormal		Lov	<u>N                                    </u>
sh:	lling of the all always pported)			Transm after Pow	er-up: Store	ed Valu	e 🗌 .	Act Va	alue 🛚	Default \	/alue □
	perty-Ser ividual a			Read only		Read	/Write				
Exce	otion Har	ndling:							Save	at Power	down 🗌
Speci	ial Featur	res:									

# 3.6.6.10 Output ActPosHeatStageB

DP	Name:	Actl	PosHeatSta	age	eB /	Abbr.:			Mandat	tory		
FΒ	Name:	EHE	ĒΑ						Can be	interna	ıl   [	
De	scription											
Th	is datapoint	con	itains the p	erc	cent value of the actual	actuate	or posi	tion (Heat	StageB).			
	tapoint Ty											
	PT_Name:	DI	PT_Scaling									
	DPT Format: U <sub>8</sub> DPT_ID:  5.001											
Fie	eld	De	escription					Supp.	Range	Unit	Defau	ılt
									0100 <sup>*)</sup>	%	CS	
Ac	cess Type											
<b>♦</b>	Output											
	$this \to M$	lacksquare		th	his $\rightarrow$ 1 $\Box$							
	Spontaneous 🛛 COV: 🔻 Delta-Value: 1 MinRepTime: 10 sec											
			Сус	clic	Period:	15	min (	recommer	nded value)	)		
	Request											
Co	mmunicati	ion <sup>-</sup>	Гуре									
<b>♦</b>	Group Ob	ject	Datapoint						Mandatory	': L		
	Default Gro	oup .	Address:									
Dy	namics											
	Power dow	n:	Save:									
	Power up: Value: No initialisation: Default value:											
	Saved value: Actual value:											
			Transmit	on	bus:							
Ex	Exception Handling											
	Special Features											
<sup>(1)</sup> T	The coding of the actuator setpoint value is: 0% → 0 100% → 255											

FB:	EHEA	LTE Serv	ver Output Name:       ActPosHeatStageB       Mandatory       □         Optional       ☑							
	iption:			<u>-</u>			-			
This o		ntains the	val	ue of the actual actuator posit	ion (He	atSt	ageB) as	well as a	STATUS	3
DPT:	Name	DPT_St	atu	sAct DPT ID	207.10	05	Datatype	e format	$U_8B_8$	
Field			De	escription	Sup.	Rar	nge	Unit	COV	Default
ActPo	S			ctual actuator position	M	Ful	I Range	%	1	CS
STAT	US		ar	or LTE-Service InfoReport and Property-Service esponse only				bitset		
- Faul	t		Αc	ctuator fault	0		ıe/false	Bit 0	Υ	false
	ridden			ctuator is temp. overridden	0	tru	ıe/false	Bit 1	Υ	false
	orationMo	de		ctuator is in calibration mode	NA			Bit 2		false
- Valv	eKick			ctuator is in valve kick mode	NA			Bit 3		false
			all	other bits	NA			Bit 4-7		
	nunicatio									
	ding Gro	up:								
Clas		_		Туре			Defa			
	ographic			Apartment . Room . SubZone	<del>.</del>		1.1.1			
	plication		$\boxtimes$	GenPeripheral			1			
	assigned			Broadcast Configu						
	Address:			IO Type(ID): 369 (EHE			roperty II		57	
		s (event):		COV MinRepTir			0 sec		tbeat:	15 min
Info	oReport	$\boxtimes$		Output per default communic	ating L	B		roup Wild		
		_		Tx Prio: High			Normal	$\boxtimes$	Lov	w 📙
pol sha	IE Read- Iling of the all always oported)		)	Transm after Power-up: Store	ed Valu	e 🗌	Act Va	alue 🛚	Default \	/alue □
Prop	perty-Ser			Read only	Read	l/Wri	te [			
_	otion Har							Save	at Power	rdown
		·····						σαισι	01701	
Speci	al Featui	res:								

# 3.6.6.11 Output DisableFan

DP Name:	DisdableFan		Abb	r.:		Manda	tory	
FB Name:	EHEA					Can be	interna	al 🗌
Description								
This datapoint	contains the di	isabling informa	tion for the far	n in case	of limitatio	n to zero.		
<b>Datapoint Ty</b>	ре							
DPT_Name:	DPT_Enable							
DPT Format:	B <sub>1</sub>				DPT_ID:	1.003		
Field	Description				Supp.	Range	Unit	Default
	enable / disal	ole					Bit	CS
<b>Access Type</b>								
♦ Output								
this $\rightarrow M$		this $\rightarrow$ 1						
Spontaneo	us 🛛 CO		Delta-Value:	1 N	MinRepTin	ne:	10 sec	
	Сус	elic 🖂	Period:	15 min (	recomme	nded value	)	
Request								
Communicat	on Type							
♦ Group Ob	ect Datapoint					Mandatory	/:	
Default Gro	oup Address:							
Dynamics								
Power dow	n: Save:							
Power up:	Value:	No initialisati			ult value:			
		Saved value:		Actua	al value:			
	Transmit of	on bus:	$\boxtimes$					
<b>Exception Ha</b>	ndling							
Special Featu	ires							

FB:	EHEA	LTE Serv	/er	Output Name: Disa	bleFan				ľ	Mandator Optiona	
Desci	ription:	-		-				·			
This c	latapoint	contains th	he	disabling information	for the fa	n in ca	se of lir	nitatio	n to zero	•	
DPT:	Name	DPT_En	ab	le D	PT ID	1.003			format	B <sub>1</sub>	
Field			De	escription		Sup.	Range	:	Unit	COV	Default
									Bit	Υ	CS
Comr	nunicatio	on:			_						
Bind	ding Gro	up:									
Clas	SS			Type				Defa	ult		
Ge	eographic	al [	$\boxtimes$	Apartment . Room . S	SubZone			1.1.1			
Ap	plication	Specific [	$\boxtimes$	GenPeripheral				1			
Ur	assigned			Broadcast	Configur	able 🗌					
DP A	Address:			IO Type(ID): 3	69 (EHE	A)	Prop	erty II	D:	58	
		s (event):			nRepTim		10	sec	Hea	rtbeat:	15 min
Inf	oReport	$\boxtimes$		Output per default co	mmunica	ating [	Bind	ling Gr	oup Wild	dcard allo	wed 🗌
				Tx Prio:	High 🗌		N	ormal	$\boxtimes$	Lov	<i>ν</i> 🗌
po sh su	lling of the all always pported)	s be .	•	Transm after Power-ı	up: Store	d Valu	e 🗌	Act Va	alue 🛚	Default \	/alue □
	perty-Ser ividual a			Read only		Read	/Write				
Exce	otion Har	ndling:							Save	at Power	down 🗌
Speci	ial Featu	res:									

# **3.6.6.12 Output Fault**

#### LTE-Mode

Not available.

DF	Name:	Fau	ılt				Abbr	.: -		Manda	tory		
Ë	Name:	EHE	EΑ							Can be	interna	al	
De	scription												
			y indica	ate a	fault in the ac	tuator (S-l	Mode	only) se	ee also Actl	Pos			
	tapoint Ty	ре											
	PT_Name:	DI	PT_Bo	ol									
DF	PT Format:	B <sub>1</sub>							DPT_ID:	1.002			
Fie	eld	De	escripti	ion					Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Ac	cess Type												
<b>♦</b>	Output												
	$this \to M$		◁		this $\rightarrow$ 1								
	Spontaneo	us		CO/	<b>/</b> : ⊠	Delta-Va	llue:		MinRepTir	ne:	10 sec		
				Cyc	lic 🛛	Period:		15 min	(recomme	nded value	)		
	Request												
Co	mmunicati	ion <sup>-</sup>	Туре										
<b>♦</b>	Group Ob	ject	Datapo	oint						Mandatory	/: 📗		
	Default Gro	oup.	Addres	ss:									
Dy	namics												
	Power dow	/n:	Save:										
	Power up:		Value	<b>:</b>	No initialisa	tion:			ault value:				
					Saved value	e:	]	Actu	ıal value:				
				mit o	n bus:								
Ex	ception Ha	ındli	ing										
Sp	ecial Featu	ıres											

# 3.6.6.13 Output Overridden

#### LTE-Mode

Not available.

	P Name:		erridder	1				Α	bbr.:			Manda	tory		
FB	Name:	ΕH	EA									Can be	e interna	al	
	escription														
	is datapoint		ay indica	ate tha	it the ac	ctuato	r is ov	erridd	en (S	S-Mode	only) see	also ActPo	S		
	tapoint Ty														
	PT_Name:	_	PT_Boo	ol											
DF	PT Format:	В									DPT_ID:				
Fie	eld	D	escription	on							Supp.	Range	Unit	Defa	ult
												true/false	bool	0	
Ac	cess Type														
<b>♦</b>	Output														
	this $\rightarrow$ M		$\boxtimes$		his $\rightarrow$ 1										
	Spontaneo	us		COV:			Delta	-Value	-		MinRepTir		10 sec		
				Cyclic			Perio	d:	1:	5 min (	recomme	nded value	)		
	Request														
C	ommunicati	ion	Type												
<b>♦</b>	Group Ob	ject	Datapo	pint								Mandator	<b>/</b> :		
	Default Gro	oup	Addres	s: -											
Dy	namics														
	Power dow	n:	Save:												
	Power up:		Value	:	No init	tialisa	tion:			Defau	ılt value:				
					Saved	l value	э:			Actua	ıl value:				
				mit on	bus:				$\boxtimes$						
Ex	ception Ha	ndl	ling												
Sp	ecial Featu	ıres	3												

# **3.6.6.14 Parameter Apartment**

FB:	EHEA	Proper	ty Name ( <u>Server</u> )	: A	partment					Mandator Optiona	• =
Desc	ription:			•					- !	•	
Numb	er of the a	partment	t zone.								
DPT:	Name	DPT_U	countValue8_Z		DPT ID	202.002	2	Data	type format	$U_8Z_8$	
Field							S	up.	Range	Unit	Default
Zone	Zone Number of the apartment zone							M	(0) 1126		1
STAT	US									Bitset	
- Outo	ofService		zone active / inac	tive				0	true/false	Bit 0	false
- all o	ther bits		not supported, fix	ed t	o '0'		١	۱A			false
COM	MAND								enum		CS
- Norr	nalWrite							M	0		
- SetC	OSV & Res	setOSV	Set zone inactive	/ac	ctive			0	3 / 4		
- all o	ther comm	ands	not supported				١	١A			
Com	nunicatio	n:									
DP .	Address:		IO Type(ID):		369 (EHE	A)	Pı	oper	ty ID:	101	
(in t	he server	)	Start-Index:		1		N'	of e	lements	1	
Pro	perty acce	ess:	Read only			Read/W	/rite	<b>;</b>	$\boxtimes$		
Pro	tection		Read level		-		W	rite l	evel	-	
<b>Exception Handling:</b> Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐						e 🔲					
Spec	ial Feature	es:									
			ds to all listeners								
The d	he device is not LTE communicating in this zone if it is 'OutOfService'										
If Apa	Apartment is 'OutOfService' Room and SubZone automatically are 'OutOfService'										

#### 3.6.6.15 Parameter Room

FB: EH	EA	Proper	ty Name ( <u>Server</u> ):	R	oom					Mandator Optiona	• =
Description	on:	<u> </u>							-		
Number o	f the ro	om zone	Э.								
DPT: N	lame	DPT_U	countValue8_Z		DPT ID	202.002	2	Data	type format	$U_8Z_8$	
Field	Field Description							ıp.	Range	Unit	Default
Zone							Ν	/	(0) 163		1
STATUS - OutofSei - all other			zone active / inactive not supported, fixed	-	o '0'		N	_	true/false	Bitset Bit 0	false false
- NormalV - SetOSV	COMMAND - NormalWrite - SetOSV & ResetOSV - all other commands not supported						C	Л ) А	enum 0 3 / 4		CS
Commun	ication	1:				-					
DP Add			IO Type(ID):		369 (EHEA	١)			ty ID:	102	
(in the s			Start-Index:	_	1	D = = = 1/1/1		от е	lements	1	
Property Protecti		SS:	Read only			Read/W		ite le	2) (2)		
	_	llina.	Read level		- Ctorod \	/alua M				- foult \/olus	. 🗀
Exception	п папо	ılıng:	Value after Power-	up	: Stored \	raiue 🔼	AC	t Va	iue 🔝 Dei	fault Value	; 🗀
Special F	Catura	·C'									
Zone = 0 ( The device	(wildca e is no	rd): Send t LTE co	ds to all listeners mmunicating in this ver from Apartment	zo	one if it is 'C	outOfSer	vice	<b>)</b> '			

### 3.6.6.16 Parameter SubZone

FB:	EHEA	Proper	perty Name ( <u>Server</u> ): SubZone								Mandator Optiona	
Desc	ription:	<u>!</u>		-								
Numb	er of the s	ub zone.										
DPT:	Name	DPT_U	00	untValue8_Z		DPT ID	202.002	2	Data	atype format	$U_8Z_8$	
Field								S	up.	Range	Unit	Default
Zone	Zone Number of the SubZone								M	(0) 115		1
STAT	US										Bitset	
- Outo	ofService		1 –	one active / inactive					0	true/false	Bit 0	false
- all o	ther bits		n	ot supported, fixed	d to	o '0'		١	۱A			false
	MAND									enum		CS
	nalWrite								M	0		
	DSV & Res		S	Set zone inactive /	ac	tive			0	3 / 4		
	ther comm		n	ot supported				1	۱A			
Comr	nunication	า:										
DP	Address:			IO Type(ID):		369 (EHE	ΞA)			ty ID:	103	
(in t	he server)			Start-Index:		1		N	° of e	elements	1	
Pro	perty acce	ess:		Read only			Read/W	rite	<del>)</del>	$\boxtimes$		
Prof	tection			Read level		-		W	rite l	evel	-	
Exception Handling: Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐												
Speci	Special Features:											
				to all listeners								
	he device is not LTE communicating in this zone if it is 'OutOfService'											
'OutO	utOfService' is taken over from Apartment											

### 3.6.6.17 Parameter GenPeripheral

FB:	EHEA	Proper	ty Name ( <u>Server</u> ):	GenPeriph	eral			Mandator Optiona	
Descr	iption:			-			<u></u>	•	
Numbe	er of the ge	eneral pe	eripheral tag.						
DPT:	Name	DPT_U	countValue16_Z	DPT ID	203.012	Data	type format	$U_{16}Z_{8}$	
Field			Description			Sup.	Range	Unit	Default
Zone			Number of the Sub	Zone		M	full		1
STATU	JS							Bitset	
- Outo	fService		zone active / inacti	ve		0	true/false	Bit 0	false
- all otl	her bits		not supported, fixe	d to '0'		NA			false
COMM	//AND						enum		CS
- Norm	nalWrite					М	0		
- SetO	SV & Rese	etOSV	Set zone inactive /	active		0	3 / 4		
- all otl	her comma	ands	not supported			NA			
Comm	nunication	:							
	Address:		IO Type(ID):	369 (EHE	A)	Proper	ty ID:	104	
(in th	ne server)		Start-Index:	1			lements	1	
Prop	erty acces	ss:	Read only		Read/Wr	rite	$\boxtimes$		
Prote	ection		Read level	-		Write le	evel	-	
Excep	tion Hand	ling:	Value after Power-	up: Stored	Value 🛚	Act Va	lue 🗌 Def	fault Value	
Specia	al Feature	s:							
Zone =	= 0 (wildca	rd): Sen	ds to all listeners						_
The de	evice is not	LTE co	mmunicating in this	zone if it is '	OutOfServ	/ice'			

### 3.6.6.18 Zone t.b.d.

ev. Distribution Segment

### 3.6.6.19 Parameter HeaterMode

FB:	EHEA	Proper	ty Name ( <u>Server</u> ):	HeaterMode			Mandator Optiona	, —
Descr	iption:							
Select	ion of the a	actuator	function.					
DPT:	Name	DPT_He	eaterMode	DPT ID 20.110	Data	atype format	$N_8$	
Field			Description		Sup.	Range	Unit	Default
Actuat	torMode		Definition of the ac	tuator functionality	M	13	enum	1
ON/C	OFF Heat s	tage A	for ON/OFF heatin	g	0	1		
	stage A		for normal heating		0	2		
Heat	stage B		for heating with two	o stages	0	3		
Comm	nunication	1:						
DP A	Address:		IO Type(ID):	369 (EHEA)	Proper	ty ID:	111	
•	he server)		Start-Index:	1	N° of e	elements	1	
Prop	perty acce	ss:	Read only [	Read/V	Vrite	$\boxtimes$		
Prot	ection		Read level	-	Write I	evel	-	
Excep	tion Hand	lling:	Value after Power-	up: Stored Value 🛭	Act Va	llue 🔲 🛮 Dei	fault Value	
Specia	al Feature	s:						
	•	•					•	

### 3.7 HVAC ON/OFF Actuator (HOOA)

#### 3.7.1 Aims and objectives

The Functional Block 'HVAC ON/OFF Actuator' contains the functionality for the following "ON/OFF valves":

- Heating ON/OFF Stage A
- Heating ON/OFF Stage B
- Cooling ON/OFF Stage A
- Cooling ON/OFF Stage B
- Heating / Cooling ON/OFF for changeover applications

It is possible to implement only part of this functionality.

The Functional Block translates the ON/OFF value information to the electrical output and eventually provides the system with the actual feedback value.

#### 3.7.2 Functional Specifications

As the distribution of the information in the system is event-driven (COV-condition, change of value) and in addition repeated periodically, the input has a timeout.

The 'HVAC ON/OFF Actuator' supports the following LTE zoning:

- "Apartment . Room . SubZone"
- "General Peripheral Tag".

#### Optional function:

- Faults in the valve actuator device may be detected and reported in the ActStatHeatStageA etc.
- The ActStatSetpHeatStageA etc. may temporary be overridden by means of a tool for service purpose.

The 'Overridden' condition must be reported.

Behaviour of the valve if no valid position setpoint is available (company specific):

- close the valve
- open the valve
- leave position unchanged

#### **Inputs**

	A (C) (C) (T) (C) A	
•	ActStatSetpHeatStageA	This is the actuator status setpoint given by a controller.

• ActStatSetpHeatStageB ditto

• ActStatSetpCoolStageA ditto

• ActStatSetpCoolStageB ditto

#### **Outputs**

• ActStatHeatStageA This is the effective status of the valve, in LTE

ditto

together with attributes to define special situations.

ActStatHeatStageB ditto
 ActStatCoolStageA ditto
 ActStatCoolStageB ditto

• Fault indication in S-Mode

• Overridden indication in S-Mode

• CalibrationMode indication in S-Mode

• ValveKick indication in S-Mode

**Binding Group (LTE)** 

• ActStatHeatCool

• Apartment . Room . SubZone This valve can be used in different applications.

General Peripheral 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** 

• ValveMode This parameter is used when a device contains more

than one valve actuator functionality. The following table shows the modes and the corresponding

implementation of the inputs / outputs:

							Imple	mentat	ion of					
			Inp	outs						Outputs	S			
ValveMode		ActStatSetp HeatStageA	ActStatSetp HeatStageB	ActStatSetp CoolStageA	ActStatSetp CoolStageB	ActStat HeatStagA	ActStat HeatStagB	ActStat CoolStagA	ActStat CoolStagB	ActStat HeatCool	Fault	Overridden	CalobrationMode	ValveKick
1	Heating ON/OFF Stage A	M				О					(GO)	(GO)	(GO)	(GO)
2	Heating ON/OFF Stage B		M				О				(GO)	(GO)	(GO)	(GO)
3	Cooling ON/OFF Stage A			M				О			(GO)	(GO)	(GO)	(GO)
4	Cooling ON/OFF Stage B				M				О		(GO)	(GO)	(GO)	(GO)
5	Heat Cool ON/OFF (for changeover)	M		M						О	(GO)	(GO)	(GO)	(GO)

So if a device shall contain the functionality of a Heating ON/OFF Stage A and a Cooling ON/OFF Stage A the parameter ValveMode is necessary and can be 1 or 3 and the following inputs are mandatory:

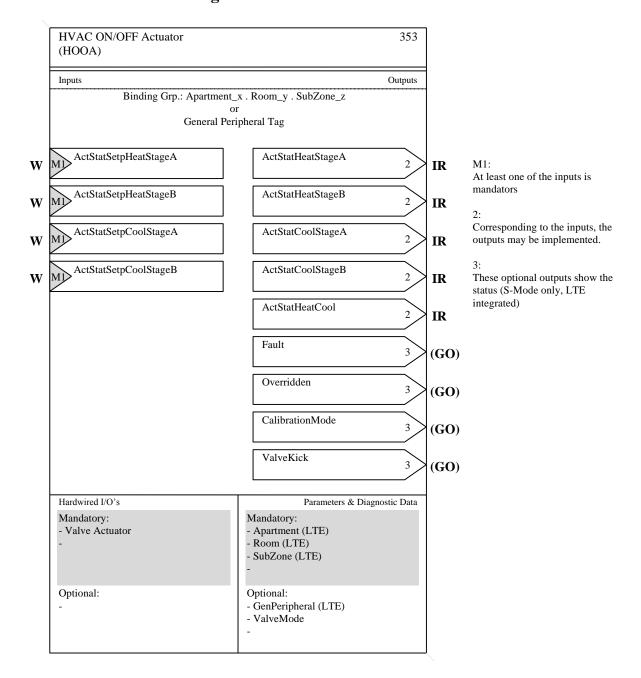
- ActStatSetpHeatStageA
- ActStatSetpCoolStageA

The corresponding outputs are optional.

#### 3.7.3 Constraints

None.

#### 3.7.4 Functional Block Diagram



# 3.7.5 Datapoint Description

#### Overview

Datapoints	Description / Remarks	Data Point Type	Additional Info
Inputs			
Act Stat Setp Heat StageA	Status value for the heating actuator stage A with: - COV and RepPer from FB Position to ON/OFF converter or various controller	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: M1 1) S: GO
Act Stat Setp Heat StageB	Status value for the heating actuator stage B with: - COV and RepPer from FB Position to ON/OFF converter or various controller	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: M1 1) S: GO
Act Stat Setp Cool StageA	Status value for the cooling actuator stage A with: - COV and RepPer from FB Position to ON/OFF converter or various controller	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: M1 1) S: GO
Act Stat Setp Cool StageB	Status value for the cooling actuator stage B with: - COV and RepPer from FB Position to ON/OFF converter or various controller	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: M1 1) S: GO

<sup>1)</sup> See Aims and objectives in clause 3.7.1.

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
Act Stat Heat StageA	Status value of heating valve stage A with - COV and RepPer mainly to FB 'HMI' or supervisor	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: O2 1) S: (GO)
Act Stat Heat StageB	Status value of heating valve stage B with - COV and RepPer mainly to FB 'HMI or supervisor	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: O2 1) S: (GO)
Act Stat Cool StageA	Status value of cooling valve stage A with - COV and RepPer mainly to FB 'HMI' or supervisor	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: O2 1) S: (GO)

Datapoints	Description / Remarks	Data Point Type	Additional Info
Outputs			
Act Stat Cool StageB	Status value of cooling valve stage B with - COV and RepPer - Status B <sub>8</sub> 'HMI' or supervisor	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: O2 1) S: (GO)
Act Stat Heat Cool	Status value of heat/cool valve (ChangeOver) with - COV and RepPer - Status B <sub>8</sub> 'HMI' or supervisor	LTE: 1.001 DPT_Switch B <sub>1</sub> S: 1.001 DPT_Switch B <sub>1</sub>	LTE: O2 1) S: (GO)
Fault	The actuator has a fault detected	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
Overridden	The actuator is overridden (manually)	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
CalibrationMode	The actuator is in the calibration Mode	LTE: NA S: 1.002 DPT_Bool B <sub>1</sub>	LTE: NA 1) S: (GO) true/false
ValveKick	The valve is executing a valve kick	LTE: NA S: 1.002 DPT_Bool B1	LTE: NA 1) S: (GO) true/false

<sup>1)</sup> See Aims and objectives in clause 3.7.1.

Datapoints	Description / Remarks	Data Point Type	Additional Info
Parameters			
Apartment	LTE zoning number for Apartment	202.002 DPT_UcountValue8_Z U <sub>8</sub> Z <sub>8</sub>	M 1
Room	LTE zoning number for Room	202.002 DPT_UcountValue8_Z U <sub>8</sub> Z <sub>8</sub>	M 1
SubZone	LTE zoning number for SubZone	$\begin{array}{c} 202.002 \\ DPT\_UcountValue8\_Z \\ U_8Z_8 \end{array}$	M 1
Gen Peripheral	LTE zoning number for general peripheral	$\begin{array}{c} 203.012 \\ DPT\_UcountValue16\_Z \\ U_{16}Z_8 \end{array}$	O 1
Valve Mode	Valve Mode: Defining the usage of the valve	$ \begin{array}{ccc} 20.107 & 2) \\ DPT\_ValveMode & \\ N_8 & \end{array} $	O 1

 $<sup>^{2)}</sup>$  Implementation of Properties using standard DPT see clause 1.3.2

**HVA Runtime Interworking - Dependence on Configuration Modes** 

			STANDARD MODE		NDED DDE
		Basic FB	S-Mode	Standard Mode Interface	LTE-MODE
Inputs	ActStatSetpHeatStageA	$GO_b^{\ 1)}$	GO 1)	GO 1)	M 1)
	ActStatSetpHeatStageB	$GO_b^{\ 1)}$	GO 1)	GO 1)	M 1)
	ActStatSetpCoolStageA	$GO_b^{\ 1)}$	GO 1)	GO 1)	M 1)
	ActStatSetpCoolStageA	$GO_b^{\ 1)}$	GO 1)	GO 1)	M 1)
Outputs	ActStatHeatStageA	(GO) <sub>b</sub>		(GO)	0
	ActStatHeatStageB	(GO) <sub>b</sub>		(GO)	0
	ActStatCoolStageA	(GO) <sub>b</sub>		(GO)	0
	ActStatCoolStageB	(GO) <sub>b</sub>		(GO)	0
	ActStatHeatCool	(GO) <sub>b</sub>		(GO)	0
	Fault	(GO) <sub>b</sub>		(GO)	NA
	Overridden	(GO) <sub>b</sub>		(GO)	NA
	CalibrationMode	(GO) <sub>b</sub>		(GO)	NA
	ValveKick	(GO) <sub>b</sub>		(GO)	NA

<sup>1)</sup> See Aims and objectives 3.2.1

#### **HVA LTE specific Properties**

		Support
Parameter	Apartment	M
	Room	M
	SubZone	M
	GenPeripheral	0

### **HVA Standard Properties of Interface Objects (or memory mapped DP)**

		Support
Parameter	ValveMode	0

# 3.7.6 Detailed Specification of the Datapoints

### 3.7.6.1 Input ActStatSetpHeatStageA

DP Name:		tatSetpHe	atStage.	A	Abb	r.:					Mandatory		
FB Name:	HOC	)A								Can be	interna	al 📗	
Description													
This input sign	nal co	ntains the	ON/OF	F setpoint va	alue for th	ne va	lve p	osition	(He	atStageA)	).		
<b>Datapoint Ty</b>	ре												
DPT_Name:	DP	T_Switch											
DPT Format:	B <sub>1</sub>							DPT_	ID:	1.001			
Field	De	scription						Supp	ο.	Range	Unit	Default	
										ON/OFF		CS	
<b>Access Type</b>	!												
♦ Input													
$N \rightarrow this$			$1 \rightarrow th$	is 🛛									
Spontaneous							Tir	me-c	out:	31 mir	n (rec.)		
Request				Polling:				Pe	eriod	:			
Communicat	ion T	уре											
♦ Group Ob	ject [	Datapoint							ı	Mandatory	/:   🖂		
Default Gr	oup A	ddress:											
Dynamics													
Power dov	vn:	Save:											
Power up:		Value:	No in	itialisation:		I	Defau	ılt valu	e:		$\boxtimes$		
			Save	d value:									
						l	Read	from b	us:				
<b>Exception Ha</b>	andlii	ng											
Special Featu	Special Features												

FB:	НООА	LTE Serv	er Input Name:	ActStatSet	pHeatSta	ageA	Mandatory ⊠ Optional □			
Desc	ription:	-		-			-			
This i	nput receiv	es the ON/	OFF setpoint valu	e for the valv	e positio	n (HeatSt	tageA).			
DPT:	Name	DPT_Swite	ch	DPT ID	1.001	Dataty	pe forma	at B <sub>1</sub>		
Field			Description				Sup	o. Unit	Default	
Actua	tor positior	)	ON/OFF				M		0	
Comr	nunication	ո։	-				<del>-</del>	<del>-</del>	<del>-</del>	
Bine	ding Grou	p:								
Clas	SS		Туре			Default				
Geographical 🛛			Apartment . Roor	m . SubZone						
Ap	plication S	pecific 🛚	GenPeripheral			1				
Ur	nassigned		Broadcast	Configura	ble 🗌					
	Address:		IO Type(ID):	353 (HOC	DA)	Property	/ ID:	51		
	i <b>-Service (</b> rite	event):	Timeout:		31	Min				
	perty-Serv ividual ac		Read only [		Read/V	Vrite	$\boxtimes$			
Value	after Pow	/er-up:	Default	Value ⊠				Stored Va	lue 🗌	
Exce	ption Hand	dling:					Save at	Power-dow	n 🔲	
Speci	ial Feature	es:								

### 3.7.6.2 Input ActStatSetpHeatStageB

DP I	Name:	Act	StatSetpHea	tStage	В	Abbr.:				Manda	tory	$\boxtimes$
FB 1	Name:	НО	OA							Can be	interna	
Des	cription											
This	input sigr	nal c	ontains the	ON/OF	F setpoint val	ue for the v	alve p	ositio	n (He	atStageB)		
Data	apoint Ty	ре										
DPT	DPT_Name: DPT_Switch											
DPT Format: B <sub>1</sub>								DPT	_ID:	1.001		
Field Description								Su	pp.	Range	Unit	Default
										ON/OFF		CS
Acc	Access Type											
<b>*</b>	Input											
١	$N \rightarrow this$			$1 \rightarrow thi$	is 🛛							
Spontaneous							-	Time-	out:	31 mir	rec.)	
F	Request				Polling:			F	Period	d:		, ,
Con	nmunicat	ion	Туре									
<b>*</b>	Group Ob	ject	Datapoint					Mandatory:				
	Default Gro	oup	Address:							-	•	
Dyn	amics											
F	Power dow	n:	Save:									
F	Power up:		Value:	No in	itialisation:		Defau	ult val	lue:			
				Save	d value:							
							Read	l from	bus:			
Exc	eption Ha	ndl	ing									
Spe	cial Featu	ıres										

FB:	HOOA	LTE Serv	ver Input Name:	r Input Name: ActPosSetpHeatSt				Mandatory ⊠ Optional □			
Desci	ription:	_		-			-				
This in	nput receive	es the ON	/OFF setpoint valu	ue for the valv	ve positio	on (HeatS	tageB).				
DPT:	Name	DPT_Swit	tch	DPT ID	1.001	Dataty	ype forma	t B₁			
Field			Description				Sup.	Unit	Default		
Actua	tor position		ON/OFF				M		0		
Comr	nunication	1:	-				<del>-</del>	<del>-</del>	-		
Bind	ding Group	):									
Clas	S		Type			Default					
Geographical 🗵			Apartment . Roor	Apartment . Room . SubZone 1.1.1							
Ар	plication S	pecific 🛚	GenPeripheral			1					
Un	assigned		Broadcast	Configurab	ole 🗌						
	Address:		IO Type(ID):	353 (HOO	A)	Property	/ ID:	52			
LTE Wr	-Service (e ite	event):	Timeout:		31	Min					
	oerty-Serv ividual acc		Read only [		Read/W	/rite	$\boxtimes$				
Value	after Pow	er-up:	Default	t Value 🛚				Stored Va	lue 🗌		
Excep	otion Hand	lling:					Save at I	Power-down	n 🗌		
	<u>'</u>		·				<u>'</u>	<u>'</u>	<u>'</u>		
Speci	al Feature	s:									
		•			•						

### 3.7.6.3 Input ActStatSetpCoolStageA

			.00 . 0	10.											<u> </u>
	Name:		tStatSetpCo	olStage.	<u> </u>		Abbr.:					1andat			$\boxtimes$
FΒ	Name:	HC	OA								С	an be	interna	ıl	
De	scription														
Th	is input sigi	nal	contains the	ON/OF	F setpo	int valu	e for the	valve	e pos	sition (C	oolSt	ageA).			
Da	tapoint Ty	ре													
DF	PT_Name:		PT_Switch												
DF	T Format:	В	1							OPT_ID:	1	.001			
Fie	eld	С	escription							Supp.	Ra	nge	Unit	Defa	ult
											ON/	OFF		CS	;
Ac	cess Type	!													
<b>*</b>	Input														
	$N \rightarrow this$			$1 \rightarrow th$	is	$\boxtimes$									
	Spontaneo	us			Cyclica	ally:				Time	-out:		31 mir	(rec.)	
	Request				Polling	:				Perio	d:				
Co	mmunicat	ion	Туре												
<b>♦</b>	Group Ob	jec	t Datapoint								Man	datory	: 🛛		
	Default Gr	oup	Address:												
Dy	namics														
	Power dov	vn:	Save:												
	Power up:		Value:	No in	itialisati	ion: [		Def	fault	value:					
				Save	d value	: [									
								Rea	ad fr	om bus	:				
Ex	ception Ha	and	ling												
Sp	ecial Featu	ures	S												

FB:	HOOA	LTE Serv	er Input Name:	ActStatSet	pCoolSt	ageA		Mandato Option	
Desc	ription:	•		-			-	•	
This in	nput receiv	es the ON/	OFF setpoint valu	e for the valv	e positio	n (CoolSt	ageA).		
DPT:	Name	DPT_Swite	ch	DPT ID	1.001	Dataty	pe form	at B₁	
Field			Description				Su	o. Unit	Default
Actua	tor position	1	ON/OFF				M		0
Comr	nunication	า:	-				<u>-</u>	-	•
Bine	ding Grou	p:							
Clas	SS		Туре			Default			
Ge	eographica	I 🛛	Apartment . Roor	m . SubZone	;	1.1.1			
Ap	plication S	pecific 🛚	GenPeripheral			1			
Ur	nassigned		Broadcast	Configura	ble 🗌				
DP	Address:		IO Type(ID):	353 (HOC	DA)	Property	/ ID:	53	
	: <b>-Service (</b> rite	event):	Timeout:		31	Min			
	perty-Serv ividual ac		Read only [		Read/V	Vrite	$\boxtimes$		
Value	after Pow	/er-up:	Default	Value ⊠				Stored Va	lue 🗌
Exce	ption Hand	dling:					Save at	Power-dow	n 🗌
					·				
Speci	ial Feature	es:							
		•	•			•		•	

### 3.7.6.4 Input ActStatSetpCoolStageB

<b>DP Name</b>	: A	ctSt	atSetpCool	Stagel	В	Abbr.:				Manda	tory	$\boxtimes$
FB Name	:   <b>-</b>	100	A							Can be	e interna	
Descripti	on											
This input	signa	ıl co	ntains the C	N/OF	F setpoint valu	e for the va	alve p	ositic	n (Co	oolStageB)		
Datapoin	t Type	Э										
DPT_Nan	ne:	DP	T_Switch									
DPT Form	nat:	B <sub>1</sub>						DP1	_ID:	1.001		
Field		Des	scription					Su	pp.	Range	Unit	Default
										ON/OFF		CS
<b>Access T</b>	уре											
♦ Input												
$N \rightarrow tr$	nis		1	$I \rightarrow thi$	is 🛛							
Sponta	aneou	S			Cyclically:			-	Time-	out:	31 mir	rec.)
Reque	st				Polling:				Period	d:		
Commun	icatio	n Ty	уре									
♦ Group	Obje	ct D	atapoint							Mandator	/: X	
Defaul	t Grou	ıp A	ddress: -									
Dynamics	S		<u>.                                      </u>									
Power	down	: 5	Save:									
Power	up:	'	Value:	No in	itialisation:		Defau	ılt va	lue:		$\boxtimes$	
				Save	d value:							
							Read	from	bus:			
Exception	n Han	dlin	g									
											•	
Special F	eatur	es				_						
			<del></del>									<u> </u>

FB:	HOOA	LTE Serv	er Input Name:	ActPosSet	CoolSt	ageB		Mandat Optio	
Desc	ription:	•		-			-		
This in	nput receiv	es the ON	OFF setpoint valu	e for the valv	e positio	n (CoolSt	ageB).		
DPT:	Name	DPT_Swite	ch	DPT ID	1.001	Dataty	pe form	at B₁	
Field			Description				Su	p. Unit	Default
Actua	tor position	1	ON/OFF				M	1	0
Comr	nunication	า:	-				<del>-</del>	U	-
Bine	ding Grou	p:							
Clas	SS		Туре			Default			
Ge	eographica	I 🛛	Apartment . Rooi	m . SubZone		1.1.1			
Ap	plication S	pecific 🛚	GenPeripheral			1			
Ur	nassigned		Broadcast	Configura	ble 🗌				
DP	Address:		IO Type(ID):	353 (HOC	PA)	Property	/ ID:	54	
	: <b>-Service (</b> rite	event):	Timeout:		31	Min			
	perty-Serv ividual ac		Read only		Read/V	Vrite	$\boxtimes$		
Value	after Pow	/er-up:	Default	Value ⊠				Stored V	alue 🗌
Exce	ption Hand	dling:					Save a	t Power-dov	vn 🗌
Speci	ial Feature	es:							
			•	•		•		•	

### 3.7.6.5 Output ActStatHeatStageA

DF	P Name:		StatHe	atStage	eA		Abbı	r.:			Manda	atory		
FB	Name:	НО	OA								Can b	e interna	al	
De	scription													
Th	is datapoint	t cor	ntains t	he ON/	OFF value	of the actu	ual act	uator	pos	ition (Hea	tStageA).			
Da	tapoint Ty	ре												
DF	PT_Name:	D	PT_Sw	/itch										
DF	PT Format:	В	1							DPT_ID:	1.001			
Fie	eld	D	escripti	ion						Supp.	Range	Unit	Defa	ult
			-								ON/OFF		CS	;
Ac	cess Type													
<b>*</b>	Output													
	this $\rightarrow$ M		$\boxtimes$	ti	$nis \rightarrow 1$									
	Spontaneo	us												
	•		Cyclic Period: 15 min (recommended value)											
	Request								,					
Co	mmunicat	ion	Type											
<b>*</b>	Group Ob	ject	Datapo	oint							Mandator	'y: 🗌		
	Default Gro													
Dy	namics													
	Power dow	n:	Save:											
	Power up:		Value	<b>)</b> :	No initialisa	ition:		De	efau	ılt value:				
	-				Saved value	e:		Ac	tua	l value:				
			Trans	mit on	bus:									
Ex	ception Ha	ndl	ing					•						
	_		_											
Sp	ecial Featu	ıres	<b>3</b>											

FB:	НООА	LTE Ser	ver Output Name:	e: ActStatHeatStageA				N	landator Optiona	
	ription:	-		-			•			
This o	output conta	ains the C	ON/OFF value of the	actual actua	ator pos	sition (He	eatSta	ageA).		
DPT:	Name	DPT_Sw	itch	DPT ID	1.001	Dat	atype	format	B <sub>1</sub>	
Field			Description		Sup.	Range		Unit	COV	Default
ActPo	S		Actual actuator posi	tion	М	ON/O	FF		Υ	CS
Com	munication	):			-	•	-		•	
Binding Group:										
Clas	SS		Туре				Defa	ult		
Ge	eographical		Apartment . Roor	n . SubZone	)		1.1.1			
Ap	plication S	pecific 🛭	GenPeripheral				1			
Ur	nassigned		Broadcast	Configu	rable 🗌					
	Address:		IO Type(ID):	353 (HOC	DA)	Prope	erty ID	):	55	
	-Services	(event):	COV 🛛	MinRepTin		10 s	ec	Hear	tbeat:	15 min
Inf	oReport	$\boxtimes$	Output per defau	It communic	ating [	Bindi	ng Gr	oup Wild	card allo	wed 🗌
			Tx Prio:	High 🗌		No	rmal	$\boxtimes$	Lov	<i>N</i>
po sh su	TE Read-R Iling of the all always t pported)	output ce	Transm after Pov	ver-up: Store	ed Valu	e 🗌 🏻 A	\ct Va	lue 🛚	Default \	/alue □
	perty-Serv ividual acc		Read only	$\boxtimes$	Read	/Write				
Exce	ption Hand	lling:	-					Save	at Power	down 🗌
Spec	ial Feature	s:								

# 3.7.6.6 Output ActStatHeatStageB

DP Name:		<u>StatHeatSt</u>	ageB		Abbr.	.:	-	Manda		
FB Name:	НО	OA						Can be	interna	
Description										
This datapoin	nt cor	ntains the C	ON/OFF value of	of the actu	ıal actı	uator po	sition (Hea	tStageB).		
<b>Datapoint Ty</b>	/ре									
DPT_Name:	D	PT_Switch								
DPT Format:	_	•					DPT_ID:			
Field	D	escription					Supp.	Range	Unit	Default
								ON/OFF		CS
Access Type	•									
♦ Output										
this $\rightarrow$ M		<u> </u>	this $\rightarrow$ 1							
Spontane	ous			Delta-Va		1	MinRepTir	ne:	10 sec	
			clic 🛛	Period:		15 min	(recomme	nded value	)	
Request										
Communica										
♦ Group Ol	oject	Datapoint						Mandatory	<i>'</i> :	
Default G	oup	Address:								
Dynamics										
Power dov	wn:	Save:								
Power up:		Value:	No initialisa	tion:			ult value:			
			Saved value	e:	<u> </u>	Actu	al value:		$\boxtimes$	
		Transmit	on bus:							
Exception H	<u>andl</u>	ing								
Special Feat	ures									

FB:	НООА	LTE Ser	ver Output Name:	ActStatHea	atStage	₽B		N	landator Optiona	
Desc	ription:	-		-						
This c	output conta	ains the C	N/OFF value of the	actual actua	ator pos	sition (He	atSta	ıgeB).		
DPT:	Name	DPT_Sw	itch	DPT ID	1.001	Data	atype	format	B <sub>1</sub>	
Field			Description		Sup.	Range		Unit	COV	Default
ActPo	S	1	Actual actuator posi	tion	М	ON/OF	FF		Υ	CS
Comr	munication	):			-	-			•	
Binding Group:										
Clas	SS		Туре				Defau	ult		
Ge	eographical		Apartment . Roor	n . SubZone	)		1.1.1			
Ap	plication S	pecific 🛭	GenPeripheral				1			
Ur	nassigned		Broadcast	Configu	rable 🗌					
	Address:		IO Type(ID):	353 (HOC	DA)	Prope	erty ID	):	56	
	-Services		COV 🛛	MinRepTin		10 se			tbeat:	15 min
Inf	oReport	$\boxtimes$	Output per defau	It communic	ating [			oup Wild	card allo	wed 🗌
			Tx Prio:	High 🗌		No	rmal	$\boxtimes$	Lov	<i>ν</i> 🗌
po sh	TE Read-R Iling of the all always t pported)	output	Transm after Pov	ver-up: Store	ed Valu	e□ A	ct Va	lue 🛚	Default \	/alue □
	perty-Serv ividual acc		Read only	$\boxtimes$	Read	/Write		]		
Exce	ption Hand	lling:	-					Save	at Power	down
Speci	ial Feature	s:								
			<u> </u>							·

# 3.7.6.7 Output ActStatCoolStageA

DP Name:	: ActStatCoolStageA						Abb	r.:			Ma	nda	tory				
FB Name:	H	100	PΑ										Cai	n be	interna	al	
Description	on																
This datap	oint c	ont	ains th	he O	N/O	FF value	e of the	e actu	ual ac	tuat	tor pos	sition (Cod	olStage/	A).			
<b>Datapoint</b>																	
DPT_Nam		DP	T_Sw	itch													
DPT Form	at:	$B_1$										DPT_ID:	1.0	01			
Field		Des	scripti	on								Supp.	Rang		Unit	Defa	ault
													ON/O	<u>FF</u>		CS	3
Access Ty	ype																
♦ Output	t																
this $\rightarrow$ 1	M				this	s → 1											
Sponta	neou																
				Сус	lic	$\boxtimes$	Per	riod:		15	min (	recomme	nded va	alue	)		
Reques	st		$\boxtimes$														
Communi	catio	n T	уре														
♦ Group	Obje	ct D	Datapo	oint									Manda	atory	/:		
Default	Grou	ір А	ddres	s:													
<b>Dynamics</b>	;																
Power	down	:	Save:														
Power	up:		Value	:	_	lo initialis						ılt value:					
						aved va	lue:				Actua	ıl value:			$\boxtimes$		
			Trans	mit c	n bu	JS:											
Exception	<b>Han</b>	dlir	ng														
Special Fe	eatur	es															

FB:	HOOA	LTE Sei	rver Output Name:	ActStatCo	olStage	eΑ		ľ	Mandator Optiona	
Desc	ription:	-		-			•			
This c	utput conta	ains the (	ON/OFF value of the	actual actua	ator pos	sition (C	oolSt	ageA).		
DPT:	Name	DPT_Sw	vitch	DPT ID	1.001	Da	tatype	e format	B <sub>1</sub>	
Field			Description		Sup.	Range		Unit	COV	Default
ActPc	S		Actual actuator posi	ition	M	ON/C	)FF		Υ	CS
Comr	nunicatior	1:			-	<del>-</del>		3	-	
Binding Group:										
Clas	S		Туре				Defa	ult		
Ge	ographical		$\boxtimes$ Apartment . Roo	m . SubZone	)		1.1.1			
Ap	plication S	pecific 🛭	□ GenPeripheral				1			
Ur	assigned		☐ Broadcast ☐	Configu	rable 🗌					
DP A	Address:		IO Type(ID):	353 (HOC	DA)	Prop	erty II	D:	57	
LTE	-Services	(event):	COV 🛛	MinRepTir	ne:	10 s	sec	Hear	rtbeat:	15 min
Inf	oReport	$\boxtimes$	Output per defau	Ilt communic	ating [	Bind	ing G	roup Wild	lcard allo	wed 🗌
			Tx Prio:	High 🗌		N	ormal	$\boxtimes$	Lov	w 🗌
po sh	ΓE Read-R lling of the all always I pported)	output	Transm after Pov	wer-up: Store	ed Valu	e 🗌 📝	Act Va	alue 🛚	Default \	/alue □
	oerty-Serv ividual acc		Read only	$\boxtimes$	Read	/Write				
Exce	otion Hand	lling:	<u>-</u>					Save	at Power	rdown
Speci	al Feature	s:								
			·							

# 3.7.6.8 Output ActStatCoolStageB

DP Name:	Act	StatCoolStag	geB	Abbr.:			Manda		
FB Name:	HO	OA					Can be	interna	<u>ا</u>
Description									
This datapoin	t cor	ntains the Of	N/OFF value of the a	ctual actua	tor pos	sition (Coo	lStageB).		
<b>Datapoint Ty</b>	ре								
DPT_Name:	DI	PT_Switch							
DPT Format:	B <sub>1</sub>					DPT_ID:			
Field	De	escription				Supp.	Range	Unit	Default
							ON/OFF		CS
Access Type	<u> </u>								
♦ Output									
this $\rightarrow$ M			this $\rightarrow$ 1						
Spontaneo	ous	⊠ co/		Value: 1	N	MinRepTin	ne:	10 sec	
		Cycl	ic 🛛 Period	d: 15 mi	n (rec	ommende	ed value)		
Request									
Communicat	ion	Туре							
♦ Group Ob	ject	Datapoint					Mandatory	<i>'</i> :	
Default Gr	oup.	Address:							
Dynamics									
Power dov	vn:	Save:							
Power up:		Value:	No initialisation:			ılt value:			
			Saved value:		Actua	ıl value:		$\boxtimes$	
		Transmit o	n bus:						
Exception Ha	andli	ing							
Special Feat	ures								

FB:	НООА	LTE Sei	rver C	Output Name:	Name: ActStatCoolStageB				N	/landator Optiona	
Desc	ription:										
This c	output conta	ains the (	IO/NC	FF value of the	actual actua	ator pos	sition (C	oolSta	ageB).		
DPT:	Name	DPT_Sw	itch		DPT ID	1.001	Da	tatype	format	B <sub>1</sub>	
Field			Desci	ription		Sup.	Range		Unit	COV	Default
ActPo	)S		Actua	l actuator posit	ion	М	ON/O	FF		Υ	CS
Comr	nunication	1:				-	-	-		-	
Bine	ding Grou	p:									
Clas	SS		Ту	pe				Defa	ult		
Ge	eographical	l [	⊠ Ap	artment . Roor	n . SubZone	)		1.1.1			
Ap	plication S	pecific 🛭	⊠ Ge	enPeripheral				1			
Ur	nassigned		Br	oadcast 🗌	Configu	rable 🗌					
DP A	Address:		Ю	Type(ID):	353 (HOC	DA)	Prop	erty IE	<b>)</b> :	58	
LTE	-Services	(event):	CC	OV 🛛	MinRepTin	ne:	10 s	ec	Hear	tbeat:	15 min
Inf	oReport	$\boxtimes$	Οι	ıtput per defaul	t communic	ating [	Bindi	ing Gr	oup Wild	card allo	wed 🗌
			Tx	Prio:	High 🗌		No	ormal	$\boxtimes$	Lov	w 🔲
po sh su	TE Read-R Iling of the all always I pported)	output be		ansm after Pow	er-up: Store	ed Valu	e 🗌 - <i>H</i>	Act Va	lue 🛚	Default \	/alue 🗌
	perty-Serv ividual acc		Re	ad only	$\boxtimes$	Read	/Write				
Exce	ption Hand	dling:							Save	at Power	down
Speci	ial Feature	es:									

# 3.7.6.9 Output ActStatHeatCool

DP Name:	Ac	tStatHeatCo	ol	At	obr.:			Mandat	tory	
FB Name:	H	DOA						Can be	interna	d 🔲
Description	า									
This datapo	int co	ntains the O	N/OFF value of t	the actual a	actuat	or pos	ition (Hea	tCool).		
Datapoint 7										
DPT_Name		OPT_Switch								
DPT Forma		3 <sub>1</sub>					DPT_ID:	1.001		
Field	] [	Description					Supp.	Range	Unit	Default
								ON/OFF		CS
Access Ty	ре									
◆ Output										
this $\rightarrow N$	1	$\boxtimes$	this $\rightarrow$ 1							
Spontan	eous		/: 🛛 🔻 🗀	elta-Value	: 1	Λ	/linRepTin	ne:	10 sec	
		Сус	ic 🛛 P	Period:	15	min (	recommer	nded value)	)	
Request		$\boxtimes$								
Communic	ation	Туре								
♦ Group (	Objec	t Datapoint						Mandatory	<b>'</b> :	
Default (	Group	Address:								
<b>Dynamics</b>										
Power d	own:	Save:								
Power u	p:	Value:	No initialisatio	n:			ılt value:			
			Saved value:			Actua	l value:		$\boxtimes$	
		Transmit o	n bus:		$\boxtimes$					
Exception	Hand	lling								
Special Fea	ature	S								

FB:	НООА	LTE Ser	ver Output Name:	ActStatHea	atCool			N	landator Optiona	
Desc	ription:	-		-			_			
This c	output conta	ains the C	ON/OFF value of the	actual actua	ator pos	sition (He	eatCo	ol).		
DPT:	Name	DPT_Sw	itch	DPT ID	1.001	Data	atype	format	B <sub>1</sub>	
Field			Description		Sup.	Range		Unit	COV	Default
ActPo	S		Actual actuator posi	tion	М	ON/OF	FF		Υ	CS
Comr	nunication	):			-	-			•	
Bine	ding Grou	0:								
Clas	SS		Туре				Defau	ılt		
Ge	eographical	l [	Apartment . Roor	n . SubZone	)		1.1.1			
Ap	plication S	pecific 🛭	GenPeripheral				1			
Ur	nassigned		Broadcast	Configu	rable 🗌					
DP A	Address:		IO Type(ID):	353 (HOC	DA)	Prope	erty ID	):	59	
LTE	-Services	(event):	COV 🛛	MinRepTin	ne:	10 se	ес	Hear	tbeat:	15 min
Inf	oReport	$\boxtimes$	Output per defau	It communic	ating [	Bindir	ng Gro	oup Wild	card allo	wed 🗌
			Tx Prio:	High 🗌		No	rmal [	$\boxtimes$	Lov	w 🗌
po sh	TE Read-R Iling of the all always I pported)	output	Transm after Pov	ver-up: Store	ed Valu	e□ A	ct Val	lue 🛚	Default \	/alue □
	perty-Serv ividual acc		Read only	$\boxtimes$	Read	/Write		]		
Exce	ption Hand	lling:						Save	at Power	down
Speci	ial Feature	s:								
				•	•	•	•		•	

# **3.7.6.10 Output Fault**

#### LTE-Mode

Not available.

DF	P Name:	Fau						Al	bbr.:			Mar	ndat	ory		
FB	Name:	НО	OA									Can	be	interna	ıl	
De	escription															
ħ	is datapoint	t ma	ay indica	ate a fa	ault in t	he ac	tuator	(S-Mo	de oı	nly) see	also Act	Stat				
	tapoint Ty	ре														
DF	PT_Name:	D	PT_Boo	ol												
DF	PT Format:	В									DPT_ID:	1.00	)2			
Fie	eld	D	escription	on							Supp.	Rang	е	Unit	Defa	ault
												true/fal	se	bool	0	
Ac	cess Type															
<b>*</b>	Output															
	this $\rightarrow$ M		$\boxtimes$		his $\rightarrow$ 1											
	Spontaneo	us		COV:		$\boxtimes$	Delta	-Value			/linRepTir			10 sec		
				Cyclic		$\boxtimes$	Perio	d:	15	5 min (	recomme	nded va	lue)			
	Request															
Co	ommunicati	ion	Type													
<b>♦</b>	Group Ob	ject	Datapo	oint								Manda	tory	:   _		
	Default Gro	oup	Addres	s: -												
Dy	/namics															
	Power dow	n:	Save:													
	Power up:		Value	:	No init	ialisa	tion:			Defau	ılt value:					
					Saved	lvalue	e:			Actua	l value:					
				mit on	bus:				$\boxtimes$							
Ex	ception Ha	ındl	ling													
Sp	ecial Featu	ıres	3													

# 3.7.6.11 Output Overridden

#### LTE-Mode

Not available.

FB Name: HOOA Can be internal	
Description	
This datapoint may indicate that the actuator is overridden (S-Mode only) see also ActStat	
Datapoint Type	
DPT_Name: DPT_Bool	
DPT Format: B <sub>1</sub> DPT_ID: 1.002	
	ault
True/fals   bool	)
e	
Access Type	
◆ Output	
this $\rightarrow$ M $\square$ this $\rightarrow$ 1 $\square$	
Spontaneous 🛛 COV: 🖾 Delta-Value: MinRepTime: 10 sec	
Cyclic Period: 15 min (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	

### 3.7.6.12 Output CalibrationMode

#### LTE-Mode

Not available.

DΡ	Name:	Cali	ibrationMod	de			Abbr.	: -		Manda	tory		
FB	Name:	HO	OA							Can be	interna	al	
De	scription												
Thi	is datapoint	ma	y indicate tl	hat	t the actuato	r is in the	calibra	ation m	ode (S-Mod	de only) se	e also A	ctStat	i
	tapoint Ty												
	PT_Name:		PT_Bool										
	T Format:	B <sub>1</sub>							DPT_ID:				
Fie	eld	De	escription						Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Ac	cess Type												
<b>♦</b>	Output												
	this $\rightarrow$ M				$nis \rightarrow 1$								
	Spontaneo	us	⊠ CO	V:	$\boxtimes$	Delta-Va			MinRepTir		10 sec		
			Сус	lic		Period:	-	15 min	(recomme	nded value	)		
	Request												
Со	mmunicati	ion <sup>-</sup>	Туре										
<b>♦</b>	Group Ob	•	•							Mandatory	/:		
	Default Gro	oup.	Address:		-								
Dy	namics												
	Power dow	n:	Save:										
	Power up:		Value:		No initialisa				ault value:				
					Saved value	e:	<u> </u>	Actu	ıal value:				
			Transmit of	on	bus:								
Ex	ception Ha	ındli	ing										
Sp	ecial Featu	ıres											

# 3.7.6.13 Output ValveKick

#### LTE-Mode

Not available.

Ď	Name:	Valv	/eKick				Abbr	: -		Manda	itory		
FB	Name:	HO	AC							Can be	e interna	al	
	scription												
_			y indica	ate a	valve kick (S-	Mode only	y) see	also A	ctPStat				
	tapoint Ty												
	PT_Name:		PT_Bo	ol									
DF	T Format:	B <sub>1</sub>							DPT_ID:				
Fie	eld	De	escripti	on					Supp.	Range	Unit	Defa	ault
										true/false	bool	0	
Ac	cess Type												
<b>♦</b>	Output												
	this $\rightarrow M$		3		this $\rightarrow$ 1								
	Spontaneo	us	$\square$	CO/	/:	Delta-Va	lue:		MinRepTir	ne:	10 sec		
				Cycl	lic 🛛	Period:		15 min	(recomme	nded value	e)		
	Request		$\square$										
Co	mmunicati	ion <sup>-</sup>	Гуре										
<b>♦</b>	Group Ob	ject	Datapo	oint						Mandator	y: 📗		
	Default Gro	oup .	Addres	ss:									
Dy	namics												
	Power dow	n:	Save:										
	Power up:		Value	<b>)</b> :	No initialisa	ition:		Defa	ault value:				
					Saved value	e:	<u> </u>	Actu	ual value:				
				mit o	n bus:								
Ex	ception Ha	ndli	ng										
Sp	ecial Featu	ıres											

# **3.7.6.14 Parameter Apartment**

FB:	HOOA	Proper	ty	Name ( <u>Server</u> ):	Α	partment					Mandator Optiona	• =
Desc	ription:	-			_					<u></u>		
Numb	er of the a	partment	t zo	one.								
DPT:	Name	DPT_U	col	untValue8_Z		DPT ID	202.002	)	Data	atype format	$U_8Z_8$	
Field			D	escription				S	up.	Range	Unit	Default
Zone			Ν	umber of the apa	rtm	nent zone			M	(0) 1126		1
STAT	US										Bitset	
- Outo	ofService		z	one active / inactive	ve				0	true/false	Bit 0	false
- all o	ther bits		no	ot supported, fixed	d to	o '0'		١	۱A			false
COM	MAND									enum		CS
- Norr	malWrite								M	0		
- SetC	OSV & Res	setOSV	1 -	et zone inactive /	ac	tive			0	3 / 4		
- all o	ther comm	nands	no	ot supported				1	۱A			
Comi	nunicatio	n:					_				-	
DP	Address:			IO Type(ID):		353 (HOO	۹)	Pi	oper	ty ID:	101	
(in t	he server	)		Start-Index:		1		N	of e	lements	1	
Pro	perty acco	ess:		Read only			Read/W	rite	<b>;</b>	$\boxtimes$		
Pro	tection			Read level		-		W	rite l	evel	-	
Exce	ption Han	dling:	V	alue after Power-	up	: Stored V	/alue 🛚	Α	ct Va	lue 🗌 Def	ault Value	e 🔲
Spec	ial Featur	es:										
				to all listeners								
The d	evice is no	ot LTE co	mr	municating in this	ZO	one if it is 'O	utOfSer	vic	e'			
If Apa	rtment is '	OutOfSei	rvio	ce' Room and Sub	oΖ	one automa	atically a	re	Out	OfService'		

#### 3.7.6.15 Parameter Room

FB:	НООА	Proper	ty Name ( <u>Server</u> ):	Room				Mandatory ⊠ Optional □		
Descr	ription:	<u>'</u>					<u> </u>	<u> </u>		
Numb	er of the ro	om zone	Э.							
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	2 Data	atype format	$U_8Z_8$		
Field			Description			Sup.	Range	Unit	Default	
Zone			Number of the roor	n zone		M	(0) 163		1	
	US ofService ther bits		zone active / inactivnot supported, fixed			O NA	true/false	Bitset Bit 0	false false	
- Norn - SetC	MAND nalWrite OSV & Res ther comm		Set zone inactive / not supported	active		M O NA	enum 0 3 / 4		cs	
Comn	nunicatior	):	-				<del>-</del>	_	-	
	Address:		IO Type(ID):	353 (HOC	PA)	Proper	•	102		
	he server)		Start-Index:	1			lements	1		
	perty acce	ss:	Read only		Read/W		$\boxtimes$			
	ection		Read level	-		Write I		-		
Excep	otion Hand	lling:	Value after Power-	up: Stored	Value 🛚	Act Va	lue 🗌 Det	fault Value	) <u> </u>	
	al Feature									
The d	one = 0 (wildcard): Sends to all listeners ne device is not LTE communicating in this zone if it is 'OutOfService' utOfService' is taken over from Apartment									

### 3.7.6.16 Parameter SubZone

FB:	HOOA	Proper	operty Name ( <u>Server</u> ): SubZone								Mandatory ⊠ Optional □		
Dane			_								Optiona	ai 🔛	
	ription:												
	er of the s					T	-				<del></del>		
DPT:	Name	DPT_U	0	untValue8_Z		DPT ID	202.002	2	Data	atype format	$U_8Z_8$		
Field				Description				S	up.	Range	Unit	Default	
Zone			٨	Number of the Sub	Zo	ne			M	(0) 115		1	
STAT	US										Bitset		
- Outo	ofService		z	one active / inactive	ve				0	true/false	Bit 0	false	
- all o	ther bits		n	ot supported, fixed	d to	o '0'		1	NA			false	
COM	MAND									enum		CS	
- Norr	malWrite								M	0			
- SetC	OSV & Res	etOSV	Set zone inactive / active						0	3 / 4			
- all o	ther comm	ands	not supported					1	NΑ				
Comr	nunicatio	า:									-		
DP.	Address:			IO Type(ID):		353 (HOC	OA)	Р	roper	ty ID:	103		
(in t	he server)			Start-Index:		1		Ν	° of e	lements	1		
Pro	perty acce	ess:		Read only			Read/W	/rite	)	$\boxtimes$			
Pro	tection			Read level		-		W	/rite l	evel	=		
Exce	ption Hand	dling:	٧	/alue after Power-ı	up	: Stored	Value 🛚	Α	ct Va	lue 🗌 Def	ault Value		
Spec	ial Feature	es:											
Zone	= 0 (wildca	ard): Sen	ds	to all listeners									
The d	evice is no	t LTE co	m	municating in this	ZO	ne if it is '	OutOfSer	vic	e'				
'OutO	fService' is	s taken o	ve	er from Apartment									

### 3.7.6.17 Parameter GenPeripheral

FB:	: HOOA Property N			Name ( <u>Server</u> ):	enPeriphe		Mandatory 🔲				
										Optiona	al 🖂
Desc	ription:										
Numb	er of the	general p	er	ipheral tag.							
DPT:	Name	e DPT_L	co	untValue16_Z		DPT ID	203.012	Data	type format	$U_{16}Z_{8}$	
Field				Description				Sup.	Range	Unit	Default
Zone			١	Number of the Sub	Zc	one		M	full		1
STAT	US									Bitset	
- Outo	ofService	)	Z	one active / inacti	ve	<b>:</b>		0	true/false	Bit 0	false
- all o	ther bits		r	ot supported, fixe	d t	to '0'		NA			false
COMI	MAND								enum		CS
COMMAND - NormalWrite								M	0		
- SetC	OSV & R	esetOSV	5	Set zone inactive /	ac	ctive		0	3/4		
- all o	ther com	mands	r	ot supported				NA			
Comr	nunicat	ion:					-	_		=	
DP A	Address	<b>3</b> :		IO Type(ID):		353 (HOO	۹)	Propert	ty ID:	104	
(in t	he serv	er)		Start-Index:		1		N° of e	lements	1	
Pro	perty ac	cess:		Read only			Read/W	rite	$\boxtimes$		
Prof	tection			Read level		-		Write le	evel	-	
Exce	otion Ha	ndling:	\	/alue after Power-	up	: Stored V	′alue 🛚	Act Val	lue 🗌 Det	ault Value	
Speci	ial Featu	ıres:									
Zone	= 0 (wild	lcard): Se	nds	to all listeners						•	
The d	evice is	not LTE c	om	municating in this	ZC	one if it is 'O	utOfSer	vice'			

### 3.7.6.18 Parameter ValveMode

FB: HOOA Prop	erty Name ( <u>Server</u> ):	ValveMode			Mandator Optiona	
Description:		-		<u>.</u>	•	
Selection of the valve f	unction.					
<b>DPT</b> : Name DPT_	ValveMode	DPT ID 20.108	Data	atype format	N <sub>8</sub>	
Field	Description	·	Sup.	Range	Unit	Default
ValveMode	Definition of the va	lve functionality	М	15	enum	1
Heat stage A	for normal heating		0	1		
Heat stage B	for heating with two	o stages	0	2		
Cool stage A	for normal cooling		0	3		
Cool stage B	for cooling with two		4			
HeatCool	for changeover app	olications	0	5		
Communication:						
DP Address:	IO Type(ID):	353 (HOOA)	Proper	•	111	
(in the server)	Start-Index:	1	N° of e	elements	1	
Property access:	Read only [	Read/W	/rite	$\boxtimes$		
Protection	Read level	-	Write I	evel	-	
<b>Exception Handling:</b>	Value after Power-	up: Stored Value 🛛	Act Va	lue 🗌 Def	fault Value	
Special Features:						