

Application Descriptions

Functional Blocks of Common Interest

General Purpose I/O

Summary

This document specifies general purpose I/O Functional Blocks.

Version 01.01.02 is a KNX Approved Standard.

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

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Document updates

Version	Date	Modifications
0.1	2005.09.27	Document created
0.2	2005.10.04	Editorial corrections, Property ID for PeripheralZones changed to 104,
		new DPT added
0.3	2006.02.07	TFI comments included; DPT_Scaling used for analog values in S-Mode
		Introduction updated
		FB descriptions updated; editorial corrections
		TFI approved
0.4	2006.02.17	Preparation of the Draft Proposal.
0.5	2008.08.09	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.
1.0	2009.04.27	Publication of the Approved Standard.
1.1	2010.04.16	Optional support of LTE geographical zones
		Blinking features in GPDO added
		Various editorial corrections
WD	2010.07.28	Editorial:
		GPDO: Naming of Property 'OutputSelect' in Datapoint Description Table
		Data Type of InputSelct (GPDI) and OutputSelect (GPDO) is B ₁ (Tables)
\4/D	00100=00	2.1.5 and 3.1.5)
WD	2010.07.29	Editorial:
		GPDO: Z8-Commands SetOSV/ResetOSV no applicable on Output Digital Out Sets.
		DigitalOutSetp.
WD	2010.11.22	Various editorial amendments and clarifications
		GPAO: optional parameter StatusAnalogOutputCOV added
1.1.00	2011.01.28	Draft for Voting.
1.1.01	2011.09.14	- Integration of the resolution of comments from Final Voting.
		- Pubication of the Approved Standard.
01.01.02	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[1] Chapter 3/7/2

"Datapoint Types"
"Logical Tag Extended" [2] Part 10/1

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1 Introduction

1.1 Scope

This document is part of the KNX Application Interworking Standard.

It contains the specification of General Purpose Input / Output Functional Blocks (FBs).

1.2 Objectives

This document includes the information necessary to build interoperable general purpose input/output (I/O) products of common interest (FOCI) using the KNX communication system. Runtime Interworking between the I/O Functional Block and a controller, display etc 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).

These FBs are mainly foreseen as an extension to the HVAC model using LTE mechanisms.

So far, such general purpose I/O devices are hard wired to the HVAC devices or linked through short distance proprietary bus connections. However KNX TP1 or KNX RF could increase the distance to intelligent general purpose I/O devices.

This document specifies the specific mechanisms for zoning and runtime process data distribution used in HVAC for an 'easy installation' system (LTE-Mode [2]). The Standard Mode Interface is also specified.

In the LTE mode linking of these general purpose I/O devices is based on "general peripheral zones". Binding in "geographical zones" may be supported as an additional, optional feature. In the LTE runtime system either "general peripheral" or "geographical" zone is activated. Usually it does not make sense to communicate simultaneously in both types of LTE zones. The deactivated zone parameter shall be set 'OutOfService'.

EXAMPLE

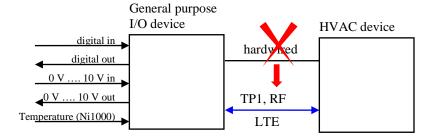


Figure 1 – The goal of general purpose I/O FBs

Such I/O devices can be used for supervision purposes, remote management, I/O extensions to the HVAC controller etc.

Each of these inputs and outputs is modelled according an own FB. The proper interpretation of the data (e.g. whether the temperature is an inside, outside, or floor temperature ...) is only done by the HVAC device.

Every FB 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 FB 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.

Completely protocol dependent parts of the I/O specification such as Group Object Tables, Group Address Tables etc. are not part of this document.

1.3 Dependency on Configuration Modes

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

The document provides all necessary information needed

- for a complete implementation of the FBs in LTE mode, and
- for the implementation of mandatory Group Objects used for runtime Interworking in Standard Mode (Basic Functional Block).

1.3.1 Runtime Interworking

Configuration Mode dependent (S-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 configuration mode dependencies concerning runtime Interworking.

			STANDARD MODE		NDED DDE
		Basic FB	S-Mode	Standard Mode Interface	LTE
Inputs	lnp1	NA	NA	NA	М
	Inp2	NA	NA	NA	0
	Inp3	(GO _b)		(GO)	0
Outputs	Outp1	NA	NA	NA	М
	- Outp1-1	GO _b	GO	GO	NA
	- Outp1-2	GO _b	GO	GO	NA
	Outp 2	GO _b	GO	GO	М

- 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_b). The Datapoint is optionally supported as Group Object in the LTE Standard Mode Interface (GO). For all other modes the implementation is not defined. This is indicated by an empty field.
- Outp1: is mandatory M in LTE Mode and has a structured DPT or a DPT with extended features that 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 that are accessed using point-to-point communication.
- These Properties are addressed via the standard Interface Object Type (IO Type) for this Functional Block. This IO Type is also used for Datapoint addressing in the LTE runtime Interworking model.
- Standard DPT or HVAC specific DPT with extended features are used where appropriate.

Other modes:

- Parameters and Diagnostic Data can in principle be implemented as memory mapped Datapoints or Group Objects or Properties of an Interface Object using point-to-point communication. This document does not lay down how to implement Parameters and Diagnostic Data in S-Mode, Ctrl-Mode or 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) DPTs. The description of these Group Objects shall be part of the mode-dependent specification (e.g. E-Mode Channel definition).
- In case of **Properties**, the implementation of HVAC specific DPT with extended features may be a problem (depending on the available microcontroller resources). The manufacturer has the choice:
 - to use the LTE style Property implementation as specified in this document (with the DPT and IO Type for LTE implementations)

 IO Type used = IO Type HVAC-LTE
 - to implement these Properties using standard DPT only.
 In this case, the same Property ID but a different IO Type shall be used since the DPT of a Property shall be unambiguous for each IO Type.
 Simple IOT mapping rule: IO Type^{used} = IO Type^{standardDPT} = IO Type^{HVAC-LTE} + 10000d
 (e.g. BUCHVAC-LTE = 128 ⇒ BUCStandardDPT = 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}.

	Imp	Implementation of Parameter and Diagnostic Data											
	Proper	ty based	Group Object	Memory mapped									
	LTE style	Standard DPT											
IO Type	IO Type ^{HVAC-LTE} e.g. BUC = 128	IO Type $^{HVAC-LTE}$ + 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 HVAC-LTE.

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

The mapping of an HVAC specific DPT to a standard DPT is generic and described in the document [1].

1.4 Glossary

This document does not define any new terms.

1.5 Abbreviations

General

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

2 General Purpose Input Functional Blocks

2.1 General Purpose Digital Input (GPDI)

2.1.1 Aims and objectives

The Functional Block 'General Purpose Digital Input' shall measure the value of a digital input signal (logical 0/1) that shall be translated to a binary Group Object.

2.1.2 Functional specification

The physical implementation of the digital input (voltage level, threshold etc.) is device specific. Usually the input can be switched by a potential free contact.

The logical operation of the input signal can be inverted by an optional parameter (e.g. change from 'normally open' to 'normally closed'.

The distribution of the DigitalInputValue in the system shall be event-driven (COV-condition, change of value) and in addition repeated periodically.

In the LTE-Mode the 'General Purpose Digital Input' shall support <u>LTE general peripheral zoning</u>, i.e. the values of multiple binary signals may be distributed in the system in parallel for different zones.

Optional features in LTE Mode:

- Support of LTE geographical zones.
- The binary value may temporary be overridden by means of a tool for service purposes. The 'Overridden' condition must be reported.
- The value of the digital input signal may be set / reset out of service by means of a tool for service purposes.

Outputs

DigitalInputValue This Output shall deliver the binary value to the bus.

• StatusGO This Output shall only be available in Standard Mode and

shall contain the Z₈ information of the output value.

Binding Group (LTE)

GeneralPeripheralZone no special features

GeographicalZone BuildingLocation.Room.Subzone

Parameters

• InputSelect This optional Parameter is used to invert the logical

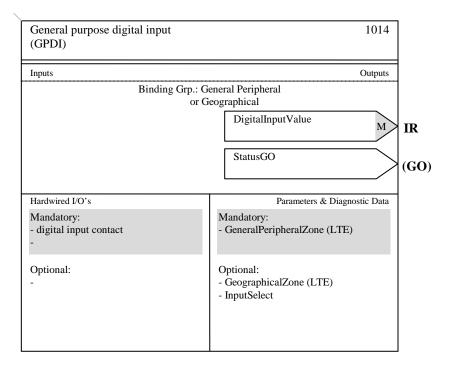
behaviour of the physical input (e.g. from normally open

to normally closed).

2.1.3 Constraints

None.

2.1.4 Functional Block diagram



2.1.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info
Outputs			
DigitalInputValue	Digital input value with: - COV and heartbeat - Z ₈ STATUS and - Z ₈ COMMAND supported	$LTE: 200.001 \\ DPT_BinaryValue_Z \\ B_1Z_8 \\ S: 1.006 \\ DPT_BinaryValue \\ B_1 \\$	LTE: M Low/High S: GO Low/High
StatusGO	Z ₈ information as a Group Object	LTE: NA S: 21.001 DPT_StatusGen B ₈	LTE: NA S: (GO) Bitset as Z ₈
Parameters			
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	M
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z U ₁₆ Z ₈	0
InputSelect	This optional parameter is used to invert the logical behaviour of the physical input (e.g. from normally open to normally closed)	1.012 DPT_Invert B ₁	O cs

Implementation of Properties using standard DPT see clause 1.3.2.

GPDI Runtime Interworking - dependence on Configuration Modes

			STANDARD MODE		NDED DDE
		Basic FB	S-Mode	Standard Mode Interface	LTE-
Inputs					
Outputs	DigitalInputValue	GO _b	GO	GO	M
Cutputs	StatusGO	(GO _b)	30	(GO)	NA

General Purpose I/O

GPDI LTE specific Properties

_		Support
Parameter	GeneralPeripheralZone	М
	GeographicalZone	0

GPDI standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	InputSelect	0

2.1.6 Detailed specification of the Datapoints

2.1.6.1 Output DigitalInputValue

Standard Mode

DP Name:	Digi	DigitalInputValue						or.:			Manda	atory		
FB Name:	GPE	GPDI									Can b	e internal		
Description														
This output signal provides the logical value of the digital hardware input (including possible logical														
inversion according to optional parameter InputSelect)														
Datapoint Type														
DPT_Name:	DF	PT_Bir	ıaryVa	alue										
DPT Format:	B ₁									DPT_ID:	1.006			
Field	_	escripti	on							Supp.	Range	Unit	Default	
Bit	_	= low								M		Bit	CS	
	1 =	= high												
♦ Output														
this \rightarrow M		1		this $\rightarrow 1$										
Spontaneo	ous		COV	': [\boxtimes	Delta	-Value:		Ν	/linRepTin	ne:	1 s *)		
			Cycli	ic	\boxtimes	Perio	d:	15 r	min	n (recommended value)				
Request		\boxtimes												
Communicat	ion 1	Гуре												
♦ Group Ob	ject l	Datapo	oint								Mandator	y: 🛛		
Default Gr	oup /	Addres	SS:											
Dynamics														
Power dov	vn:	Save	:				_							
Power up:		Value	: :	No initi	alisat	tion:		De	efau	ılt value:				
				Saved	value	∋:		Ad	ctua	l value:				
			mit or	n bus:										
Exception Ha	andli	ng												
Special Feat														
*) recommende				pplication	s Min	RepTin	ne of 1s is	too lo	ng a	and updates	s of Digitall	nputValue	may be	
sent immediately after a COV														

LTE-Mode

FB:	GPDI	LTE Ser	ver Output Name:	DigitalInpu	tValue			Mandatory ⊠ Optional □			
Descr	iption:	•		-			•		•		
			the logical value of the	digital hardw	are inpu	t (includi	ng pos	ssible logi	cal inversi	on	
			eter InputSelect)								
DPT:	Name	DPT_Bin	aryValue_Z	DPT ID	200.001		atype 1		B_1Z_8		
Field			Description		Sup.	Range		Unit	COV	Default	
Binary			0 = low 1 = high		M	Bit	İ		yes	CS	
STATU	JS		For LTE-Service InfoR Property-Service Resp					Bitset			
- Over	ridden		Input is temporarily over		0	true/fa	alse	Bit 2	yes	false	
- OutO	fService		Input is active / inactive		O	true/fa	alse	Bit 0	yes	false	
- all otl	ner status		•		NA						
								Sup.	Range		
COMM	1AND		For Property-Service V						enum		
	ride / Releas		Temporary override / r		naryValue	e informa	ation	0	1/2		
- SetO	SV & Reset	OSV	Set input inactive / acti	ive				0	3 / 4		
	her comman	nds						NA			
	unication:										
	ling Group:		1_								
Clas			Туре								
	ographical		BuildingZone.Room.Subzone 1.1.1								
	plication Sp										
	assigned		Broadcast ☐ Configurable ⊠ cs								
	Address:		IO Type(ID):	1014 (GPD		Proper	rty ID:		51		
	Services (e		COV 🛛	MinRepTim		1*) s			rtbeat:	15 min	
Into	Report	\boxtimes	Output per default co		g 🛛	Bindin	g Grou	up Wildca	rd allowed		
/1.7	E Read-Re	ononno	Tx Prio:	High 🗌		Nor	mal 🛭	<u> </u>	Low		
pol sha sup	ling of the o all always be oported)	utput e	Transm after Power-	up: Store	ed Value		Act Va	alue 🗵	Default \	/alue □	
(indi	erty-Servic vidual acce	ess):	Read only		Read/W	/rite					
Excep	tion Handli	ng:						Save a	t Powerdo	wn 🗌	
	al Features:										
Geogr			nes is optional. Usually ed Peripheral Zones. T							y in	
	r) recommended value. In some applications MinRepTime of 1s is too long and updates of DigitalInputValue may be sent immediately after a COV										

2.1.6.2 Output StatusGO

LTE-Mode NA

Standard Mode

DF	Name:	Stat	StatusGO Abbr.:							-	Mandatory					
FΒ	Name:	GPE	PDI								Can be	interna	al			
	scription															
Th	is output co	ntair	ns the 2	Z ₈ stat	us informati	on as a	Grou	ıp Obj	ect.							
Da	tapoint Typ	эе														
	PT_Name:	DF	PT_Sta	tusGe	n											
	PT Format:	B ₈								DPT_ID:	21.001					
Fie			escripti							Supp.	Range	Unit	Defa	ult		
Sta	atus	Z_8	Status	inforn	nation					0	Bitset		CS	;		
	it O		utOfSe	rvice						0		t/f				
	it 1	-	ıult							NA		t/f				
	it 2	_	erridd)	en						0		t/f				
	it 3	1	Alarm							NA		t/f				
	it 4				wledged					NA		t/f				
	its 57	res	served							NA					_	
	cess Type															
•		1 6	7													
	this \rightarrow M				his $\rightarrow 1$											
	Spontaneo	us		COV:		Delta-					MinRepTime: 1 s					
				Cyclic		Period	d:	1	5 mir	recomm ((recommended value)					
	Request														_	
Co	mmunicati		<i>,</i> ,								1	1 5 3				
•	0.00,000										Mandatory	<i>ı</i> : 🖂				
	Default Gro	oup /	Addres	s: -												
Dy	namics		1													
	Power dow	n:	Save:													
	Power up:		Value	:	No initialisa		<u>Ш</u>			ult value:						
					Saved valu	e:	Ш,		Actu	al value:		\boxtimes		_		
			Transmit on bus:											<u>」</u>		
Ex	ception Ha	ndli	ng													
															_	
Sp	ecial Featu	ires														

2.1.6.3 Parameter GeneralPeripheralZone

FB:	GPDI	Proper	ty Name (<u>Server</u>):	GeneralPe		Mandator	y 🛛					
							Optional					
Desc	ription:			•			-					
Numb	er of the ge	eneral pe	eripheral zone.									
DPT:	Name	DPT_U	countValue16_Z	ntValue16_Z DPT ID 203.012 Datatype format U ₁₆ Z ₈								
Field			Description			Sup.	Range	Unit	Default			
Zone			Number of general	peripheral ta	ag	М	full		1			
STATUS								Bitset				
- OutOfService			zone active / inactiv	е		0	true/false	Bit 0	false			
- all o	ther bits		not supported, fixed	to '0'		NA			false			
COM	MAND						enum		CS			
- NormalWrite						M	0					
- SetC	OSV & Res	etOSV	Set zone inactive / a	active		0	3/4					
- all o	ther comma	ands	not supported			NA						
Comr	nunication	1:	-					-				
DP .	Address:		IO Type(ID):	1014 (GP	DI)	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						
Pro	tection		Read level	-		Write le	evel	-				
Exception Handling: Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐												
Spec	ial Feature	s:										
GPDI	is not LTE	commun	nicating if zone is 'Ou	tOfService'		•		•				

2.1.6.4 Parameter BuildingZone

FB:	GPDI	Pr	opert	ty Name (<u>Server</u>):	В	uildingZ	one				Mandatory Optional		
Desci	ription:												
	•	eogra	phical	Zone parameter -> I	3ui	ldingEnti	ty (Floor,	Ap	artm	ent, Building	section et	c.)	
DPT:	Name	e DP	T_Uc	ountValue8_Z]	DPT ID	202.002	2	Data	atype format	U ₈ Z ₈		
Field				Description					up.	Range	Unit	Default	
Count	erValue			Number of the Build	ling	gZone			M	1126		1	
STATUS											Bitset		
- OutOfService				zone active / inactiv	е				0	true/false	Bit 0	true	
- all other bits				not supported, fixed	to	'0'			NΑ			false	
COMMAND									enum		CS		
- NormalWrite				M					0				
- SetOSV & ResetOSV Set zone inactive / a				acti	ive			0	3 / 4				
- all of	ther com	mand	ls	not supported					NΑ				
Comr	nunicati	ion:											
DP A	Address	::		IO Type(ID):	1	014 (GP	DI)	Property ID:			101		
(in t	he serve	er)		Start-Index:	1			N	° of e	lements	1		
Pro	perty ac	cess:		Read only			Read/W	/rite)	\boxtimes			
Prot	ection			Read level	-			W	/rite le	evel	-		
Exce	otion Ha	ndlin	g:	Value after Power-u	ıp:	Stored	Value 🛚	Α	ct Va	lue 🗌 Def	fault Value		
Speci	al Featu	ıres:											
GPDI	is not L7	ГЕ сог	mmun	nicating if zone is 'Οι	ιtO	fService'	. If paran	nete	er Bu	ildingZone is	'OutOfSei	rvice'	
also tl	also the corresponding Room and Subzone parameters are 'OutOfService' (common flag).												
Usual	ly it does	s not r	nake	sense to communica	ate	simultan	eously in	Ge	eogra	phical and U	nassigned		
Periph	neral Zor	nes. T	heref	ore the parameter fo	r th	ne inactiv	e zone is	se	t 'Ou	tOfService'			

2.1.6.5 Parameter Room

FB:	GPDI	Proper	ty Name (<u>Server</u>):	Roo	om				Mandator	У
									Optional	\boxtimes
Desci	ription:	-						-		
Part c	f LTE Geo	graphica	IZone parameter -> F	Room	n within	Building	Zone			
DPT:	Name	DPT_U	countValue8_Z	DF	PT ID	202.002	Data	type format	U_8Z_8	
Field			Description				Sup.	Range	Unit	Default
CounterValue			Room number				М	163		1
STAT	US								Bitset	
- OutOfService			zone active / inactive	е			0	true/false	Bit 0	true
- all o	ther bits		not supported, fixed	to '0)' 		NA			false
COMMAND								enum		CS
- NormalWrite							М	0		
- SetC	SV & Res	etOSV	Set zone inactive / a					3 / 4		
- all o	ther comma	ands	not supported				NA			
Comr	nunication	ւ ։				_				
DP /	Address:		IO Type(ID):	1014 (GPDI) Prope			Proper		102	
(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	-	
Exception Handling: Value after Power-up: Stored Value ⊠ Act Value □ Default Value □										
Speci	al Feature	s:								
GPDI	is not LTE	commu	nicating if zone is 'Ou	ıtOfS	Service'.	If param	eter Bu	ildingZone is	'OutOfSe	rvice'
also tl	ne correspo	onding R	loom and Subzone page	aram	neters ar	e 'OutOt	Service	' (common f	lag)	

2.1.6.6 Parameter Subzone

FB:	GPDI	Proper	ty Name (<u>Server</u>):	Subzone				Mandatory ☐ Optional ☑		
Dagas	ription:							Ориона		
	•			0 1 14			_			
Part o		<u> </u>	IZone parameter -> S	Subzone with	hin Build	ingZone.	.Room			
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002		type format	U_8Z_8		
Field			Description			Sup.	Range	Unit	Default	
CounterValue			Subzone number			М	115		1	
STAT	US						Bitset			
- OutOfService			zone active / inactiv	е		0	true/false	Bit 0	true	
- all of	ther bits		not supported, fixed	l to '0'	NA			false		
COMMAND							enum		CS	
- NormalWrite						M	0			
- SetC	SV & Res	etOSV	Set zone inactive / a	active		0	3 / 4			
- all of	ther comma	ands	not supported			NA				
Comr	nunicatior	1:						-	-	
DP A	Address:		IO Type(ID):	1014 (GPI	OI)	Propert	y ID:	103		
(in t	he server)		Start-Index:	1		N° of el	lements	1		
Pro	perty acce	ss:	Read only		Read/W	rite /	\boxtimes			
Prot	ection		Read level	-		Write le	evel	-		
Exception Handling: Value after Power-up: Stored Value ⊠ Act						Act Val	ue 🗌 Def	ault Value		
Speci	al Feature	s:								
GPDI	is not LTE	commur	nicating if zone is 'Ou	utOfService'.	If param	neter Bui	ldingZone is	'OutOfSe	rvice'	
also tl	ne correspo	onding R	oom and Subzone p	arameters a	re ⁱ OutO	fService ⁵	' (common f	lag)		

2.1.6.7 Parameter InputSelect

FB:	GPDI	Proper	ty Name (<u>Server</u>):		Mandatory Optional	y 🔲		
Desci	ription:			-				
Define	es the opera	ation log	ic of the physical inpu	t.				
DPT : Name DPT_I			nvert	DPT ID 1.012 Da			B ₁	
Field			Description		Sup.	Range	Unit	Default
Comr	nunication	:			-		-	
DP A	Address:		IO Type(ID):	1014 (GPDI)	Property	y ID:	110	
(in t	he server)		Start-Index:	1	N° of el	ements	1	
Pro	perty acces	ss:	Read only	Read/W	/rite	\boxtimes		
Prot	ection		Read level	-	Write le	vel	-	
Exce	otion Hand	ling:	Value after Power-up	: Stored Value 🛚	Act Val	ue 🗌 🛮 Def	ault Value	
Speci	al Feature	s:					_	-

2.2 General Purpose Analog Input (GPAI)

2.2.1 Aims and objectives

The Functional Block 'General Purpose Analog Input' shall measure the value of an analog input signal with a fixed range (e.g. 0 V to 10 V or 0 mA to 20 mA signal) that shall be translated to a percent value and communicated on the bus.

2.2.2 Functional specification

The physical implementation of the analog input (voltage level 0 V to 10 V, current level 0 mA to 20 mA etc.) is device specific.

The mapping between the analog value and the percentage value Outputs is manufacturer specific. It is typically controlled through one or more manufacturer specific parameters.

The distribution of the AnalogInputValue in the system shall be event-driven (COV-condition, change of value) and shall in addition b repeated periodically. The COV condition may be changed by an optional parameter.

In the LTE-Mode the 'General Purpose Analog Input' shall support <u>LTE general peripheral zoning</u>, i.e. the values of multiple analog signals may be distributed in the system in parallel for different zones.

Optional features in LTE Mode:

- Support of LTE geographical zones.
- The input value may temporary be overridden by means of a tool for service purposes. The 'Overridden' condition must be reported.
- The value of the analog input signal may be set / reset 'Out of service' by means of a tool for service purposes.

Outputs

•	AnalogInputValue	This output shall deliver the analog value that is
		converted to a 0 % to 100 % value on the bus.

• StatusGO This output shall only be available in Standard Mode and shall contain the \mathbb{Z}_8 information of the output value.

Binding Group (LTE)

GeneralPeripheralZone
 No special features.

GeographicalZone BuildingLocation.Room.Subzone

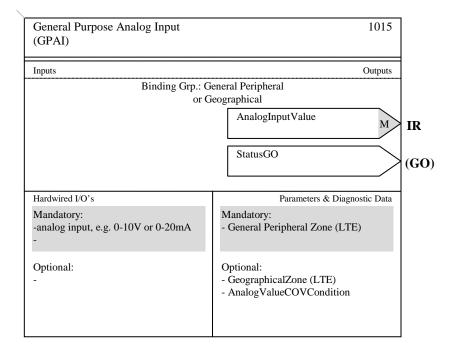
Parameters

• AnalogValueCOVCondition This optional parameter shall define the COV condition (change of value in %) for the output signal.

2.2.3 Constraints

None.

2.2.4 Functional Block diagram



2.2.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info
Outputs			
AnalogInputValue	Analog input value with: - COV and heartbeat - Z ₈ STATUS and - Z ₈ COMMAND supported	LTE: 203.017 DPT_PercentU16_Z $U_{16}Z_8$ S: 5.001 DPT_Scaling U_8	LTE: M 0-100% with 0.01% resolution S: GO
StatusGO	Z ₈ information as a Group Object	LTE: NA S: 21.001 DPT_StatusGen B ₈	LTE: NA S: (GO) Bitset as Z ₈
Parameters			
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	М
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z $U_{16}Z_8$	О
AnalogValueCOVCondition	COV condition for the analog value in percent	5.001 DPT_Scaling U ₈	O cs

Implementation of Properties using standard DPT see clause 1.3.2.

GPAI Runtime Interworking - dependence on Configuration Modes

			STANDARD MODE		ENDED ODE	
		Basic FB	S-Mode	Standard Mode Interface	LTE	
Inputs						
Outputs	AnalogInputValue	GO _b	GO	GO	M	
	StatusGO	(GO _b)		(GO)	NA	

GPAI LTE specific Properties

_		Support
Parameter	GeneralPeripheralZone	М
	GeographicalZone	0

GPAI standard Properties of Interface Objects (or memory mapped DP)

		Support
Parameter	AnalogValueCOVCondition	0

2.2.6 Detailed specification of the Datapoints

2.2.6.1 Output AnalogInputValue

Standard Mode

DI	P Name:	Ana	AnalogInputValue Abbr.: Mandatory 🗵											
FE	3 Name:	GP.												
De	Description													
Tr	nis Output s	hall	deliver	the an	alog v	/alue tl	hat is co	nverte	ed to 0	% t	o 100 % to the	e bus w	ith ~ 0,4	%
	resolution.													
	atapoint Ty	ре												
	DPT_Name: DPT_Scaling													
DI	PT Format:	· · · · · · · · · · · · · · · · · · ·												
Fi	eld	D	Description Supp. Range Unit Default											
											0 % to	100 %	%	CS
♦	Output													
	this \rightarrow M		\leq	1	this →	1								
	Spontaneous 🛛 COV: 🔻 Delta- 1) MinRepTime: 10sec													
	•						Value	:			·			
				Cyclic	С	\boxtimes	Period	d:	15 n	nin ((recommende	d value)		
	Request													
C	ommunicat	ion	Туре											
♦	Group Ob	oject	Datap	oint							Ma	andator	y: 🛛	
	Default Gr										•		•	
D	ynamics													
	Power dov	vn:	Save	:										
	Power up:		Value	∋:	No ir	nitialisa	ation:			Defa	ult value:			
					Save	ed valu	e:		P	Actu	al value:			
	Transmit on bus:													
E	ception H	andli	ing											
Sı	Special Features													
1)	COV see p													

LTE-Mode

FB: GPAI	LTE S	erver Output Name:	Ana	logInpu	tValue			Mandat Optiona	· —
Description:	<u> </u>		-			•			
precision requir	ements t	the analog value that is he value shall be encoo JS information. The out	ded wit	th 16 bit	and 0,01 %	6 reso	lution. Th	is output	shall
DPT : Name			DPT I				format	U ₁₆ Z ₈	
Field		Description		Sup.	Range		Unit	COV	Default
AnalogInputVal	ue	Actual value in percen	t	M	0 % 10	00 %	%	1)	CS
STATUS		For LTE-Service InfoR and Property-Service Response only					Bitset		
- OutOfService		Sensor out of service		0	true/fal	se	Bit 0	Υ	false
- Fault		Analog value is corrup out of range	nalog value is corrupted,				Bit 1	Y	false
- Overridden		Sensor is temporarily overridden		0	true/fal	se	Bit 2	Y	false
all other bits		reserved		NA			Bit 5-7	Υ	false
					•		Sup.	Range	
COMMAND - Override / Rel - Set / Reset Osen all other comm	SV		or Property-Service Write only emporary override / release of sensor value et / reset of out of service					enum 1/2 3/4	
Communication							NA	<u> </u>	
Binding Grou									
Class	p.	Туре				Defau	ılt		
Geographical	\boxtimes		.Subzc	one		1.1.1			
Application S		J		-					
Unassigned		Broadcast	Confi	igurable	\boxtimes	cs			
DP Address:		IO Type(ID):	1015 (erty ID	: ;	51	
LTE-Services	(event)		linRep	Time:	10 s		Heart	beat:	15 min
InfoReport	\boxtimes		ommu	nicating	Bin	ding G	roup Wile	dcard all	owed 🗌
(LTE Read-I		e Tx Prio:	High		No	rmal 🏻		Low	
polling of the shall always		Transm after Power	-up: St	tored Va	lue 🗌 A	ct Valu	ue 🛛 D	efault Va	alue 🗌
supported)									
Property-Ser (individual ac	ccess):	Read only		Rea	ad/Write				
Exception Han	dling:						Save a	at Powero	nwok
Special Featur									
COV see pa									
	Support of Geographical zones is optional. Usually it does not make sense to communicate imultaneously in Geographical and Unassigned Peripheral Zones. Therefore the parameter for the								
inactive zone is	in Geogr	apnicai and Unassigne OfService	u Perip	onerai Zo	ones. There	erore t	ne paran	ieter for	ıne
mactive zone is	sei Out	Olgelvice							

2.2.6.2 Output StatusGO

LTE-Mode NA

Standard Mode

1 PD	Name:	Statu	usGO	GO Abbr.:								Manda	Mandatory			
FB N	Name:	GPA	<u> </u>									Can be	interna	al		
Des	cription															
	output sha		ontain	the Z	status	s infor	mation	as a G	roup C)bjec	t					
	apoint Typ	_														
	_Name:	DP	PT_Sta	tusG	en											
	Format:	B ₈									DPT_ID:	21.001				
Field		_	scripti								Supp.	Range	Unit	Defa	ault	
Status Z ₈ Status information							0	Bitset		CS	3					
Bit 0 OutOfService							0		t/f	Ī						
Bit	=	Fa									0		t/f	1		
Bit			erridd	en							0		t/f	1		
Bit			Alarm			_					NA		t/f	1		
Bit					owledg	ed					NA		t/f	1		
	s 5 <u>7</u>	res	erved								NA					
	ess Type															
	Output	1 5	7													
_	$his \rightarrow M$				this \rightarrow											
S	Spontaneou	JS		COV				a-Value:			MinRepTime: 10 s					
				Cycl	ic	\boxtimes	Perio	od:	15	min	(recomm	ended valu	ie)			
	Request															
	nmunication		•										157			
	Group Obj											Mandatory	/:			
	Default Gro	up A	Addres	ss:												
	amics															
_	Power dow		Save:													
F	Power up:		Value	:		itialisa		Щ_			ılt value:					
		-				d valu			_		l value:				_	
	Transmit on bus (only for output): Read from bus (only for input):															
Exc	eption Ha	ndlir	ng													
Spe	cial Featu	res														

2.2.6.3 Parameter GeneralPeripheralZone

FB:	GPAI	Proper	ty Name (<u>Server</u>):	GeneralPeripheralZone				Mandatory 🖂	
								Optional	
Desc	ription:			-			-		
Numb	er of the ge	eneral pe	eripheral zone.						
DPT:	Name	DPT_U	countValue16_Z	DPT ID	203.012	2 Data	type format	U ₁₆ Z ₈	
Field			Description			Sup.	Range	Unit	Default
Zone			Number of general	oeripheral ta	g	М	full		1
STAT	US							Bitset	
- Out	OfService		zone active / inactiv	0	true/false	Bit 0	false		
- all o	ther bits		not supported, fixed to '0'						false
COMMAND							enum		CS
- Norr	malWrite					M	0		
- SetC	DSV & Res	etOSV	Set zone inactive / a	0	3 / 4				
- all o	ther comma	ands	not supported			NA			
Comi	nunication):	-					-	-
DP	Address:		IO Type(ID):	1015 (GP/	4I)	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		
Pro	tection		Read level	-		Write le	evel	=	
Exce	otion Hand	lling:	Value after Power-u	p: Stored \	√alue 🛚	Act Va	lue 🗌 Def	ault Value	<u> </u>
Spec	ial Feature	s:							
GPAI	is not LTE	commur	nicating if zone is 'Ou	tOfService'					

2.2.6.4 Parameter BuildingZone

FB:	GPAI	Proper	ty	Name (<u>Server</u>):	В	BuildingZo	ne			Mandator Optional	у 🔲
Descr	ription:	· ·									
Part o	f LTE Geo	graphica	ΙZ	one parameter -> [Зu	uildingEntity	/ (Floor,	Apartr	nent, Building	section et	c.)
DPT:	Name	DPT_Uc	O	untValue8_Z		DPT ID	202.002	Da	tatype format	U ₈ Z ₈	
Field			D	escription				Sup.	Range	Unit	Default
Count	erValue		Ζ	umber of the Build	lin	igZone		M	1126		1
STAT	US									Bitset	
- OutC	OfService		z	one active / inactiv	е			0	true/false	Bit 0	true
- all ot	her bits		n	ot supported, fixed	to	o '0'		NA			false
COM	MAND								enum		CS
- Norn	nalWrite							M	0	ļ ,	
- SetC	SV & Res	etOSV	S	et zone inactive / a	ac	tive		0	3/4	ļ ,	
- all ot	ther comm	ands	n	ot supported				NA			
Comn	nunicatio	n:					-		-	· ·	-
DP /	Address:			IO Type(ID):		1015 (GPA	d)	Prope	erty ID:	101	
(in t	he server)	Ì	Start-Index:		1		N° of	elements	1	
Prop	perty acce	ess:		Read only			Read/W	rite	\boxtimes		
Prot	ection			Read level		-		Write	level	-	
Excep	otion Han	dling:	٧	alue after Power-u	p:	: Stored V	/alue ⊠	Act V	alue 🔲 De	fault Value	; 🗌
Speci	al Feature	es:									
GPAI	is not LTE	commur	nic	ating if zone is 'Ou	ıtC	OfService'.	If param	eter B	uildingZone is	'OutOfSer	rvice'
also th	ne corresp	onding R	oc	om and Subzone p	ar	ameters ar	e 'OutOf	Servic	e' (common f	lag). Usual	lly it does
not ma	ake sense	to comm	ur	nicate simultaneou	sly	y in Geogra	aphical a	nd Un	assigned Peri	pheral Zor	nes.
There	fore the pa	arameter	fo	r the inactive zone	is	set 'OutOf	fService'				

2.2.6.5 Parameter Room

FB:	GPAI	Proper	ty Name (<u>Server</u>):	Room				Mandator	у 🔲
								Optional	\boxtimes
Desc	ription:								
Part o	of LTE Geo	graphica	IZone parameter -> F	Room within	Building	Zone			
DPT:	Name	DPT_Uc	countValue8_Z	DPT ID	202.002	2 Data	atype format	U_8Z_8	
Field			Description			Sup.	Range	Unit	Default
Coun	iterValue		Room number			М	163		1
STAT	rus							Bitset	
- Out	OfService		zone active / inactiv	0	true/false	Bit 0	true		
- all o	other bits		not supported, fixed to '0'			NA	L		false
	IMAND						enum		cs
- Nor	malWrite					М	0		
- Set(OSV & Res	etOSV	Set zone inactive / a	active		0	3/4		
- all c	ther comma	ands	not supported			NA	<u> </u>		
Com	munication	າ:							
DP	Address:		IO Type(ID):	1015 (GP/	AI)	Proper		102	
(in t	the server)		Start-Index:	1			lements	1	
Pro	perty acce	ss:	Read only		Read/W	rite	\boxtimes		
Pro	tection		Read level	-		Write le	evel	-	
Exce	ption Hand	lling:	Value after Power-u	ip: Stored \	Value 🛚	Act Va	lue 🔲 Def	fault Value	; <u> </u>
Spec	ial Feature	s:							
GPAI	is not LTE	commur	nicating if zone is 'Ou	utOfService'.	If param	eter Bui	IdingZone is	'OutOfSer	rvice'
also t	the correspond	onding R	loom and Subzone p	arameters a	re 'OutO	fService	' (common f	lag)	

2.2.6.6 Parameter Subzone

FB:	GPAI	Proper	ty Name (<u>Server</u>):	Subzone				Mandatory Optional	y 🔲
Desc	ription:	<u>.</u>						•	
Part c	f LTE Geo	graphica	Zone parameter -> 3	Subzone wi	thin Buildi	ingZone	.Room		
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	Data	type format	U_8Z_8	
Field			Description			Sup.	Range	Unit	Default
Coun	terValue		Subzone number			M	115		1
STAT	US							Bitset	
- Out	OfService		zone active / inactiv	'e		0	true/false	Bit 0	true
- all other bits			not supported, fixed	NA			false		
COMMAND							enum		CS
- Norr	nalWrite					M	0		
- SetC	OSV & Res	etOSV	Set zone inactive / a		0	3 / 4			
- all o	ther comm	ands	not supported			NA			
Comr	nunication	า :			_				
DP .	Address:		IO Type(ID):	1015 (GP	AI)	Proper	ty ID:	103	
(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 le	evel	-	
Exce	otion Hand	dling:	Value after Power-u	p: Stored	Value 🛚	Act Va	lue 🗌 Def	ault Value	
Spec	ial Feature	s:							
			nicating if zone is 'Ou		•		•		vice'

2.2.6.7 Parameter AnalogValueCOVCondition

FB:	GPAI	Property	Name (<u>Server</u>):	A	AnalogValueCOVCondition			on		Mandatory		
									(Optional		
Descr	iption:											
This optional parameter defines the COV condition (change of value in %) for the output signal with about												
0,4 %	0,4 % resolution.											
DPT:	Name	DPT_Sc	aling		DPT ID	5.001	Dat	atype	e format	U ₈		
Field			Description				Sup.		Range	Unit	Default	
									CS	%	cs	
Comn	nunicatio	n:								-		
DP /	Address:		IO Type(ID):	10)15 (GPA	I)	Prop	erty	ID:	110		
(in t	he serve	r)	Start-Index:	1			N° o	f eler	ments	1		
Prop	erty acc	ess:	Read only			Read/V	Vrite		\boxtimes			
Prot	ection		Read level	-			Writ	e leve	el	-		
Excep	otion Han	dling:	Value after Power-	up	Stored	Value ∑	Act	Value	e 🗌 Def	ault Value		
Speci	al Featur	es:										
		•				•	•	•		•	•	

2.3 General Purpose Temperature Sensor (GPTS)

2.3.1 Aims and objectives

This Functional Block shall measure the value of a general purpose temperature sensor and communicate the sensor value on the bus.

2.3.2 Functional specification

The physical implementation of the sensor input is device specific.

The distribution of the TempValue in the system shall be event-driven (COV-condition, change of value) and in addition be repeated periodically. The COV condition may be changed by an optional parameter.

In the LTE-Mode the 'General Purpose Temperture Sensor' supports <u>LTE general peripheral zoning</u>, i.e. the values of multiple binary signals may be distributed in the system in parallel for different zones.

Optional features in LTE Mode:

- Support of LTE geographical zones.
- Faults in the sensor device may be detected and reported.
- The sensor value may temporary be overridden by means of a tool for service purposes.
 The 'Overridden' condition must be reported.
 Alarm limits may be detected by the sensor and are reported.
- The alarm may be acknowledged.
- The sensor may be set / reset 'Out of service' by means of a tool for service purposes.

Outputs

•	TempValue	This output delivers the measured temperature value to the bus.
•	StatusGO	This output only is available in S-Mode and contains the Z_8 information of the output TempValue.

Binding Group (LTE)

•	GeneralPeripheralZone	no special features
•	GeographicalZone	BuildingLocation.Room.Subzone

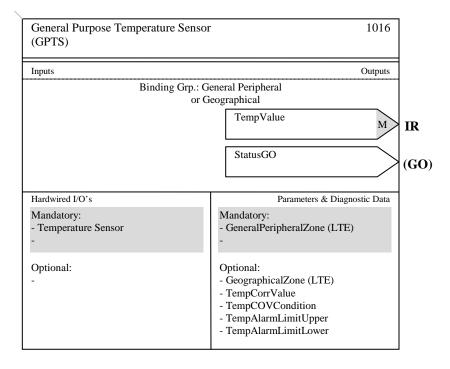
Parameters

•	TempCorrValue	This parameter specifies the correction value for the sensor.
•	TempCOVCondition	This parameter defines the delta temperature value at which the information spontaneously is transmitted.
•	TempAlarmLimitUpper	This value can be used to create an alarm.
•	TempAlarmLimitLower	This value can be used to create an alarm.

2.3.3 Constraints

None.

2.3.4 Functional Block Diagram



2.3.5 Datapoint Description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info		
Outputs					
TempValue	Temperature sensor value with: - COV and RepPer - Z ₈ STATUS and - Z ₈ COMMAND supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z $V_{16}Z_8$ S: 9.001 DPT_Value_Temp F_{16}	LTE: M S: GO °C		
StatusGO	Z ₈ information as a Group Object	LTE: NA S: 21.001 DPT_StatusGen B ₈	LTE: NA S: (GO) Bitset as Z ₈		
Parameters					
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	M		
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z U ₁₆ Z ₈	0		
TempCorrValue	For offset correction of the internal sensor: - Z ₈ STATUS and - Z ₈ COMMAND supported	205.101 1) DPT_TempHVACRel_Z V ₁₆ Z ₈	O 0 K		

Datapoints	Description / Remarks	Datapoint Type	Additional Info
TempCOVCondition	Value for COV condition with: - Z ₈ not supported	205.101 1) DPT_TempHVACRel_Z V ₁₆ Z ₈	O 0,2 K
TempAlarmLimitUpper	Upper alarm limit for generating STATUS 'Alarm' with: - Z ₈ STATUS and - Z ₈ COMMAND supported	205.100 1) DPT_TempHVACAbs_Z V ₁₆ Z ₈	O cs °C
TempAlarmLimitLower	Lower alarm limit for generating STATUS 'Alarm' with: - Z ₈ STATUS and - Z ₈ COMMAND supported	$ \begin{array}{c} 205.100 & 1) \\ DPT_TempHVACAbs_Z \\ V_{16}Z_8 \end{array} $	O cs °C

¹⁾ Implementation of Properties using standard DPT see clause 1.3.2.

GPTS Runtime Interworking - dependence on Configuration Modes

			STANDARD MODE		NDED DDE
		Basic FB	эроW-S	Standard Mode Interface	LTE
Inputs					
Outputs	TempValue	GO _b	GO	GO	M
	StatusGO	(GO _b)		(GO)	NA

GPTS LTE specific Properties

		Support
Parameter	GeneralPeripheralZone	М
	GeographicalZone	0

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

		Support
Parameter	TempCorrValue	0
	TempCOVCondition	0
	TempAlarmLimitUpper	0
	TempAlarmLimitLower	0

2.3.6 Detailed specification of the Datapoints

2.3.6.1 Output TempValue

Standard Mode

DF	Name:	TempValue Abbr.: Mandatory 🛛										
FΒ	Name:	GP	TS							Can be	interna	al 🔲
De	scription											
Th	is output co	ntai	ns the ι	/alue	of the tempe	rature sens	or					
	tapoint Ty	ре										
	PT_Name:	DI	PT_Val	ue_T	emp							
DF	PT Format:	F ₁	6						DPT_ID: Supp.	9.001		
Fie	Field Description									Range	Unit	Default
										Full	°C	CS
Ac	cess Type											
♦	Output											
	$\text{this} \to M$				this \rightarrow 1							
	Spontaneo	us		COV	/:	Delta-Valu	ue: 0),2 ¹⁾	MinRepT	ime:	10 s	
				Cycl	lic 🛛	Period:	1	5 min	(recomme	ended value	e)	
	Request											
Co	mmunicati	ion ⁻	Туре									
♦	Group Ob									Mandatory	/:	
	Default Gro	oup.	Addres	s:								
Dy	namics											
	Power dow	n:	Save:									
	Power up:		Value:	:	No initialisa				ılt value:			
					Saved valu	e:		Actua	l value:			
				mit o	n bus:							
Ex	ception Ha	ındli	ing									
	ecial Featu											
1)	COV see p	arar	meter									

LTE-Mode

FB: GPTS	LTE Serv	ver Output Name:	r Output Name: TempValue					Mandat Optiona	
Description:	-		-			-			
This output sign	nal shall c	ontain the value of the	temperatu	ire sens	or as wel	las	a STATUS	S informa	ation.
The output may	y be overri	idden by means of the	COMMAN	ID field.					
DPT : Name	DPT_T	empHVACAbs_Z	DPT ID	205.10	0 Data	type	format	$V_{16}Z_{8}$	
Field		Description		Sup.	Range		Unit	COV	Default
Temperature		Actual temperature va	alue	M	Full Rar	nge	°C	0,2 1)	CS
STATUS		For LTE-Service Info					Bitset		
		and Property-Service						Į,	
		Response only							
- OutOfService		Sensor out of service	;	0	true/fal	se	Bit 0	Υ	false
- Fault		Sensor value is corru					Bit 1	Υ	false
- Overridden					true/fal	se	Bit 2	Υ	false
		overridden							
- InAlarm		Sensor is in alarm		0	true/fal	se	Bit 3	Υ	false
- AlarmUnAck					true/fal	se	Bit 4	Υ	false
all other bits		reserved		NA			Bit 5-7	Υ	false
								Range	
COMMAND			or Property-Service Write only					enum	
- Override / Re	lease		emporary override / release of sensor value					1/2	
- Set / Reset O	SV		et / reset of out of service					3/4	
- AlarmAck		Acknowledgement of	alarm			ļ	0	5	
- all other comr	n <u>ands</u>						NA		
Communication	n:								
Binding Grou	up:								
Class		Туре				efau	ılt		
Geographica		BuildingZone.Room			1	.1.1			
Application S		OutsideSensorZone	e						
Unassigned		Broadcast	Configura		C				
DP Address:		IO Type(ID):	1016 (GPT		Propert	ty ID		51	
LTE-Services			MinRepTim (10 s		Hearth		15 min
InfoReport		Output per default of	communica	ıting 🛚			oup Wildca	ard allow	ed 🗌
		Tx Prio:	High 🗌		Norm	าal ∑		Low	
(LTE Read-		,							
polling of the		Transm after Power	r-un: Stored	d \/alue	□ Act	V/alı	ue 🖂 De	efault Va	ا عبدا
shall always	be	Transmantor revious	-up. Clore	a value		vaic		Slault va	iuc 🗀
supported)									
Property-Ser		Read only		Read/V	Vrite	\boxtimes			
(individual a		110000 0111,		11000	V11.0		-		
Exception Har	ndling:						Save a	t Powerd	lown
Special Featur									
1) COV see pa									
		zones is optional. Usu							
simultaneously		aphical and Unassigne	ed Peripher	al Zone	s. Therefo	ore t	he param	eter for t	he
ו ממחל מעוזהבמו	. 601 1 1111	IT S D T (/ I C D)							

2.3.6.2 Output StatusGO

LTE-Mode NA

Standard Mode

DF	P Name:	Stat	StatusGO Abbr.: Mandatory 🗌										
Ë	Name:	GPT	TS Can be internal										
	escription												
Th	is output co	ntair	ns the Z_8 s	tat	us information as a Grou	up Objed	ct.						
	tapoint Typ												
DF	PT_Name:	DF	PT_Status	Ge	n								
	PT Format:	B ₈						DPT_ID:	21.001				
Fie	eld	De	escription					Supp.	Range	Unit	Defa	ault	
Status Z ₈ Status information O Bitset cs									6				
Bit 0 OutOfService O t/f													
В	Sit 1	Fa	ıult					0		t/f			
В	Sit 2	O۷	/erridden					0		t/f			
В	Sit 3	In/	Alarm					0		t/f			
	Sit 4	Ala	armUnAck	no	wledged			0		t/f			
В	its 57	res	served					NA					
Ac	cess Type												
♦	Output												
	this \rightarrow M			tl	nis \rightarrow 1 \square								
	Spontaneo	us)V:	□ Delta-Valu	ie:	Ν	/linRepTin	ne:	10 s			
			Су	clic	Period:	15	min	(recomm	ended valu	ie)			
	Request												
Co	mmunicati	on 1	Гуре										
•	Group Ob	ect l	Datapoint						Mandatory	/: X			
	Default Gro	oup A	Address:	-						-			
Dy	namics												
	Power dow	'n:	Save:										
	Power up:		Value:		No initialisation:		Defau	ılt value:					
					Saved value:	F	\ctua	l value:					
			Transmit	on	bus:								
Ex	ception Ha	ndli	ng										
Sp	ecial Featu	ires											
													_

2.3.6.3 Parameter GeneralPeripheralZone

FB:	GPTS	Proper	ty Name (<u>Server</u>):	GeneralPe	eriphera	alZone		Mandat	tory 🖂		
								Optiona	al 🗌		
Desc	ription:						-				
Numb	er of the ge	eneral pe	eripheral zone.								
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 general pe	eripheral tag	3	М	full		1		
STAT	US							Bitset			
- Out	OfService	zone active / inactive			0	true/false	Bit 0	false			
- all o	ther bits		not supported, fixed to	o '0'		NA			false		
COM	MAND						enum		CS		
- Norr	malWrite			M	0						
- SetC	DSV & Res	etOSV	Set zone inactive / ac	cone inactive / active							
- all o	ther comma	ands	not supported			NA					
Comi	nunication):	-					-			
DP	Address:		IO Type(ID):	1016 (GPT	S)	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				
Pro	tection		Read level	-		Write le	evel	-			
Exce	xception Handling: Value after Power-up: Stored Value Act Value Default Value										
Spec	pecial Features:										
GPTS	PTS is not LTE communicating if zone is 'OutOfService'										

2.3.6.4 Parameter BuildingZone

FB:	GPTS	Prope	rty	Name (<u>Server</u>):	BuildingZone						Mandatory Optional	y 🔲
Desci	ription:										Ориона	
	•	ographic	alZ	one parameter -> E	3ui	ildingEnti	ty (Floor,	Apar	tme	nt, Building	section et	c.)
DPT:	Name	DPT_U	СО	untValue8_Z		DPT ID	202.002	2 D	atat	ype format	U ₈ Z ₈	•
Field				Description				Sup). I	Range	Unit	Default
Count	erValue		١	Number of the Buildi	inç	gZone		М		1126		1
STAT	US										Bitset	
- OutOfService zone active / inac					tive				t	true/false	Bit 0	true
- all other bits not supported, fixed to 'C) '0'		NA				false	
COM	MAND									enum		cs
- Norr	nalWrite							M		0		
- SetC	OSV & Re	setOSV	5	Set zone inactive / a	nactive / active O				3 / 4			
- all of	ther comi	nands	r	ot supported				NA				
Comr	nunicatio	n:					•					
DP A	Address			IO Type(ID):	1	1016 (GP	TS)	Pro	perty	y ID:	101	
(in t	he serve	r)		Start-Index:	1	1	•	N° c	of ele	ements	1	
Pro	perty acc	ess:		Read only			Read/W	rite				
Prot	ection			Read level	-	-		Writ	e le	vel	-	
Exce	otion Hai	ndling:	\	/alue after Power-up	p:	Stored	Value 🛚	Act	Valu	ue 🗌 Def	ault Value	
Speci	al Featu	es:										
GPTS	is not L7	E comm	uni	icating if zone is 'Οι	utC	OfService	'. If parar	neter	Bui	ldingZone is	'OutOfSe	rvice'
				om and Subzone pa								
does	not make	sense to	CC	mmunicate simulta	ne	eously in (Geograpl	nical	and	Unassigned	l Periphera	al Zones.
There	nerefore the parameter for the inactive zone is set 'OutOfService'											

2.3.6.5 Parameter Room

FB:	GPTS	Proper	ty Name (<u>Server</u>):	Ro	oom				Mandator	У
									Optional	\boxtimes
Desci	ription:									
Part o	f LTE Geo	graphica	IZone parameter -> F	Roc	om within B	Building	Zone			
DPT:	Name	DPT_U	countValue8_Z		DPT ID 2	202.002	Data	type format	U_8Z_8	
Field			Description				Sup.	Range	Unit	Default
Count	erValue		Room number				М	163		1
STAT	US								Bitset	
- OutOfService zone active / inac								true/false	Bit 0	true
- all other bits not supported, fi				to	'0'		NA			false
COM	MAND							enum		cs
- NormalWrite						М	0			
- SetC	SV & Res	etOSV	Set zone inactive / a	0	3 / 4					
- all of	ther comma	ands	not supported		NA					
Comr	nunicatior	1:				-	_			-
DP A	Address:		IO Type(ID):	1	016 (GPTS	S)	Proper	ty ID:	102	
(in t	he server)		Start-Index:	1			N° of e	lements	1	
Pro	perty acce	ss:	Read only		F	Read/W	rite	\boxtimes		
Prot	ection		Read level	-			Write le	evel	-	
Exce	otion Hand	lling:	Value after Power-u	ıp:	Stored Va	alue 🛚	Act Va	lue 🗌 🛮 Def	ault Value	:
Speci	al Feature	s:								
GPTS	is not LTE	commu	inicating if zone is 'O	utO	OfService'. I	If paran	neter Bu	ildingZone is	'OutOfSe	rvice'
also tl	so the corresponding Room and Subzone parameters are 'OutOfService' (common flag)									

2.3.6.6 Parameter Subzone

FB:	GPTS	Proper	ty Name (<u>Server</u>):	Subzone				Mandator Optional	y 🔲
Desc	ription:	Į.		_				'	
Part c	f LTE Geo	graphica	IZone parameter ->	Subzone wit	thin Buildi	ngZone	.Room		
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	Data	type format	U_8Z_8	
Field			Description			Sup.	Range	Unit	Default
Coun	terValue		Subzone number	M	115		1		
STAT	US							Bitset	
- Out	OfService		zone active / inactiv	re		0	true/false	Bit 0	true
- all o	ther bits		not supported, fixed	l to '0'		NA			false
COM	MAND						enum		CS
- Norr	nalWrite					M	0		
- SetC	OSV & Res	etOSV	Set zone inactive / a	0	3 / 4				
- all o	ther comm	ands	not supported			NA			
Com	nunicatior	า :	-		,	·-		-	
DP .	Address:		IO Type(ID):	1016 (GP	TS)	Proper	ty ID:	103	
(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 le	evel	-	
Exce	otion Hand	lling:	Value after Power-u	ip: Stored	Value 🛚	Act Va	lue 🔲 Def	ault Value	
Spec	ial Feature	s:							
			inicating if zone is 'O		•		-		rvice'

2.3.6.7 Parameter TempCorrValue

FB: GPTS	Property	/ Name (<u>Server</u>):	TempCorrValue			Mandat	tory 🗌
						Optiona	al 🛛
Description:	_						
Temperature v	/alue corre	ction for sensor valu	ıe.				
DPT : Name	DPT_Te	empHVACRel_Z	DPT ID 205.10°	1 Data	type format	$V_{16}Z_{8}$	
Field		Description		Sup.	Range	Unit	Default
Temperature		Temperature corre	ction value	0	Full Range	K	0
STATUS						Bitset	
- OutOfService	Э	correction active / i	nactive	0	true/false	Bit 0	false
- all other bits not supported, fixed to '0'							false
COMMAND					enum		CS
- NormalWrite				M	0		
- SetOSV & R	esetOSV	Set correction inac	t correction inactive / active O				
- all other com	mands	not supported		NA			
Communicati	on:			-		-	-
DP Address	:	IO Type(ID):	1016 (GPTS)	Proper	ty ID:	111	
(in the serve	er)	Start-Index:	1	N° of e	lements	1	
Property ac	cess:	Read only	Read/W	/rite			
Protection		Read level	-	Write le	evel	=	
Exception Ha	ndling:	Value after Power-	up: Stored Value 🛚	Act Va	lue 🗌 Def	ault Value	
Special Featu	ıres:						

2.3.6.8 Parameter TempCOVCondition

FB:	GPTS	Property	Name (Server):	T	empCOV	Conditio	on			Mandatory				
	0. 10	liopoity	, (<u>001701</u>).		ompoor.	Jonain	•			Option	• =			
Desci	ription:	l								- p				
	•	ure value	for COV condition											
DPT:	Name	DPT Te	empHVACRel_Z		DPT ID	205.10	01	Data	atype format	V ₁₆ Z ₈				
Field	•		Description		•		S	up.	Range	Unit	Default			
Temp	erature		Temperature COV	va	ılue			0	Full Range	K	0,2			
STAT	US									Bitset				
- all b			not supported, fixe	d t	o '0'		١	NΑ			false			
	MAND								enum		cs			
	malWrite							M	0					
- all o	ther comr	nands	not supported					NΑ						
Comr	municatio	n:												
	Address:		IO Type(ID):		1016 (GF	TS)		•	ty ID:	112				
(in t	he serve	r)	Start-Index:		1		N'	° of e	lements	1				
Pro	perty acc	ess:	Read only			Read/	Write)	\boxtimes					
Prof	tection		Read level		-		W	/rite le	evel	-				
Exce	ption Har	ndling:	Value after Power-	up	: Stored	Value [$\boxtimes A$	ct Va	lue 🗌 Def	ault Value				
Speci	ial Featu	res:												

2.3.6.9 Parameter TempAlarmLimitUpper

FB:	GPTS	Property	Name (<u>Server</u>):	empAlarmi	LimitUp _l	per		Mandat		
								<u> </u>	Optiona	al 🗵
Desci	ription:									
Upper	tempera	ture value	for alarm.							
DPT:	Name	DPT_Te	empHVACAbs_Z		DPT ID	205.100	Data	type format	$V_{16}Z_{8}$	
Field			Description				Sup.	Range	Unit	Default
Temp	erature		Temperature limit v	/alı	ue		0	Full Range	°C	CS
STAT	US								Bitset	
- Out	OfService		limit active / inactiv	е			0	true/false	Bit 0	false
- all of	ther bits		not supported, fixe	d to	o '0'		NA			false
COM	MAND							enum		CS
- Norr	nalWrite						M	0		
- SetC	OSV & Re	setOSV	Set limit inactive / a	act	tive		0	3/4		
- all of	ther comn	nands	not supported				NA			
Comr	nunicatio	n:	-			-	-			-
DP A	Address:		IO Type(ID):		1016 (GPT	S)	Proper	ty ID:	113	
(in t	he serve	r)	Start-Index:		1		N° of e	lements	1	
Pro	perty acc	ess:	Read only			Read/W	rite	\boxtimes		
Prot	ection		Read level		-		Write le	evel	-	
Exce	otion Har	ndling:	Value after Power-	up	: Stored V	/alue ⊠	Act Va	lue 🗌 Def	ault Value	: 🗌
Speci	al Featur	es:			_				•	-

2.3.6.10 Parameter TempAlarmLimitLower

FB:	GPTS	Property	Name (<u>Server</u>): TempAlarmLimitLow			ver			Mandatory		
								Optional 🖂			
Description:											
Lower temperature value for alarm.											
DPT:	Name	DPT_TempHVACAbs_Z DPT ID 205.10						Data	type format	V ₁₆ Z ₈	
Field			Description				,	Sup.	Range	Unit	Default
Temperature			Temperature limit value					0	Full Range	°C	CS
STATUS										Bitset	
- OutOfService			limit active / inactive					0	true/false		false
- all other bits			not supported, fixed to '0'					NA		bool	false
COMMAND									enum		cs
- Norr	nalWrite							M			
- SetC	SV & Re	setOSV	Set limit inactive / active					0			
- all other commands			not supported					NA			
Communication:											
DP Address:			IO Type(ID): 1016 (GPTS)			F	roper	ty ID:	114		
(in the server)			Start-Index:	1			١	N° of elements		1	
Property access:			Read only					te	\boxtimes		
Protection			Read level -				٧	Vrite le	evel	-	
Excep	otion Har	dling:	Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐								
Special Features:											
				•	•	•		•			

2.4 Multi Purpose Input (MPI)

2.4.1 Aims and objectives

The Functional Block 'Multi Purpose Input' shall have a universal physical input that - depending on hardware configuration - can be a:

- digital input that is mapped to a binary value, or
- analog input with a fixed range (e.g. 0 V to 10 V or 0 mA to 20 mA signal) that is translated to a percent value, or
- a general purpose temperature sensor.

For each of these physical values a dedicated output object exists. The value of <u>one</u> of these output objects shall be communicated on the bus according to the selected sensor type.

2.4.2 Functional specification

The physical implementation of the multi purpose input is device specific. Selection of its functionality can be implemented by e.g. a dip-switch or a parameter, automatically etc.

If a parameter (SensorSelect) is used to select the used sensor type, this parameter can be read only (in case the device detects the sensor type automatically), or read/write (in this case, the user sets the sensor type and the device may possibly signal an error in case the wrong sensor is physically connected).

The distribution of the output value in the system shall be event-driven (COV-condition, change of value) and in addition be repeated periodically. The COV condition may be changed by an optional parameter.

In the LTE-Mode the 'Multi Purpose Input' shall support <u>LTE general peripheral zoning</u>, i.e. the values of multiple MPI may be distributed in the system in parallel for different zones.

Optional features in LTE Mode:

- Support of LTE geographical zones.
- The input value may temporary be overridden by means of a tool for service purposes. The 'Overridden' condition must be reported.
- The value of the multi purpose input signal may be set / reset 'Out of service' by means of a tool for service purposes.

Outputs

• DigitalInputValue *)

This output shall deliver the binary value to the bus.

AnalogInputValue *) This output shall deliver the analog value that is converted to a 0 % to 100 % value on the bus.

• TempValue *) This output shall deliver the measured temperature value to the bus.

• StatusGO This output is only available in Standard Mode and shall contain the Z_8 information of the active output value.

Binding Group (LTE)

GeneralPeripheralZone no special features

GeographicalZone BuildingLocation.Room.Subzone

^{*)} only one of these signals is active

Parameters

SensorSelect

This optional parameter shall be used to configure the physical input according to the connected sensor:

- input inactive (⇒ all output signals are 'out of service')
- digital input not inverted
- digital input inverted
- analog input
- temperature sensor input

This optional parameter shall define the COV condition (change of value in %) for the analog output signal.

General Purpose I/O

This parameter shall specify the correction value for the temperature sensor.

This parameter shall specify the COV condition for the temperature sensor at which the information shall be transmitted spontaneously.

This value can be used to create a temperature alarm.

This value can be used to create a temperature alarm.

AnalogValueCOVCondition

TempCorrValue

TempCOVCondition

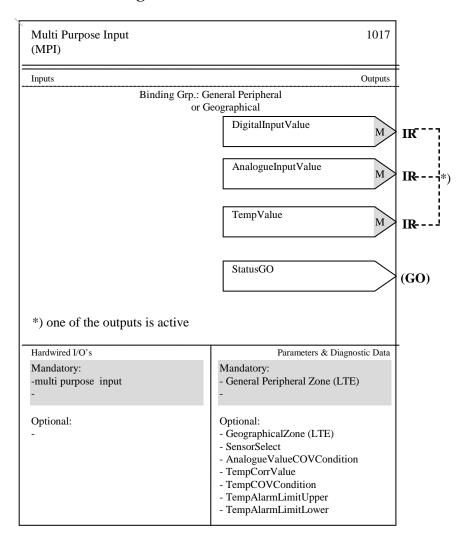
TempAlarmLimitUpper

TempAlarmLimitLower

2.4.3 **Constraints**

None.

2.4.4 Functional Block diagram



2.4.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info			
Outputs	ts					
DigitalInputValue	Digital input value with: - COV and heartbeat - Z ₈ STATUS and - Z ₈ COMMAND supported	LTE: 200.001 DPT_BinaryValue_Z B ₁ Z ₈	LTE: M Low/High			
		S: 1.006 DPT_BinaryValue B ₁	S: GO Low/High			
AnalogInputValue	Analog input value with: - COV and heartbeat - Z ₈ STATUS and - Z ₈ COMMAND supported	LTE: 203.017 DPT_PercentU16_Z U ₁₆ Z ₈	LTE: M 0-100% with 0.01% resolution			
		S: 5.001 DPT_Scaling U ₈	S: GO			
TempValue	Temperature sensor value with: - COV and RepPer - Z ₈ STATUS and - Z ₈ COMMAND supported to FB various controller	LTE: 205.100 DPT_TempHVACAbs_Z V ₁₆ Z ₈ S: 9.001 DPT_Value_Temp F ₁₆	LTE: M S: GO °C			
StatusGO	Z ₈ information as a Group Object	LTE: NA S: 21.001 DPT_StatusGen B ₈	LTE: NA S: (GO) Bitset as Z ₈			
Parameters						
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	М			
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z U ₁₆ Z ₈	0			
SensorSelect	used to configure the physical input according to the connected sensor	20.017 DPT_SensorSelect N ₈	O cs			
AnalogValueCOVCondit ion	COV condition for the analog value in percent	S: 5.001 DPT_Scaling U ₈	O Cs			
TempCorrValue	For offset correction of the internal sensor: - Z ₈ STATUS and - Z ₈ COMMAND supported	$\begin{array}{c} 205.101 & 1) \\ DPT_TempHVACRel_Z \\ V_{16}Z_8 \end{array}$	O 0 K			

TempCOVCondition	Value for COV condition with: - Z ₈ not supported	205.101 1) DPT_TempHVACRel_Z V ₁₆ Z ₈	O 0,2 K
TempAlarmLimitUpper	Upper alarm limit for generating STATUS 'Alarm' with: - Z ₈ STATUS and - Z ₈ COMMAND supported	205.100 1) DPT_TempHVACAbs_Z V ₁₆ Z ₈	O cs °C
TempAlarmLimitLower	Lower alarm limit for generating STATUS 'Alarm' with: - Z ₈ STATUS and - Z ₈ COMMAND supported	205.100 1) DPT_TempHVACAbs_Z V ₁₆ Z ₈	O cs °C

¹⁾ Implementation of Properties using standard DPT see clause 1.3.2.

MPI Runtime Interworking - Dependence on Configuration Modes

			STANDARD	EXTE	NDED				
			Mode	МО	DE				
		Basic FB	S-Mode	Standard Mode Interface	LTE				
Inputs									
Outputs	DigitalInputValue	GO _b	GO GO		M*)				
	AnalogInputValue	GOb	GO	GO	M*)				
	TempValue	GOb	GO	GO	M*)				
	StatusGO	(GO _b)		(GO)	NA				

^{*)} one of the outputs is active

MPI LTE specific Properties

		Support
Parameter	GeneralPeripheralZone	М
	GeographicalZone	0

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

_		Support
Parameter	SensorSelect	0
	AnalogValueCOVCondition	0
	TempCorrValue	0
	TempCOVCondition	0
	TempAlarmLimitUpper	0
	TempAlarmLimitLower	0

2.4.6 Detailed specification of the Datapoints

2.4.6.1 Output DigitalInputValue

DP Na	ame:	Digit	talInpu	ıtValı	Je				Abbı	r.:			Man	date	ory		
FB Na	ame:	MPI	Can be internal														
Desci	Description																
This o	utput sign	al pr	ovides	the lo	gical va	lue of the	he digita	al har	rdware	input	t (ind	cluding pos	sible logi	cal i	nversion	1	
accord	ding to opt	iona	l param	neter (SensorS	elect).											
	Datapoint Type																
DPT_	DPT_Name: DPT_BinaryValue																
DPT F	DPT Format: B ₁ DPT_ID: 1.006																
Field	Field Description Supp. Range Unit Default																
Bit		0 =	= low									М			Bit	cs	
		1 =	= high														
O	utput																
thi	$s \rightarrow M$	\boxtimes			this \rightarrow	1											
Sp	Spontaneous 🛛 COV: 🔻 Delta-Value: MinRepTime: 1 s *)																
	Cyclic Period: 15 min (recommended value)																
Re	equest		\boxtimes														
Comr	nunicati	on 1	Гуре														
♦ G	roup Obj	ect l	Datapo	oint									Mandate	ory:			
De	fault Gro	up A	Addres	ss:													
Dyna	mics																
Po	wer dow	n:	Save:														
Po	wer up:		Value	:	No ir	nitialisa	ation:			De	efau	ılt value:					
	•				Save	ed valu	e:			Ac	tua	l value:					
			Trans	mit c	n bus:										•		
Exce	ption Ha	ndli	ng														
																	_
Speci	ial Featu	res															
*) recommended value. In some applications MinRepTime of 1s is too long and updates of DigitalInputValue may be																	
sent in	nmediatel	y afte	er a CC	V													

FB: MPI	LTE Se	erver Output Name:	DigitalInp	utValue	,			Mandat Optiona	
Description:	÷		-			·			
		the logical value of the	digital hardw	are input	(includir	ng poss	sible logica	al inversior	า
according to op	ional paran	neter SensorSelect).							
DPT : Name	DPT_Bi	naryValue_Z	DPT ID	200.00	1 Da	tatype	format	B_1Z_8	
Field		Description		Sup.	Range		Unit	COV	Default
BinaryValue		0 = low		М	Bi	t		yes	CS
		1 = high							
STATUS		For LTE-Service Inf					Bitset		
		and Property-Service	е						
_		Response only		_					
				0	true/f		Bit 2	yes	false
- OutOfService Input is active / inactive			0	true/f	alse	Bit 0	yes	false	
- all other statu	IS			NA			_		
							Sup.	Range	
COMMAND	_	For Property-Servic					_	enum	ļ
- Override / Re	lease	Temporary override	/ release of	Binary\	/alue		0	1/2	ļ
		information	_				_		
- SetOSV & R		Set input inactive / a	active				0	3/4	ļ
- all other com							NA		
Communicati									
Binding Gro	up:								
Class		Туре				Defau	ılt		
Geographica		BuildingZone.Roo	m.Subzone			1.1.1			
Application S									
Unassigned		Broadcast	Configur			CS			
DP Address		IO Type(ID):	1017 (MP	,		erty ID		51	
LTE-Service		COV 🛛	MinRepTim	ne:	1 *) s		Heart		15 min
InfoReport		Output per default		ating 🖂			oup Wildo	ard allow	<u>′ed </u>
(LTE Read		Tx Prio:	High 🔙		No	rmal 🛭	₫	Low	
polling of th			- .				<u> </u>		
shall alway	s be	Transm after Pow	er-up: Store	d Value		ct Valu	ıe ⊠ D	efault Va	lue 📙
supported)									
Property-Se		Read only]	Read/V	Vrite				
(individual a		, –	_				70		. —
Exception Ha	ndling:						Save a	t Powerd	lown
Special Featu									
		zones is optional. Us							
		aphical and Unassigr	ned Periphe	ral Zone	s. There	etore t	he param	leter for t	he
inactive zone i	s set 'Out(DISELVICE.							
*) ************	م مل میلویدا	ome annlications MinD	onTime of 1s	io too lo	na ond .	n dotoe	of Digital	lanut\/alux	mayba
sent immediatel		some applications MinR	eprime of 18	18 100 101	ng and t	puates	o Digitali	nputvalue	; may be

2.4.6.2 Output AnalogInputValue

DF	P Name:	Anal	oglnp	utValue	e		Abb	r.:			Mandat	tory	
FΒ	Name:	MPI	PI Can be internal										
De	scription												
					alog value th	at is conv	erted to	o 0 %	to 1	00 % with a	resolut	ion of al	out
	4 % resolution		the b	us.									
	tapoint Ty												
	PT_Name:		T_Sca	aling									
	PT Format:	U ₈								PT_ID:	5.001		
Fie	eld	De	scripti	on				Su	pp.	Rang		Unit	Default
										0 % to 1	00 %	%	CS
♦	Output												
	$\text{this} \to M$]	tl	his \rightarrow 1								
	Spontaneo	us		COV:	\boxtimes	Delta-Va	alue: 1)	Mi	nRepTime:		10 s	
				Cyclic		Period:	1	5 mi	n (red	commended	d value)		
	Request		\square										
Ö	mmunicati	ion T	ype										
•	Group Ob	ject [Datapo	oint						Ma	andatory	/: 🛛	
	Default Gro	oup A	ddres	3S: -									
Dy	namics												
	Power dow	n:	Save:										
	Power up:		Value) :	No initialisa	ation:]	De	efault	value:			
					Saved value	e:]	Ac	tual v	/alue:			
			Trans	mit on	bus:		\boxtimes						
Ex	ception Ha	ındli	ng										
Sp	ecial Featu	ıres											
1)	COV see pa	aram	eter										

FB: MPI	LTE S	erver Output Name:	Analogi	InputV	alue		Mandatory ⊠ Optional □			
Description:	•					<u> </u>				
This output sh	all deliver	the analog value that s	hall be co	nverte	d to a value	e in th	ne range o	f 0 % to	100 %	
to the bus. Du	e to highe	r precision requirement	s the valu	e is en	coded with	16 b	it and 0,01	% reso	lution.	
		well STATUS information								
COMMAND.							-			
DPT: Name	e DPT_P	ercentU16_Z	DPT ID	203.0)17 Data	atype	format U	₁₆ Z ₈		
Field		Description		Sup.	Range		Unit	COV	Default	
AnalogInputV	alue	Actual value in percer	nt	M	0 % to 10	0 %	%	1)	CS	
STATUS		For LTE-Service Info					Bitset			
		and Property-Service	•							
		Response only								
- OutOfServic	е	Sensor out of service		0	true/fals	se	Bit 0	Υ	false	
- Fault		Analog value is corru	oted. out	0	true/fals	se	Bit 1	Υ	false	
		of range	, ,							
- Overridden		Sensor is temporarily		0	true/fals	se	Bit 2	Υ	false	
		overridden						•	1000	
all other bits		reserved		NA			Bit 5-7	Υ	false	
<u> </u>					I		Sup.	Range	1000	
COMMAND		For Property-Service	Write only	,			Cup.	enum		
- Override / R	معجماد	Temporary override /			or value		0	1/2		
- Set / Reset 0		Set / reset of out of se		1 301130	or value		0	3/4		
- all other com		Jet / Teset of out of se	SIVICE				NA	3/4		
Communicat							11/3	-		
Binding Gro	oup:									
Class		Туре			Ī	efau	lt			
Geographic	al 🛚		.Subzone			.1.1				
Application]			-					
Unassigned		Broadcast	Configur	able D	<u> </u>	S				
DP Address			1017 (MP		Proper		52	1		
LTE-Service			linRepTim		10 s	ty 10.	Heartbe		5 min	
InfoReport						a Gro	up Wildca			
(LTE Read			High	atting _k		nal 🔯		Low	<u>~ </u>	
polling of the		121110.	r ligit 🗀		NOIT	ııaı <u>Z</u>	7	LOW		
shall alway		Transm after Power	-un: Store	d Valu	o □ Λct	Valu	ıo ⊠ Det	ault Vali		
supported)	3 00	Transmatter Fower	-up. Store	u valu	e 🗀 🗡	vaiu		auit vaii		
Property-Se	rvice									
(individual		Read only		Read	/Write	\boxtimes				
	Exception Handling: Save at Powerdown									
•										
Special Featu	Special Features:									
1) COV see p										
Support of Geographical zones is optional. Usually it does not make sense to communicate										
		aphical and Unassigne							e	
inactive zone	is set 'Out	OfService'	-				-			

2.4.6.3 Output TempValue

DP Name:	TempValue			Abb	r.:		Manda	tory	
FB Name:	MPI						Can be	interna	ıl 🔲
Description									
	all contain tempo	erature value r	neasure	d by the	e tem	perature sen	sor.		
Datapoint Ty									
DPT_Name:	DPT_Value_T	emp							
DPT Format:	F ₁₆					DPT_ID:	9.001		
Field	Description					Supp.	Range	Unit	Default
							Full	°C	CS
Access Type									
♦ Output		-							
this \rightarrow M		this \rightarrow 1							
Spontaneo	us 🛛 COV		Delta-Va	alue:	0,2 1	MinRepT	ime:	10 s	
	Cycli	c 🛛	Period:		15 m	in (recomme	ended value	e)	
Request	\boxtimes								
Communicat	ion Type								
♦ Group Ob	ject Datapoint						Mandatory	<i>'</i> : ⊠	
Default Gro	oup Address:								
Dynamics									
Power dow	n: Save:								
Power up:	Value:	No initialisati	on:		De	fault value:			
		Saved value		<u> </u>	Act	ual value:		\boxtimes	
	Transmit or	n bus:							
Exception Ha	ındling								
Special Featu									
OV see p	arameter								

FB: MPI	LTE Serv	ver Output Name:	TempValue				Mandat Optiona	
Description:			-		<u> </u>			
This output sha	II contain	the temperature val	lue measured	by the	temperatur	e sensor as	well as S	STATUS
		nay be overridden b						
DPT : Name	DPT_Te	empHVACAbs_Z	DPT ID	205.10		pe format \		
Field		Description		Sup.	Range	Unit	COV	Default
Temperature		Actual temperature		M	Full Rang		0,2 1)	cs
STATUS		For LTE-Service In	•			Bitset		
		and Property-Servi	ice					
		Response only						
- OutOfService		Sensor out of servi		0	true/false		Y	false
- Fault		Sensor value is co	•	0	true/false		Υ	false
 Overridden 		Sensor is temporal	rily	0	true/false	Bit 2	Υ	false
		overridden						
- InAlarm		Sensor is in alarm		0	true/false		Υ	false
- AlarmUnAck		Acknowledgement	of alarm	0	true/false		Υ	false
all other bits		reserved		NA		Bit 5-7	Υ	false
						Sup.	Range	
COMMAND		For Property-Servi					enum	
- Override / Rel	ease	Temporary override		sensor	value	0	1/2	
- Set / Reset OS	SV	Set / reset of out of	f service			0	3 / 4	
 AlarmAck 		Acknowledgement	of alarm			0	5	
- all other comm	nands					NA		
Communication	n:						-	
Binding Grou	ıp:							
Class		Туре			Def	ault		
Geographical	\boxtimes	BuildingZone.Roo	om.Subzone		1.1	.1		
Application Sp	pecific 🗌	OutsideSensorZo	one					
Unassigned	\boxtimes	Broadcast	Configura	able 🖂	cs			
DP Address:		IO Type(ID):	1017 (MPI)	Property	ID: 5	i3	
LTE-Services	(event):	COV	MinRepTime	e:	10 s	Heartl	oeat:	15 min
InfoReport	` Ø	Output per defau	It communica	ting	District 6			
·				Ū	Binding	Group Wildca	ard allow	ea 🗀
(LTE Read-F	Response	Tx Prio:	High 🗌		Norma	I 🛛	Low	
polling of the	output							
shall always	be	Transm after Pov	ver-up: Stored	d Value	☐ Act V	alue 🛛 Do	efault Va	lue 🗌
supported)			•		_			_
Property-Ser	vice	Dood only	\neg	DaadAA	\/ =:4 =	$ \sqrt{} $		
(individual ad	ccess):	Read only [Read/V	vrite j	\boxtimes		
Exception Han	dling:				Sav	e at Powerd	lown [
Special Featur								
1) COV see pa							·	·
Support of Geo	graphical	zones is optional. L	Jsually it does	not ma	ike sense to	o communic	ate	
		aphical and Unassig						he
inactive zone is			•			-		

2.4.6.4 Output StatusGO

LTE-Mode: NA Standard Mode

DP Name:	tusGO Abbr.: Mandatory											
FB Name:	Can be internal											
Description												
This output shall contain the Z ₈ status information of the active sensor output as a Group Object.												
Datapoint Type												
DPT_Name:	DPT_StatusGen											
DPT Format:	B ₈		DPT_ID:	21.001								
Field	Description		Supp.	Range	Unit	Default						
Status	Z ₈ Status information O Bitset cs											
Bit 0	OutOfService		0		t/f							
Bit 1	Fault		0		t/f							
Bit 2	Overridden		0		t/f							
Bit 3	InAlarm		0		t/f							
Bit 4	AlarmUnAcknowledged		0		t/f							
Bits 57	reserved		NA									
Access Type												
♦ Output												
this \rightarrow M	\boxtimes this \rightarrow 1											
Spontaneo	us 🛛 COV: 🖾 Delta-Valu	ıe:	MinRepTin	ne:	1 s							
	Cyclic Period:	15 mir	n (recommer	nded value))							
Request												
Communicati	on Type											
♦ Group Obj	ect Datapoint			Mandatory	<i>'</i> : 🛛							
Default Gro	up Address:											
Dynamics												
Power dow	n: Save:											
Power up:	Value: No initialisation:	De	fault value:									
	Saved value:	Act	tual value:									
	Transmit on bus:											
Exception Handling												
Special Features												

2.4.6.5 Parameter GeneralPeripheralZone

FB:	MPI	Proper	ty Name (<u>Server</u>):	GeneralPeripheralZone			Manda	itory 🛛		
				-			Option	al 🗌		
Desc	ription:	-		-		_				
Numb	er of the g	eneral p	eripheral zone.							
DPT:	Name	DPT_U	countValue16_Z	DPT ID 203.01	2 Data	atype format	U ₁₆ Z ₈			
Field			Description		Sup.	Range	Unit	Default		
Zone			Number of general p	eripheral tag	M	full		1		
STAT	US						Bitset			
- OutOfService zone a			zone active / inactive	!	0	true/false	Bit 0	false		
- all other bits			not supported, fixed t					false		
COMMAND						enum		cs		
- Norr	nalWrite				M	0				
- SetC	OSV & Res	etOSV	Set zone inactive / ad	ctive	3 / 4					
- all o	ther comm	ands	not supported		NA					
Comr	nunicatio	า:			-		•	-		
DP .	Address:		IO Type(ID):	1017 (MPI)	Proper	ty ID:	104			
(in t	he server)		Start-Index:	1	N° of e	lements	1			
Pro	perty acce	ess:	Read only	Read/Wi	rite	\boxtimes				
Prot	ection		Read level	-	Write I	evel	-			
Exce	otion Hand	dling:	Value after Power-up	p: Stored Value 🛛	Act Val	ue 🗌 Def	ault Value			
Speci	Special Features:									
MPI is	MPI is not LTE communicating if zone is 'OutOfService'									

2.4.6.6 Parameter BuildingZone

FB:	MPI	Proper	Property Name (<u>Server</u>): BuildingZone					Mandator Optional	y 🔲
Descr	iption:	•					•	•	
Part of	LTE Geo	graphica	IZone parameter -> I	BuildingEntit	y (Floor,	Apartm	ent, Building	section et	c.)
DPT:	Name	DPT_Uc	countValue8_Z	DPT ID	202.002	Data	type format	U ₈ Z ₈	
Field			Description			Sup.	Range	Unit	Default
CounterValue			Number of the Build	lingZone		М	1126		1
STATUS								Bitset	
- OutOfService zone active / inactive			е		0	true/false	Bit 0	true	
- all other bits not supported, fixed to '0'			to '0'		NA			false	
COMMAND							enum		cs
- NormalWrite						M	0		
	SV & Res		Set zone inactive / a	active		0	3 / 4		
- all ot	her comma	ands	not supported			NA			
Comn	nunication	า :			_				
DP A	Address:		IO Type(ID):	1017 (MPI	l)	Proper	ty ID:	101	
(in th	ne server)		Start-Index:	1		N° of e	lements	1	
Prop	erty acce	ss:	Read only		Read/W	rite	\boxtimes		
Prote	ection		Read level	-		Write le	evel	-	
Excep	tion Hand	lling:	Value after Power-u	p: Stored	Value 🛚	Act Va	lue 🔲 Def	ault Value	
Special Features:									
MPI is not LTE communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService' also									
the corresponding Room and Subzone parameters are 'OutOfService' (common flag). Usually it does not									
make	sense to c	ommunic	cate simultaneously i	n Geograph	ical and I	Unassig	ned Periphei	ral Zones.	
Theref	ore the pa	rameter	for the inactive zone	is set 'OutC)fService	,			

2.4.6.7 Parameter Room

FB: MPI	Proper	ty Name (<u>Server</u>):	Room			Mandator			
						Optional			
Description:	-				_				
Part of LTE Ge	ographica	IZone parameter -> I	Room within Building	Zone					
DPT : Name	DPT_U	countValue8_Z	DPT ID 202.002	2 Data	atype format	U_8Z_8			
Field		Description		Sup.	Range	163 Bitset e/false Bit 0			
CounterValue		Room number		М	163		1		
STATUS						Bitset			
- OutOfService zone active / inactive			е	0	true/false	Bit 0	true		
- all other bits not supported, fixed to '0'			l to '0'	NA			false		
COMMAND					enum		CS		
- NormalWrite				M	0				
- SetOSV & Re	setOSV	Set zone inactive / a	active	M 0					
- all other comi	mands	not supported		NA					
Communication	n:	-		-					
DP Address		IO Type(ID):	1017 (MPI)	Proper	ty ID:	102			
(in the serve	r)	Start-Index:	1	N° of e	lements	1			
Property acc	ess:	Read only] Read/W	/rite	\boxtimes				
Protection Read level -				Write le	evel	-			
Exception Hai	xception Handling: Value after Power-up: Stored Value Act Value Default Value								
Special Features:									
MPI is not LTE	communi	cating if zone is 'Out	OfService'. If parame	eter Build	dingZone is 'C	DutOfServ	ice' also		
the correspond	ing Room	and Subzone param	eters are 'OutOfSer	vice' (co	mmon flag)				

2.4.6.8 Parameter Subzone

FB:	MPI	Proper	ty Name (<u>Server</u>):	Subzone				Mandator	•
								Optional	$oxed{\boxtimes}$
Desc	ription:								
Part of	of LTE Geo	graphica	IZone parameter -> 3	Subzone wit	hin Build	ingZone	e.Room		
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	Data	atype format	U ₈ Z ₈	
Field			Description			Sup.	Range	Unit	Default
CounterValue Subzone numb			Subzone number			М	115		1
STAT	STATUS							Bitset	
- Out	OfService		zone active / inactiv	⁄e		0	true/false	Bit 0	true
			not supported, fixed	d to '0'		NA			false
COM	MAND						enum		cs
- Nor	malWrite			/e d to '0' active 1017 (MPI) 1 Read/W		M	0		
- Set	OSV & Res	etOSV	Set zone inactive / a	active		0	3/4		
- all c	ther comma	ands	not supported			NA			
Com	munication	n:	-		_		_		•
DP	Address:		IO Type(ID):	1017 (MP	I)	Proper	rty ID:	103	
(in	the server)		Start-Index:	1		N° of e	elements	1	
Pro	perty acce	ss:	Read only		Read/W	'rite	\boxtimes		
Pro	Protection Read level -					Write I	evel	-	
Exce	Exception Handling: Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐								
Special Features:									
MPI i	MPI is not LTE communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService' also								
the c	the corresponding Room and Subzone parameters are 'OutOfService' (common flag)								

2.4.6.9 Parameter SensorSelect

FB:	MPI	Propert	y Name (<u>Server</u>):	SensorSelec	ct			Manda	tory 🔲
								Optiona	al 🛛
Desci	ription:	-							
Define	es the sens	or type o	of the physical input						
DPT:	Name	DPT_Se	nsorSelect	DPT ID	20.017	Data	atype format	N ₈	
Field			Description			Sup.	Range	Unit	Default
			0 = inactive						cs
			1 = digital input not in	verted					
			2 = digital input invert						ļ
			3 = analog input -> 0						ļ
	4 = temperature sensor input								
Comr	nunication):							
DP A	Address:		IO Type(ID):	1017 (MPI))	Proper	ty ID:	110	
(in t	he server)		Start-Index:	1		N° of e	lements	1	
Prop	perty acce	ss:	Read only	1) Re	ead/Writ	te	∑ ¹⁾		
Prot	ection		Read level	-		Write I	evel	-	
Excep	otion Hand	lling:	Value after Power-up	: Stored Va	lue 🛛 1	Act \	/alue 🛛 1)	Default '	Value 🗌
Speci	al Feature	s:							
1) Th	is paramet	er can be	e read only (in case th	e device dete	ects the	sensor	type automa	tically), or	
	read/write (in this case, the user sets the sen-				d the de	vice ma	y possibly si	gnal an er	ror in
case the wrong sensor is physically connected)									

${\bf 2.4.6.10\ Parameter\ Analog Value COV Condition}$

										. —
FB:	GPAI	Propert	y Name (<u>Server</u>):	An	alogValı	JeCOVC	onditior)	Manda	tory ∐
		_			_				Optiona	al 🖂
_		<u> </u>							Орион	
Desc	ription:									
This o	optional pai	rameter s	hall define the CO'	V co	ndition (d	change o	f value ii	n %) for the c	utput sian	al with a
	ition of abo				(3		,	. 1 3	
							_			
DPT:	Name	DPT_Sca	aling		DPT ID	5.001	Data	atype format	$ U_8 $	
Field			Description				Sup.	Range	Unit	Default
								cs	%	CS
Comr	nunication	า:					-	-		-
DP.	Address:		IO Type(ID):	1	017 (MP	'l)	Proper	ty ID:	111	
(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	-			Write I	evel	-	
Exce	ption Hand	dling:	Value after Power-	-up:	Stored	Value 🛚	Act Va	lue 🔲 De	fault Value	e 🗌
Spec	Special Features:									

2.4.6.11 Parameter TempCorrValue

FB:	MPI	Property	Name (<u>Server</u>):	TempCorrVa	alue			Mandat	
								Optiona	al 🛛
Desci	ription:			-			-		
Temp	erature va	alue corre	ction for sensor valu	ıe.					
DPT:	Name	DPT_Te	mpHVACRel_Z	DPT ID	205.101	Data	type format	$V_{16}Z_{8}$	
Field			Description			Sup.	Range	Unit	Default
Temp	erature		Temperature corre	ction value		0	Full Range	K	0
STAT	US							Bitset	
- Out	OutOfService correction active / inactive				0	true/false	Bit 0	false	
- all of	all other bits not supported, fixed to '0'				NA			false	
COMMAND							enum		CS
- NormalWrite					M	0			
- SetC	SV & Re	setOSV	Set correction inac	tive / active		0	3/4		
- all of	ther comn	nands	not supported			NA			
Comr	nunicatio	n:			•	-			
DP A	Address:		IO Type(ID):	1017 (MPI))	Proper	ty ID:	112	
(in t	he serve	r)	Start-Index:	1		N° of e	lements	1	
Pro	perty acc	ess:	Read only		Read/W	rite			
Prot	ection		Read level	-		Write le	evel	-	
Exce	otion Har	ndling:	Value after Power-	up: Stored \	/alue 🛚	Act Va	lue 🗌 Def	ault Value	· 🔲
Speci	al Featur	es:							

2.4.6.12 Parameter TempCOVCondition

FB:	FB: MPI Property Name (Server): TempCOVCondition Mandatory								Manda	tory \square
FD:	IVIPI	Property	Name (<u>Server</u>):	11	empcovc	Jonaitio	n			• =
									Option	al 🛛
Descr	ription:									
Delta	temperati	ure value	for COV condition							
DPT:	Name	DPT_Te	mpHVACRel_Z		DPT ID	205.10°	1 Data	atype format	$V_{16}Z_{8}$	
Field			Description				Sup.	Range	Unit	Default
Temp	erature		Temperature COV	va	lue		0	Full Range	K	0,2
STAT	US								Bitset	
- all bits			not supported, fixe	DPT ID 205.101 Datatype format V ₁₆ Z Sup. Range Unit value O Full Range K Bits d to '0' NA enum M 0 NA 0 NA 1017 (MPI) Property ID: 113 1 N° of elements 1 Read/Write Write level -						false
COMMAND								enum		cs
- Norn	nalWrite						M	0		
- all ot	ther comr	nands	not supported				NA			
Comn	nunicatio	n:								
DP /	Address:		IO Type(ID):		1017 (MP	I)	Prope	rty ID:	113	
(in t	he serve	r)	Start-Index:		1		N° of e	elements	1	
Prop	perty acc	ess:	Read only			Read/W	√rite	\boxtimes		
Prot	ection		Read level		-		Write	level	-	
Excep	Exception Handling: Value after Power-up: Stored Value ☐ Act Value ☐ Default Value ☐									
Speci	al Featur	es:				•		-	-	-

2.4.6.13 Parameter TempAlarmLimitUpper

FB:	MPI	Property	Name (<u>Server</u>):	Te	empAlarml	LimitUp _l	per		Mandat	
								<u> </u>	Optiona	al 🗵
Desci	iption:									
Upper	tempera	ture value	for alarm.							
DPT:	Name	DPT_Te	mpHVACAbs_Z		DPT ID	205.100	Data	type format	$V_{16}Z_{8}$	
Field			Description				Sup.	Range	Unit	Default
Temp	erature		Temperature limit v	/alı	ue		0	Full Range	°C	CS
STAT	US								Bitset	
- Out	OfService		limit active / inactiv	е			0	true/false	Bit 0	false
- all of	her bits		not supported, fixe	d to	o '0'		NA			false
COM	Description: Upper temperature value for alarm. DPT: Name DPT_TempHVACAbs_Z DPT ID 205 Field Description Temperature limit value STATUS OutOfService limit active / inactive all other bits not supported, fixed to '0' COMMAND NormalWrite SetOSV & ResetOSV all other commands not supported Communication: DP Address: IO Type(ID): 1017 (MPI) (in the server) Start-Index: 1					enum		CS		
COMMAND - NormalWrite					M	0				
- SetC	SV & Re	setOSV	Set limit inactive / a	act	ive		0	3/4		
- all of	her comr	nands	not supported				NA			
Comr	nunicatio	n:	-			-			-	-
DP /	Address:		IO Type(ID):		1017 (MPI)		Proper	ty ID:	114	
(in t	he serve	r)	Start-Index:		1		N° of e	lements	1	
Pro	perty acc	ess:	Read only			Read/W	rite	\boxtimes		
Prot	ection		Read level		-		Write le	evel	-	
Excep	otion Har	ndling:	Value after Power-	up	: Stored V	/alue ⊠	Act Va	lue 🗌 Def	ault Value	: 🗌
Speci	al Featur	es:								

2.4.6.14 Parameter TempAlarmLimitLower

FB:	MPI	Property	Name (<u>Server</u>):	T	TempAlarmLimitLower					Mandat	ory			
										Optiona	al 🖂			
Desc	ription:													
Lowe	r tempera	ture value	for alarm.											
DPT:	Name	DPT_Te	empHVACAbs_Z		DPT ID	205.100) Da	tat	ype format	$V_{16}Z_{8}$				
Field			Description				Sup.	F	Range	Unit	Default			
Temperature			Temperature limit	val	ue		0	I	Full Range	°C	CS			
STATUS										Bitset				
- OutOfService			limit active / inactiv	e/e			0		true/false		false			
- all other bits			not supported, fixe	d t	o '0'		NA			Inge Unit Def Ill Range °C c Bitset Iue/false bool fal Ienum c D: 115 Inents 1				
COMMAND									enum		CS			
- Norr	nalWrite						M							
- SetC	OSV & Re	setOSV	Set limit inactive / a	act	ive		0			Unit Defau ge °C cs Bitset se bool false cs 115 1				
- all o	ther comn	nands	not supported				NA			ge Unit Defau Range °C cs Bitset false bool false num cs 115 nts 1				
Com	nunicatio	n:				•								
DP	Address:		IO Type(ID):		1017 (MF	기)	Prop	erty	/ ID:	115				
(in t	he serve	r)	Start-Index:		1		N° of	ele	ements	1				
Property access:			Read only			Read/W	rite/		\boxtimes					
Protection Rea			Read level		-		Write	le	vel	-				
Exce	otion Har	ndling:	Value after Power-	up	: Stored	Value 🛚	Act V	⁄alι	ue 🔲 Def	ault Value				
Spec	Special Features:													
									·					

3 General PurposeOutput Functional Blocks

3.1 General Purpose Digital Output (GPDO)

3.1.1 Aims and objectives

The Functional Block 'General Purpose Digital Output' shall be used to implement a universal Digital Output.

The Functional Block shall translate the received binary setpoint value information to the electrical output signal. The physical implementation of the output signal is device specific (e.g. potential free relays or TTL logic etc).

Functional Block GPDO may optionally support autonomous blinking of the digital hardware output. Autonomous blinking of the output enables smoth on/off timing of the output and minimizes the number of messages. GPDO blinking feature is only meaningful if the connected hardware is suitable for blinking, e.g. a LED.

3.1.2 Functional specification

Distribution of the setpoint information DigitalOutSetp in the system shall be event-driven (COV-condition, change of value) and may be repeated periodically. Therefore, the Input may have a time-out.

In the LTE-Mode the 'General Purpose Digital Output' shall support <u>LTE general peripheral zones and optionally geographical zones.</u>

The state of the electrical representation of the Digital Output may be inverted (e.g. from normally open to normally closed) using the parameter OutputSelect.

If no valid setpoint is available, the behaviour (company specific) of the Digital Output may be:

- output low / open, or
- output high /closed, or
- leave position unchanged.

After power up the behaviour of the Digital Output is company specific. It may be

- the default value, or
- the last stored value before power-down.

Blinking function of the Digital Output:

Blinking of the Digital Output may be implemented in different ways:

Method A)

Toggle of the binary setpoint (input DigitalOutSetp) => the sender determines the blinking frequency and the on/off ratio.

Latency between the sender and the receiver may lead to visible jitter of the electrical output signal. Short blinking periods create high network traffic.

Method B)

Autonomous blinking function is locally implemented in the GPDO. The blinking frequency and the on/off ratio are determined by local parameters of the GPDO (e.g. blinking period and on/off ratio). Blinking function is controlled by the configuration parameter BlinkingMode. The Digital Output starts blinking after a transition low -> high of DigitalOutSetp. Blinking is acknowledged and terminated by an additional input trigger signal StopBlinking.

• Method C)

Method C works in a similar way as Method B. However blinking of the output is controlled (i.e. dynamically enabled/disbled) via an additional input signal ForcedBlinking. The Digital Output starts blinking if DigitalOutSetp = high and ForcedBlinking = enabled

Inputs

•	DigitalOutSetp	This input controls the binary setpoint for the Digital
		Output.

• StopBlinking This optional trigger input in combination with parameter

Blinking Mode is used to control/acknowledge local blinking (Method B). The trigger terminates local blinking state of the electrical output. I.e. electrical output

changes from blinking state to a permanent binary state according to input DigitalOutSetp

• ForcedBlinking This optional input is used to control local blinking

(Method C).

If ForcedBlinking = enabled, the electrical output is

blinking if DigitalOutSetp = high

If ForcedBlinking = disabled, the electrical output is controlled according to the value of DigitalOutSetp

Outputs

StatusDigitalOutput This signal reflects the current **logical** status of the Digital Output.

Behavior in case of active local blinking function

(Method B and C):

Blinking of the electrical output does **not** trigger updates of StatusDigitalOutput messages to avoid extensive

network traffic.

Binding Group (LTE)

• GeneralPeripheralZone No special features.

GeographicalZone BuildingLocation.Room.Subzone

Parameters

OutputSelect This optional parameter shall be used to invert the

electrical signal of the DigitalOutput (e.g. from normally

open to normally closed).

• BlinkingMode This optional parameter controls the behavior of the local

blinking function for Method B

Specification of local blinking function Method B (optional feature)

	BlinkingMode = BlinkingDisabled	
State: Digital Output = low		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	None	unchanged
Receive DigitalOutSetp = high	send StatusDigitalOutput = high	Digital Output = high
Receive StopBlinking	None	unchanged
State: Digital Output = high		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	send StatusDigitalOutput = low	Digital Output = low
Receive DigitalOutSetp = high	None	unchanged
Receive StopBlinking trigger	None	unchanged

BlinkingMode = BlinkingWithoutAcknowledge									
State: Digital Output = low									
Event:	Action:	Following State:							
Receive DigitalOutSetp = low	None	unchanged							
Receive DigitalOutSetp = high	send StatusDigitalOutput = high start blinking of electrical output signal	Digital Output = high / Electrical Output Blinking							
Receive StopBlinking trigger	None	unchanged							
State: Digital Output = high / Electrical Output Blinking									
Event:	Action:	Following State:							
Receive DigitalOutSetp = low	send StatusDigitalOutput = low stop blinking of electrical output signal	Digital Output = low							
Receive DigitalOutSetp = high	None	unchanged							
Receive StopBlinking trigger	None	unchanged							

	BlinkingMode = BlinkingWithAcknowledge	
State: Digital Output = low		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	None	unchanged
Panaina DinitalOutSatur Link	send StatusDigitalOutput = high	Digital Output = high /
Receive DigitalOutSetp = high	start blinking of electrical output signal	Electrical Output Blinking
Receive StopBlinking trigger	None	unchanged
State: Digital Output = high / Electrical Output Blinking		
Event:	Action:	Following State:
B : B: : 10 : d . 1	send StatusDigitalOutput = low	D: :: 10 1
Receive DigitalOutSetp = low	stop blinking of electrical output signal	Digital Output = low
Receive DigitalOutSetp = high	None	unchanged
Receive StopBlinking trigger	stop blinking of electrical output signal	DigitalOutput = high
State: DigitalOutput = high		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	send StatusDigitalOutput = low	DigitalOutput = low
Receive DigitalOutSetp = high	None	unchanged
Receive StopBlinking trigger	None	unchanged

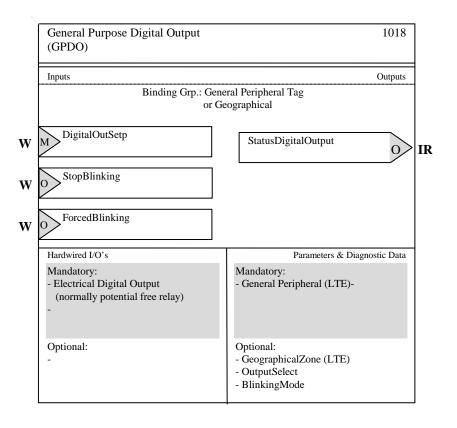
Specification of local blinking function Method C (optional feature)

State: Digital Output = low		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	None	unchanged
Receive DigitalOutSetp = high	send StatusDigitalOutput = high	Digital Output = high
Receive ForcedBlinking = enabled	None	unchanged
Receive ForcedBlinking = disabled	None	unchanged
State: Digital Output = high		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	send StatusDigitalOutput = low	Digital Output = low
Receive DigitalOutSetp = high	None	unchanged
Receive ForcedBlinking = enabled	start blinking of electrical output signal	Digital Output = high / Electrical Output Blinking
Receive ForcedBlinking = disabled	None	unchanged
State: Digital Output = high / Electrical Output Blinking		
Event:	Action:	Following State:
Receive DigitalOutSetp = low	send StatusDigitalOutput = low	Digital Output = low
	stop blinking of electrical output signal	
Receive DigitalOutSetp = high	None	unchanged
Receive ForcedBlinking = enabled	None	unchanged
Receive ForcedBlinking = disabled	stop blinking of electrical output signal	DigitalOutput = high

3.1.3 Constraints

None.

3.1.4 Functional Block diagram



3.1.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info	
Inputs				
DigitalOutSetp	Setpoint for the digital output with: - timeout (optional) - Z_8 STATUS and - Z_8 COMMAND supported	LTE: 200.001 DPT_BinaryValue_Z B ₁ Z ₈ S: 1.006 DPT_BinaryValue B ₁	LTE: M Low/High S: GO Low/High	
StopBlinking	Trigger input to acknowledge and terminate blinking state of the electrical output according to Method C	1.017 DPT_Trigger B ₁	0	
ForcedBlinking	Input to control the blinking state of the electrical output according to Method C	1.003 DPT_Enable B ₁	0	
Outputs				
StatusDigitalOutput	Actual status of the digital output value with: - COV and heartbeat - Z ₈ STATUS	LTE: 200.001 DPT_BinaryValue_Z B ₁ Z ₈ S: 1.006 DPT_BinaryValue B ₁	LTE: O Low/High S: GO Low/High	
Parameters				
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	М	
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z U ₁₆ Z ₈	0	
OutputSelect	This optional parameter is used to invert the electrical behaviour of the physical output (e.g. from normally open to normally closed)	1.012 DPT_Invert B ₁	O Cs	
BlinkingMode	This optional parameter is used to control the behavior of the local blinking function (Method B)	20. 603 DPT_BlinkingMode	0	

Implementation of Properties using standard DPT: see clause 1.3.2.

GPDO Runtime Interworking - dependence on Configuration Modes

			STANDARD MODE		NDED DDE
		Basic FB	S-Mode	Standard Mode Interface	LTE
Inputs	DigitalOutSetp	GO _b	GO	GO	M
	StopBlinking	(GO _{b)}	(GO)	(GO)	0
	ForcedBlinking	(GO _{b)}	(GO)	(GO)	0
Outputs	StatusDigitalOutput	(GO) _b		(GO)	0

GPDO LTE specific Properties

		Support	
Parameter	ameter GeneralPeripheralZone		
	GeographicalZone	0	

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

		Support
Parameter	OutputSelect	0
	BlinkingMode	0

3.1.6 Detailed specification of the Datapoints

3.1.6.1 Input DigitalOutSetp

DI	P Name:)	alOutSetp			/	Abbr.:		-	ory				
FE	3 Name:	GPD	00								Can be	interna		
	escription													
_			ontains the s	etpoir	nt value for th	ne digi	ital out	put						
	atapoint Ty													
	PT_Name:		PT_BinaryVa	lue					_					
	PT Format:	B ₁							DPT_I		1.006			
Fi	eld	De	scription						Supp.		ange	Unit	Default	
										Lo	w/High		CS	
A	ccess Type	!												
•	Input													
	$N \rightarrow this$] [$1 \rightarrow th$	nis 🛛 🖾									
	Spontaneous								Time-out: 31 min (rec.) 2)					
	Request				Polling:				Per	iod:				
C	ommunicat	ion T	уре											
•	Group Ob	ject [Datapoint							Ma	andatory	r: 🛛		
	Default Gre	oup A	Address:											
D	ynamics													
	Power dow	vn:	Save:											
	Power up:		Value:	No ir	nitialisation:			Defa	ault value:)	
				Save	ed value:		1)							
								Rea	d from bu	ıs:				
E	xception Ha													
1)	see LTE-re													
2)	This time-		optional.											
S	pecial Featu	ures												

FB: GPDO LTE Se	rver Input Name: [DigitalOutSe	etp			landatory ptional		
Description:						ptiorial		
This input signal contains	the setpoint value fo	or the digital of	output					
DPT: Name DPT_Bir	aryValue_Z	DPT ID	200.001	Dataty	pe format	B₁Z ₈		
Field	Description				Sup.	Unit	Default	
BinaryValue	Setpoint value				M		CS 2)	
	0 = low							
	1 = high							
STATUS	For Read Service	only	, .			Bitset		
- OutOfService	DigitalOutSetp is o	out of service	(only a	pplicable f	or O	Bit 0	false	
Overridden	void setpoint after DigitalOutSetp is to		, o rri d d o	n		Dit 0	foloo	
- Overridden	fixed to '0'	emporarily of	remade	П	0	Bit 2	false	
- all other bits COMMAND	For Write Service	only			NA	enum.	false	
- NormalWrite	Used for normal ru		unicatio	'n	М	0		
- Normalivine	(LTE Write Service		umcanc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	IVI			
- Override / Release	Used for temporary				0	1/2		
	DigitalOutSetp (ma							
	Write access with p	point-to-point	comm	unication)				
- all other commands					NA			
Communication:					- i	-	i .	
Binding Group:								
Class	Туре			Default				
Geographical 🖂	BuildingZone.Roor	m.Subzone		1.1.1				
Application Specific								
Unassigned	Broadcast	Configurabl	e 🖂	cs				
DP Address:	IO Type(ID):	1018 (GPD	O)	Property	ID:	D: 51		
LTE-Service (event): Write	Timeout: 2)		31	min				
Property-Service	Read only		Read/W	/rite	\boxtimes			
(individual access):		_					1) 5-7	
Value after Power-up:	Default Va	lue ⊠ or				ored Valu		
Exception Handling:					Save at Po	wer-dowr	າ ¹⁾ ⊠	
1) optional feature:	i.a			:¢:				
After power up the behater 'void' setpoint (DigitalO					default vali	IΩ		
- last stored value before		e) => uigitai	output	s set to a	uciauli vali	Je		
last stored value before	power down							
2) This time-out is an option	nal feature. In case	of a timeout t	he setp	oint may b	e set to 'vo	oid' value		
(DigitalOutSetp 'out of s			·	•				
Behaviour of the digital output if no valid setpoint is available (company specific):								
- output low / open								
- output high /closed								
- leave position unchang	ea							
Support of Goographical	zonos is onticnal Lla	vuolly it door	not mal	(0.00000 t	0.000000	icato		
Support of Geographical a simultaneously in Geogra							hρ	
inactive zone is set 'OutO		ica i clipliele	201163	. 111616101	o ino parai	TICICI IOI I		

3.1.6.2 Input StopBlinking

DF	P Name:		Blinking			Abbr.:		-	ory				
FB	3 Name:	GPE	00							Can be	internal		
De	Description												
	This trigger input signal is used to acknowledge and terminate blinking state of the electrical output												
(bl	(blinking method B) if parameter BlinkingMode = BlinkingWithAcknowledge. Otherwise this input has no												
•	effect.												
	Datapoint Type												
DF	PT_Name:	DF	PT_Trigger										
DF	PT Format:	B ₁						DPT_IC) :	1.017			
Fi€	eld	De	escription					Supp.	R	ange	Unit	Defa	ult
		Bo	th values 0/2	1 will b	e accepted as t	rigger				0/1		CS	;
Ac	Access Type												
•	Input												
	$N \rightarrow this$]	$1 \rightarrow thi$	is 🛛								
	Spontaneo	us			Cyclically:			Tim	e-out	t:			
	Request				Polling:			Peri	od:				
Co	ommunicati	on 1	Гуре										
•	Group Ob	ect	Datapoint						Ma	andatory	: 🛛		
	Default Gro	up /	Address: -										
Dy	namics												
	Power dow	n:	Save:										
	Power up:		Value:	No in	itialisation:	1	Defa	ult value:					
				Save	d value:								
							Read	d from bu	s:				
Ex	ception Ha	ndli	ng										
Sp	ecial Featu	res											
-				•				•		•			

FB:	GPDO	LTE Serv	er Input Name:	StopBlinkin	ıg		Mandatory Optional			
Desc	ription:							<u></u>		
			used to acknowled							
•	•	B) if para	meter BlinkingMod	de = Blinking\	NithAckı	nowledge.	Otherwise	this input	has no	
effect								1_		
DPT:	Name	DPT_Trig	~	DPT ID	1.017	Dataty	/pe format	B ₁	5 ();	
Field			Description				Sup.	Unit	Default	
	/Value		Both values 0/1 w	/III be accept	ed as triç	gger	M			
	nunication									
Bind	ding Group):								
Clas	SS		Type							
Geographical 🛚			BuildingZone.Roo							
Ар	plication Spe	ecific								
Un	assigned	\boxtimes	Broadcast	Configurat	ole 🛚	cs				
DP .	Address:		IO Type(ID):	1018 (GPI	DO)	Property	· ID:	53		
LTE W	- Service (e rite	event):	Timeout:			min				
	perty-Serv ividual acc		Read only		Read/W	/rite	\boxtimes			
Value	after Pow	er-up:	Default Va	alue 🗌 or			;	Stored Val	ue 🗌	
Exce	otion Hand	lling:					Save at Po	wer-down		
	ial Feature									
			ones is optional. U							
			hical and Unassig	ned Peripher	al Zones	s. Therefo	re the parar	meter for t	he	
inactiv	ve zone is s	set 'OutOf	Service'							

3.1.6.3 Input ForcedBlinking

DF	P Name:	ForcedBlink	ing		Abbr.:	-			Mandat	ory	
FB	Name:	GPDO							Can be	internal	
De	Description										
Th	This optional input is used to control local blinking (Method C).										
	If ForcedBlinking = enabled, the electrical output is blinking if DigitalOutSetp = high										
	If ForcedBlinking = disabled, the electrical output is controlled according to the value of DigitalOutSetp										
	Datapoint Type										
	PT_Name:	DPT_Enat	ole								
DF	PT Format:	B ₁					DPT_I		1.003		
Fie	eld	Description	n				Supp.	Ra	nge	Unit	Default
		0 = Disabl	e blinking								CS
		1 = Enable	blinking								
Ac	Access Type										
•	Input										
	$N \rightarrow this$		$1 \rightarrow \text{this}$	s 🛛							
	Spontaneo	us 🛛	(Cyclically:			Time-out:				
	Request			Polling:			Per	iod:			
Ö	mmunicati	ion Type									
•	Group Ob	ject Datapoi	nt					Mar	ndatory	: 🛛	
	Default Gro	oup Address	:								
Dy	namics										
	Power dow	n: Save:									
	Power up:	Value:	No ini	tialisation:		Defa	ault value:				
			Saved	d value:							
						Rea	d from bu	s:			
Ex	ception Ha	ındling									
Sp	ecial Featu	ires									

FB:	GPDO	LTE Serv	er Input Name:	ForcedBlin	king			Mandatory Optional	
Descri	iption:	•		•			•		
			to control local bli						
			d, the electrical ou						
			d, the electrical ou						tSetp
DPT:	Name	DPT_Ena		DPT ID	1.003	Datat	ype format		•
Field			Description				Sup.	Unit	Default
Binary'	Value		0 = Disable blinki	0			M		CS
			1 = Enable blinkir	ng					
	nunication								
Bind	ing Group):							
Class	6		Туре			Default			
Geo	ographical	\boxtimes	BuildingZone.Roo	om.Subzone		1.1.1			
App	lication Spe	ecific							
Una	assigned	\boxtimes	Broadcast	Configura	ble 🛚	cs			
DP A	ddress:		IO Type(ID):	1018 (GP	DO)	Property	/ ID:	54	
LTE- Wri	Service (e	event):	Timeout:			min			
	erty-Serv vidual acc		Read only [Read/W	/rite	\boxtimes		
Value	after Pow	er-up:	Default V	alue 🛚 or				Stored Va	lue 🗌
Excep	tion Hand	lling:					Save at P	ower-dowr) <u> </u>
Specia	al Feature	s:							
		•	ones is optional. U	•					
			hical and Unassig	ned Periphe	ral Zones	s. Therefo	re the para	meter for t	he
inactiv	e zone is s	et 'OutOf	Service'						

3.1.6.4 Output StatusDigitalOutput

DP	Name:	Stat	usDigi	talOutp	out			Abb	r.:			Manda	itory		
FΒ	Name:	GPI	00									Can be	e internal		
De	scription														
	tual logical:		of the	digital	output										
Da	tapoint Ty _l														
	T_Name:	DF	PT_Bin	aryVal	ue										
	T Format:	B ₁									DPT_ID:	1.006			
Fie		De	escripti	on							Supp.	Range	Unit	Defa	ult
Bit		-	= low								M		Bit	cs	
		1 :	= high												
♦	Output		_												
	this \rightarrow M				$nis \rightarrow 1$										
	Spontaneo	us		COV:		Del	lta-Valu	_			linRepTin		10 s		
				Cyclic		Per	riod:	1	5 mir	า (re	ecommen	ded value))		
	Request														
Co	mmunicati	ion T	Гуре												
♦	Group Ob											Mandator	y: 🛛		
	Default Gro	oup /	Addres	ss:	· -										
_	namics														
	Power dow	n:	Save:												
	Power up:		Value):	No initialis	sation:					lt value:				
					Saved val	ue:			Act	tual	value:				
				mit on	bus:										
Ex	ception Ha	ndli	ng												
Sp	ecial Featu	ıres													

FB:	GPDO	LTE Se	erver Output Name:	StatusDig	italOutp	out			Mandato Optional	ry 🗌
Desc	ription:								Ориона	
		al provide	es the actual logical s	state of the	digital ou	ıtput				
DPT:			naryValue_Z	DPT ID	200.00		atvpe	format E	3,Z°	
Field	1110	<u></u>	Description	15	Sup.	Range	***J F -	Unit	COV	Default
	yValue		0 = low		M	Bit			yes	CS
	,		1 = high							
STAT	US		For LTE-Service Info					Bitset		
			and Property-Service	е						
			Response only							
- Faul	lt		Failure of the hardwa	are output	0	true/fa	lse	Bit 1	yes	false
_			(e.g. overload)							
- Ove	rridden		Digital output is temp		0	true/fa	lse	Bit 2	yes	false
			overridden due to an							
			of DigitalOutSetp or							
			local device settings	(e.g. dip-						
			switch)							
	ther status		<u> </u>		NA					
	munication									
	ding Group	ρ:								
Clas			Туре				Defau	ılt		
Ge	eographical	\boxtimes	BuildingZone.Roon	n.Subzone		1	.1.1			
Ар	plication Spe	ecific								
	nassigned	\boxtimes	Broadcast	Configura	able 🛚		s			
DP	Address:		IO Type(ID):	1018 (GPI	DO)	Proper	ty ID	: 5	52	
LTE	-Services	(event):	COV 🖄 I	MinRepTim	ie:	10 s		Hearth	ceat: 1	5 min
	oReport		Output per default	communica	ating 🖂	Bindin	g Gro	oup Wildca	ard allowe	d 🔲
	TE Read-R			High 🗌			nal 🛭		Low	
	lling of the			- J						
	all always b	ре	Transm after Powe	r-up: Store	d Value	Ac*	t Valu	ue 🛛 Do	efault Valu	ie 🗌
	pported)									
	perty-Serv		Read only	1	Read/W	Vrito				
_	lividual acc		Read Only	1	Neau/v	VIIIC				
Exce	ption Hand	lling:						Save a	t Powerdo	wn
Spec	ial Feature	s:								
Suppo	ort of Geog	raphical	zones is optional. Us	ually it doe	s not ma	ke sens	e to c	communic	ate simulta	aneously
			ıssigned Peripheral Zo							
'OutC	MService'					-				

3.1.6.5 Parameter GeneralPeripheralZone

FB:	GPDO	Proper	ty Name (<u>Server</u>):	GeneralPe	eripheral	Zone		Mandat	tory 🛚
								Optiona	ا ال
Desc	ription:	-		-					
Numb	er of the g	eneral pe	eripheral zone.						
DPT:	Name	DPT_U	countValue16_Z	DPT ID	203.012	2 Data	atype format	U ₁₆ Z ₈	
Field			Description			Sup.	Range	Unit	Default
Zone			Number of general p	eripheral ta	g	М	full		1
STAT	US							Bitset	
- Out	OfService		zone active / inactive)		0	true/false	Bit 0	false
- all o	ther bits		not supported, fixed	to '0'		NA			false
COM	MAND						enum		CS
- Norr	malWrite					M	0		
- SetC	OSV & Res	etOSV	Set zone inactive / a	ctive		0	3 / 4		
- all o	ther comma	ands	not supported			NA			
Comi	nunication	1:	-						
DP	Address:		IO Type(ID):	1018 (GPI	00)	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		
Pro	tection		Read level	-		Write le	evel	-	
Exce	otion Hand	lling:	Value after Power-up	o: Stored \	/alue ⊠	Act Va	lue 🗌 Def	ault Value	<u> </u>
Spec	ial Feature	s:							
GPD (D is not LTI	commi	unicating if zone is 'Ou	utOfService	'				

3.1.6.6 Parameter BuildingZone

FB:	GPDO	Proper	ty	Name (<u>Server</u>):	В	BuildingZo	ne				Mandatory Optional	y □ ⊠
Descr	ription:											
Part o	f LTE Geo	graphica	ΙZ	one parameter -> E	Βu	uildingEntity	/ (Floor,	Apartr	nent, Buildi	ng	section et	c.)
DPT:	Name	DPT_Uc	co	untValue8_Z		DPT ID	202.002	Da	tatype form	at	U ₈ Z ₈	
Field			D	escription				Sup.	Range		Unit	Default
Count	erValue		Ν	lumber of the Build	lin	ngZone		М	1126			1
STAT	US										Bitset	
- OutC	OfService		z	one active / inactiv	е			0	true/false		Bit 0	true
- all ot	ther bits		n	ot supported, fixed	l to	o '0'		NA				false
COM	MAND								enum			CS
- Norn	nalWrite							M	0			
- SetC	SV & Res	etOSV	S	et zone inactive / a	ac	tive		0	3/4			
- all ot	ther comm	ands	n	ot supported				NA				
Comn	nunicatio	n:					-		-			
DP /	Address:			IO Type(ID):		1018 (GPD	O)	Prope	erty ID:		101	
(in t	he server)		Ì	Start-Index:		1		N° of	elements		1	
Prop	perty acce	ess:		Read only			Read/W	rite	\boxtimes			
Prot	ection			Read level		-		Write	level		-	
Excep	otion Hand	dling:	٧	alue after Power-u	ıp:	: Stored V	′alue 🛚	Act V	alue 🔲 🏻 🛭	Def	ault Value	
Speci	al Feature	es:										
GPDC	is not LT	E commu	ın	icating if zone is 'O)ut	tOfService'.	. If parar	neter	BuildingZon	ie is	s 'OutOfSe	ervice'
also th	ne corresp	onding R	00	om and Subzone p	ar	rameters ar	e 'OutOt	Servi	e' (commo	n fl	lag)	
Usual	ly it does r	ot make	se	ense to communica	ate	e simultane	ously in	Geog	aphical and	ıU t	nassigned	
Periph	ipheral Zones. Therefore the parameter for the inactive zone is set 'OutOfService'											

3.1.6.7 Parameter Room

FB:	GPDO	Proper	ty Name (<u>Server</u>):	Room				Mandator	у 🔲
								Optional	
Desc	ription:								
Part o	of LTE Geo	graphica	IZone parameter -> F	Room within	Building	Zone			
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	2 Data	type format	U ₈ Z ₈	
Field			Description			Sup.	Range	Unit	Default
Coun	terValue		Room number			М	163		1
STAT	US							Bitset	
- Out	OfService		zone active / inactiv	'e		0	true/false	Bit 0	true
- all o	ther bits		not supported, fixed	l to '0'		NA			false
	MAND					1	enum		CS
- Nori	malWrite					M	0		
- Set0	OSV & Res	etOSV	Set zone inactive / a	active		0	3/4		
- all o	ther commi	ands	not supported			NA			
Com	munication	1:							
DP	Address:		IO Type(ID):	1018 (GP	DO)	Proper		102	
(in t	the server)		Start-Index:	1		N° of e	lements	1	
Pro	perty acce	ss:	Read only		Read/W	rite	\boxtimes		
Pro	tection		Read level	<u> </u>		Write le	evel	-	
Exce	ption Hand	lling:	Value after Power-u	ip: Stored	Value 🛚	Act Va	lue 🗌 Def	fault Value) <u> </u>
Spec	ial Feature	s:							
GPD(O is not LTI	E commi	unicating if zone is 'O	outOfService	e'. If parai	meter Bu	uildingZone i	s 'OutOfSe	ervice'
also t	he correspo	onding R	loom and Subzone p	arameters a	are 'OutO	fService	' (common f	lag)	

3.1.6.8 Parameter Subzone

FB:	GPDO	Proper	ty Name (<u>Server</u>):	Subzone				Mandator Optional	ry 🗌
Desc	ription:	<u>l</u>		-					
Part of	of LTE Geo	graphica	Zone parameter -> 3	Subzone wit	thin Build	ingZone	e.Room		
DPT:	Name	DPT_U	countValue8_Z	DPT ID	202.002	Data	atype format	U_8Z_8	
Field			Description			Sup.	Range	Unit	Default
Coun	terValue		Subzone number			М	115		1
STAT	rus							Bitset	
- Out	OfService		zone active / inactiv	⁄e		0	true/false	Bit 0	true
- all c	ther bits		not supported, fixed	l to '0'		NA			false
COM	MAND						enum		CS
- Nor	malWrite					M	0		
- Set	OSV & Res	etOSV	Set zone inactive / a	active		0	3 / 4		
- all c	ther comm	ands	not supported			NA			
Com	munication	า:	-		-		-	· ·	
DP	Address:		IO Type(ID):	1018 (GP	DO)	Prope	rty ID:	103	
(in	the 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	evel	-	
Exce	ption Hand	dling:	Value after Power-u	ıp: Stored	Value 🛚	Act Va	alue 🔲 De	fault Value	<u> </u>
Spec	ial Feature	es:							
GPD	O is not LTI	E commi	unicating if zone is 'C	OutOfService	e'. If parai	meter B	uildingZone i	s 'OutOfS	ervice'
also t	ha corraen	andina R	nom and Subzone n	aramatare a	ara 'ÓutO	fSarvice	a' (common f	laa)	

3.1.6.9 Parameter OutputSelect

FB:	GPDO	Property	y Name (<u>Server</u>):	OutputSe	elect			Mandat Optiona	· =
Desc	ription:	.		-					
Define	es the oper	ation logic	c of the electrical o	utput: inve	rted or not	inverted	l.		
DPT:	Name	DPT_Inve	ert	DPT ID	1.012	Data	atype format	B ₁	
Field		[Description			Sup.	Range	Unit	Default
Comr	nunication):				-	-	-	
DP .	Address:		IO Type(ID):	1018 (G	PDO)	Proper	ty ID:	110	
(in t	he server)		Start-Index:	1		N° of e	elements	1	
Pro	perty acce	ss:	Read only		Read/V	√rite	\boxtimes		
Prof	tection		Read level	-		Write I	evel	-	
Exce	ption Hand	lling: \	Value after Power-	up: Store	d Value 🛚	Act Va	ılue 🔲 🛮 De	fault Value	, \Box
Speci	ial Feature	s:							

3.1.6.10 Parameter BlinkingMode

FB:	GPDO	Propert	y Name (<u>Server</u>):	BlinkingMo	ode			Mandat Optiona	• =
Desci	ription:	-		-					
This c	ptional par	ameter is	used to control the	e behavior of	the loca	l blinkin	g function (m	ethod B)	
DPT:	Name	DPT_Blir	nkingMode	DPT ID	20.603	Data	atype format	N ₈	
Field			Description			Sup.	Range	Unit	Default
Blinkir	ngMode		0 = BlinkingDisable	ed		М	[02]	none	none
			1 = BlinkingWithou		je				
			2 = BlinkingWithAc	knowledge					
Comr	nunication	:				-	-	-	•
DP A	Address:		IO Type(ID):	1018 (GP	DO)	Proper	ty ID:	111	
(in t	he server)		Start-Index:	1		N° of e	elements	1	
Pro	perty acces	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	llue 🗌 Def	fault Value	: <u> </u>
			_	•			•		
Speci	al Feature	s:							
									•

3.2 General Purpose Analog Output (GPAO)

3.2.1 Aims and objectives

The Functional Block 'General Purpose Analog Output' shall be used to implement a universal analog output signal with a fixed range (e.g. 0 V to 10 V or 0 mA to 20 mA signal).

The Functional Block shall translate the received value in the range 0 % to 100 % to the electrical output. The physical implementation of the output is device specific and may be controlled by implementation specific parameters.

3.2.2 Functional specification

The distribution of the setpoint information in the system shall be event-driven (COV-condition, change of value) and may be repeated periodically. Therefore, the Input may have a time-out.

In the LTE-Mode the 'General Purpose Digital Output' shall support <u>LTE general peripheral zones and optionally geographical zones.</u>

The behaviour of the physical output if no valid setpoint is available is company specific. It may be:

- take the maximum value, or
- take the minimum value, or
- leave position unchanged.

After power up the behaviour of the output is company specific. It may be:

- the default value, or
- the last stored value before power-down.

Inputs

• AnalogOutSetp Setpoint (0 % to 100 %) for the physical output.

Outputs

• StatusAnalogOutput Actual value (0 % to 100 %) and status of the physical output.

Binding Group (LTE)

• GeneralPeripheralZone no special features

GeographicalZone BuildingLocation.Room.Subzone

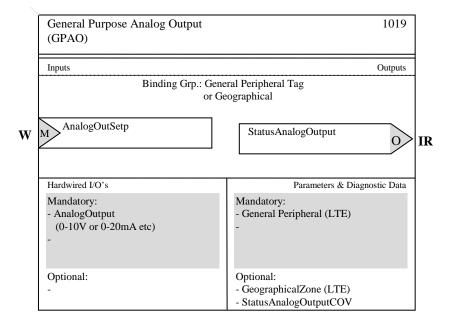
Parameters

• StatusAnalogOutputCOV COV condition for StatusAnalogOutput in percent

3.2.3 Constraints

None.

3.2.4 Functional Block diagram



3.2.5 Datapoint description

Overview

Datapoints	Description / Remarks	Datapoint Type	Additional Info
Inputs			
AnalogOutSetp	Setpoint for the analog output with: - timeout - Z_8 STATUS and - Z_8 COMMAND supported	LTE: 203.017 DPT_PercentU16_Z U ₁₆ Z ₈ S: 5.001 DPT_Scaling U ₈	LTE: M 0-100% with 0.01% resolution S: GO
Outputs			
StatusAnalogOutput	Actual status of the analog output value with: - COV and heartbeat - Z ₈ STATUS	LTE: 203.017 DPT_PercentU16_Z U ₁₆ Z ₈ S: 5.001 DPT_Scaling U ₈	LTE: O 0-100% with 0.01% resolution S: GO
Parameters			
GeneralPeripheralZone	LTE zoning number for GenPeripheral	203.012 DPT_UcountValue16_Z U ₁₆ Z ₈	М
GeographicalZone	LTE Geographical Zone: - BuildingZone like Floor, Apartment - Room within the BuildingZone - Subzone within the Room	3 Properties, each with DPT: 202.002 DPT_UcountValue8_Z U ₁₆ Z ₈	0
StatusAnalogOutputCOV	COV condition for StatusAnalogOutput in percent	5.001 DPT_Scaling U ₈	O cs

Implementation of Properties using standard DPT see clause 1.3.2

GPAO Runtime Interworking - dependence on Configuration Modes

			Standard Mode		ENDED ODE
		Basic FB	S-Mode	Standard Mode Interface	LTE
Inputs	AnalogOutSetp	GO _b	GO	GO	M
Outputs	StatusAnalogOutput	(GO) _b		(GO)	0

GPAO LTE specific Properties

		Support
Parameter	GeneralPeripheralZone	М
	GeographicalZone	0

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

		Support
Parameter	StatusAnalogOutputCOV	0

3.2.6 Detailed specification of the Datapoints

3.2.6.1 Input AnalogOutSetp

DF	P Name:		ogOutSet			Abbr.:				Mandat				
FΒ	Name:	GPA	O									Can be	internal	\boxtimes
De	scription													
	is input sigr										solution o	f about (0,4 % th	at shall
	translated		correspo	nding ar	nalog	range c	of the	physi	cal o	utput.				
	tapoint Ty													
	PT_Name:	_	T_Scaling									T		
	DPT_ID: 5.001													
Fie	eld	De	scription						Su	pp.		nge	Unit	Default
											0 % to	100 %	%	cs 1)
Ac	cess Type													
♦	Input													
	$N \rightarrow this$			$1 \rightarrow th$	is									
	Spontaneo	us	\square		Cycli	ically:		\boxtimes 2)			Time-out	t:	31 min	(rec.) 2)
	Request				Pollii	ng:					Period:			
Co	mmunicati	ion T	уре											
♦	Group Ob	ject [Datapoint								Ma	andatory	ː 🛛	
	Default Gro	oup A	\ddress:											
Dy	namics													
	Power dow	/n:	Save:											
	Power up:		Value:	No in	itialis	ation:			Def	fault v	alue:)
				Save	d valu	ue:		1)						
									Rea	ad fror	m bus:			
	ception Ha													
	see LTE-rep													
_	his time-ou		otional.											
Sp	ecial Featu	ıres												

FB: GPAO	LTE Se	rver Input Name:	AnalogOutSetp			Mandat Optiona				
Description:	<u> </u>				<u>'</u>	•				
			0 % setpoint value th							
			output. Due to highe	r precision	requiremen	its the valu	ue shall			
		nd 0,01 % resolution				T				
	DPT_Pe	rcentU16_Z	DPT ID 203.0	17 Datat	ype format		I D ()			
Field		Description	4000(2)		Sup.	Unit	Default 3)			
AnalogValue		Setpoint value 0-			M	%	cs 3)			
STATUS - OutOfService		For Read Service	e only s out of service (only		Bitset Bit 0	false				
- Outorservice		for void setpoint		, 0	DIL U	laise				
- Overridden			s temporarily overrid	0	Bit 2	false				
- all other bits		fixed to '0'	s temperating evertion	ucii	NA	Dit 2	false			
COMMAND		For Write Service			INA	enum.	laise			
- NormalWrite			runtime communicat	ion	М	0				
Tromair vinc		(LTE Write Service								
- Override / Rele	222	`	ary override / release	of	0	1/2				
O VOITIGO / TROIC	Just		mainly by a tool using			1 / 2				
			n point-to-point comm							
- all other commands NA										
Communication:										
Binding Group:										
Class	<u>k.</u>	Туре		Default						
Geographical	\boxtimes	BuildingZone.Ro	om.Subzone	1.1.1						
Application Sp		J - 3								
Unassigned		Broadcast	Configurable 🛛	cs						
DP Address:		IO Type(ID):	1019 (GPAO)	Property	y ID:	ID: 51				
LTE-Service (event):	Timeout:	2.	1 min						
Write	\boxtimes	Timeout.	3	1 111111						
Property-Serv		Read only [Read/	Write	\boxtimes					
(individual ac				***************************************			1) 🖂			
Value after Pov		Default V	′alue ⊠ or			ored Value				
Exception Hand					Save at Po		1) 🖂			
			iour of the analog ou							
•	•	•	vice') => analog out	out is set to	a default v	alue				
		e power-down	v anacifia							
		s >100% is compan	e of a timeout the se	tnoint may	he set to 'v	oid' value				
(AnalogOutSe			e of a timeout the se	tpoint may	De Sel IO V	old value				
			l setpoint is available	(company	specific).					
- maximum va		a. oa.pa		(00pa)	op 000).					
- minimum val										
- leave positio	n unchan	ged								
Special Feature										
			Jsually it does not m							
			gned Peripheral Zone	es. Therefo	re the para	meter for t	:he			
inactive zone is	Cat 'OutO	IfService'								

3.2.6.2 Output StatusAnalogOutput

DP Name:	Si	tatusAna	alogO	Output		Abbr	·.:			Mandat	ory	
FB Name:	G	PAO								Can be	internal	
Description	n											
This output	sign	al shall p	rovic	de the current	status of th	e phys	sical	analo	g output.			
Datapoint 7	Type	!										
DPT_Name		DPT_Sc	aling									
DPT Forma		U ₈				-	DPT_ID: 5.001					
Field		Descript	ion				Sup	op.	Ran		Unit	Default
									0 % to 1	100 %	%	CS
Group Object												
◆ Output												
this $\rightarrow N$	1			this $\rightarrow 1$								
Spontan	eous	igtiic	CO	V: 🔲	Delta-Val	ue:			nRepTime:		10 s	
		Cyc	nin (re	ecommend	ded value)						
Request												
Communic												
_		ct Datap							M	andatory	: 🛛	
Default (Grou	p Addres	3S:									
Dynamics												
Power d	own:	Save	:									
Power u	p:	Value) :	No initialisa	ation:		De	fault	value:			
				Saved valu	ie:		Ac	tual v	/alue:		\square	
			<u>smit c</u>	on bus:								
Exception	Hane	dling										
												
Special Features												

FB:	GPAO	LTE Se	rver Output Nan	ne: StatusAn	alogO				datory 🗌 otional 🗵			
Desc	ription:	-		-			<u> </u>					
This	output signa	al shall p	rovide the current	t status of the p	hysica	al anal	og outpu	t. Due to h	igher pre	ecision		
requi	rements the	value sl	hall be encoded v	vith 16 bit and 0	0,01 %							
DPT:	Name	DPT_P€	ercentU16_Z	DPT ID	203.0			e format l				
Field			Description		Sup.	Rang		Unit	COV	Default		
	ogValue		Actual value in p	ercent	М	0 %	to 100%	%	cs *)	cs		
STAT	US		For LTE-Service and Property-Se					Bitset				
		ļ	Response only									
- Fau	lt		Failure of the ha	rdware output	0	tru	e/false	Bit 1	Υ	false		
			(e.g. overload, va									
- Ove	erridden		range) Analog output is		0	tru	e/false	Bit 2	Υ	false		
		ļ	overridden due t									
				of AnalogOutSetp or due to					ļ			
			local device setti	ings						_		
	ner bits		reserved		NA	<u> </u>		Bit 5-7	Υ	false		
	munication											
	ding Group	p:										
Clas			Туре				Defa					
	eographical		BuildingZone.R	≀oom.Subzone			1.1.1					
	oplication Spe				_	_						
	nassigned	\boxtimes	Broadcast	Configur			CS					
	Address:			IO Type(ID): 1019 (GPAO) Property ID: 52								
	E-Services		COV 🖂	MinRepTim			0 s	Hearth		15 min		
	foReport	\boxtimes	Output per defa		ating [oup Wildca		red 📙		
	TE Read-R		Tx Prio:	High 🗌			Normal	\boxtimes	Low			
	olling of the			_				<u> </u>				
	nall always b pported)	эе	Transm after P	ower-up: Store	d Valu	е 📙	Act Val	iue 🖂 De	efault Va	lue 🔲		
	perty-Serv	ice	Daniel and		Dood	1 ^ A / wit o		1				
	ividual acc		Read only		Reau	l/Write) <u> </u>]				
Exce	ption Hand	lling:						Save a	t Powerd	lown 🔲		
Spec	ial Feature	s:										
	Support of Geographical zones is optional Usually it does not make sense to communicate											
simul	simultaneously in Geographical and Unassigned Peripheral Zones. Therefore the parameter for the											
inacti	ve zone is s	set 'OutC)fService'					-				
*) CC	COV may be fixed or configurable via parameter StatusAnalogOutputCOV											

3.2.6.3 Parameter GeneralPeripheralZone

FB:	GPAO	Proper	ty Name (<u>Server</u>):	G	eneralPer	ipheralZ	'on					
										Op	tional 🗌	
Desc	ription:								-			
Numb	er of the ge	eneral pe	eripheral zone.									
DPT:	Name	DPT_U	countValue16_Z		DPT ID	203.012	2	Data	type format	U ₁₆ Z ₈		
Field			Description					Sup.	Range	Unit	Default	
Zone			Number of general peripheral tag					М	full		1	
STAT	US									Bitset		
- Out	OfService		zone active / inacti	ve				0	true/false	Bit 0	false	
- all o	ther bits		not supported, fixe	d t	o '0'			NA			false	
COM	MAND								enum		CS	
- Norr	malWrite							M	0			
- SetC	OSV & Res	etOSV	Set zone inactive / active					0	3/4			
- all o	ther comma	ands	not supported					NA				
Comi	nunication):	-				=			-		
DP	Address:		IO Type(ID):		1019 (GP	AO)	Р	roper	ty ID:	104		
(in t	he server)		Start-Index:		1		Ν	° of e	lements	1		
Pro	perty acce	ss:	Read only			Read/W	/rite	Э	\boxtimes			
Pro	tection		Read level		-		V	/rite le	evel	-		
Exce	otion Hand	lling:	Value after Power-	up	: Stored	Value 🛚	Α	ct Va	lue 🗌 Def	ault Value		
Spec	ial Feature	s:										
GPAC) is not LTE	commi	unicating if zone is 'C	Du ⁻	tOfService	'				 		

3.2.6.4 Parameter BuildingZone

FB:	GPAO	Proper	ty	Name (<u>Server</u>):	В	BuildingZo	ne			Mandatory Optional	y 🔲
Desci	ription:	l .								Optional	
	•	graphica	ΙZ	one parameter -> E	Зu	uildingEntity	/ (Floor,	Apartm	ent, Building	section et	c.)
DPT:	Name	DPT_Uc	co	untValue8_Z		DPT ID	202.002	Data	atype format	U ₈ Z ₈	
Field			D	escription				Sup.	Range	Unit	Default
Count	erValue		Ν	umber of the Build	in	igZone		M	1126		1
STAT	US									Bitset	
- OutOfService			z	one active / inactiv	е			0	true/false	Bit 0	true
- all other bits			n	ot supported, fixed	tc	o '0'		NA			false
COMMAND									enum		cs
- NormalWrite								M	0		
- SetOSV & ResetOSV				Set zone inactive / active					3/4		
- all of	ther comm	ands	n	ot supported				NA			
Comr	nunicatio	n:					_				
DP A	Address:			IO Type(ID):		1019 (GPA	(O)	Proper	rty ID:	101	
(in t	he server)		Start-Index:		1		N° of e	elements	1	
Pro	perty acce	ess:		Read only			Read/W	rite	\boxtimes		
Prot	ection			Read level		-		Write I	evel	-	
Exce	otion Han	dling:	٧	alue after Power-u	p:	: Stored V	∕alue ⊠	Act Va	alue 🗌 Def	ault Value	
Speci	al Feature	es:									
GPAC	is not LT	E commu	ıni	cating if zone is 'O	ut	tOfService'.	. If parar	neter B	uildingZone is	s 'OutOfSe	ervice'
also the corresponding Room and Subzone parameters are 'OutOfService' (common flag)											
Usual	ly it does r	not make	Se	ense to communica	ate	e simultane	ously in	Geogra	aphical and U	nassigned	
Periph	Isually it does not make sense to communicate simultaneously in Geographical and Unassigned Peripheral Zones. Therefore the parameter for the inactive zone is set 'OutOfService'										

3.2.6.5 Parameter Room

FB:	GPAO	Proper	ty Name (<u>Server</u>):	Room				Mandator	у 🔲	
								Optional	\boxtimes	
Desc	ription:									
Part o	of LTE Geo	graphica	IZone parameter -> F	Room within	Building	Zone				
DPT:	Name	DPT_Uc	countValue8_Z	DPT ID	202.002	2 Data	atype format	U_8Z_8		
Field			Description			Sup.	Range	Unit	Default	
Coun	terValue		Room number			М	163		1	
STAT	US							Bitset		
 OutOfService 			zone active / inactiv	e e		0	true/false	Bit 0	true	
- all o	ther bits		not supported, fixed	l to '0'		NA			false	
	MAND						enum		cs	
- Nori	malWrite					M	0			
- Set0	OSV & Res	etOSV	Set zone inactive / a	active		0	3/4			
- all o	ther comma	ands	not supported			NA	<u> </u>			
Com	munication	1:								
DP	Address:		IO Type(ID):	1019 (GP	AO)	Proper		102		
(in f	the server)		Start-Index:	1		N° of e	lements	1		
Pro	perty acce	ss:	Read only		Read/W	rite	\boxtimes		_	
Pro	tection		Read level	-		Write le	evel	-		
Exce	ption Hand	lling:	Value after Power-u	ip: Stored	Value 🛚	Act Va	lue Def	fault Value	; <u> </u>	
Spec	ial Feature	s:								
GPA(GPAO is not LTE communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService'									
also t	he correspo	onding R	oom and Subzone p	arameters a	re 'OutO	fService	' (common f	lag)		

3.2.6.6 Parameter Subzone

FB:	GPAO	Proper	ty Name (<u>Server</u>):	Subzone				Mandator	v \square	
		•	,					Optional		
Desc	ription:	<u>.</u>						- р		
Part o	of LTE Geo	graphica	IZone parameter ->	Subzone within E	Buildir	ngZone	.Room			
DPT:	Name	DPT_U	countValue8_Z	DPT ID 202	2.002	Data	atype format	U ₈ Z ₈		
Field			Description			Sup.	Range	Unit	Default	
CounterValue			Subzone number			M	115		1	
STATUS								Bitset		
- OutOfService			zone active / inactiv	re		0	true/false	Bit 0	true	
- all other bits			not supported, fixed	l to '0'		NA			false	
COMMAND							enum		CS	
- NormalWrite						M	0			
- Set0	OSV & Res	etOSV	Set zone inactive / a	active		0	3 / 4			
- all o	ther comm	ands	not supported			NA				
Com	munication	า:	-		_			-		
DP	Address:		IO Type(ID):	1019 (GPAO)		Proper	ty ID:	103		
(in t	the server)		Start-Index:	1		N° of e	lements	1		
Pro	perty acce	ess:	Read only	Rea	ad/Wr	ite				
Pro	tection		Read level	-		Write le	evel	-		
Exce	ption Hand	dling:	Value after Power-u	ıp: Stored Valu	e 🛛	Act Va	lue 🗌 Def	ault Value	: 🗌	
Spec	Special Features:									
GPA(GPAO is not LTE communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService'									
also t	lso the corresponding Room and Subzone parameters are 'OutOfService' (common flag)									

${\bf 3.2.6.7} \quad {\bf Parameter\ Status Analog Output COV}$

FB:	GPAO	Property	Name (<u>Server</u>):	S	tatusAna	logOutp	ut	COV		Mandatory Optional	
Desc	ription:			-						optional .	
			lefines the COV co	ndi	tion (char	nge of va	lue	e in %) f	or the outpu	ut feedbac	k signal
	sAnalogO				T	1		1_		T	
DPT:	Name	DPT_S	caling		DPT ID	5.001		Datatyp	oe format	U ₈	
Field			Description				S	Sup.	Range	Unit	Default
									cs	%	CS
Com	municatio	n:								- -	
DP	Address:		IO Type(ID):	10	019 (GPA	9 (GPAO)		Property ID:		110	
(in t	he serve	r)	Start-Index:	1 N° of elem				ements	1		
Pro	perty acc	ess:	Read only			Read/\	۷ri	ite	\boxtimes		
Pro	tection		Read level	-			•	Write lev	vel	-	
Exce	ption Har	dling:	Value after Power-	up	: Stored	Value ∑	1	Act Valu	ie 🗌 De	fault Value	
Spec	Special Features:										