



## **Application Descriptions**

7

## **Common Functional Blocks**

1

## **Technical Alarm**

4

### **Summary**

This document specifies the Functional Blocks ‘Alarm Source’ and ‘Alarm Sink’ that can be used to transmit fault information on the network.

This document describes a “light” Technical Alarm function for devices used in residential and small commercial buildings. The proposed solution for a simple alarm handling is derived from the complex alarm handling in large building automation systems.

These Functional Blocks are common for different application domains.

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## Document updates

| Version       | Date       | Modifications   |
|---------------|------------|---|
|               |            | U <sub>8</sub>  |
| 1.1 Editorial | 2002.08.26 | - editorial, resolution of comments form Final Voting   |
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| 1.4           | 2006.02.14 | - Removed former clause 5.1 "AL-Service A_ServiceInformation_Indication_Write". This refers to the service that has been abandoned through Application Note 67.<br>- Publication of the Approved Standard   |
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## References

- [01] Chapter 3/2/2 "Communication Medium TP1"
- [02] Chapter 3/3/2 "Data Link Layer General"
- [03] Chapter 3/3/7 "Application Layer"
- [04] Chapter 3/7/1 "Interworking Model"
- [05] Chapter 3/7/2 "Datapoint Types"
- [06] Volume 6 "Profiles"

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# 1 Introduction

## 1.1 Scope

This document is part of the KNX Application Interworking Standards.

It contains the specifications of the Functional Blocks used for the ‘Technical Alarm’ function.

**‘Technical Alarm’ is intended for visualization of exceptional states and events in a plant or in devices of a plant. It is not intended for security alarms or security functions, e.g. security functions of actuators.**

*Example with “wind alarm”: visualization of the wind alarm on an ‘alarm user interface’ is in the scope of this specification, but the behavior/reactions of a shutter actuator is/are not in the scope.*

The Technical Alarm function is a ‘simple’ alarming function on Device Level. More complex alarming functions could be defined, but these are not in the scope of this document.

## 1.2 Objectives

Alarm handling is a basic and important system function (e.g. in HVAC applications/plants): fault information from devices must be displayed and recorded on a Building Management Station (BMS) or other (complex) bus devices, e.g. devices with a “comfortable” UI. The purpose of the alarm function is to draw attention to disturbances in the building's technical plant or in a control and management system. The actual measures taken to eliminate the disturbance and its consequences (e.g. changing a V-belt or removing a locking mechanism set up after interference has caused a disconnection) are not part of the alarm function.

An important functionality within the ‘Technical Alarm’ is acknowledgment of the alarms (from an ‘Alarm Client’ to the Alarm Source): The device, where an alarm was generated, must know when an alarm on e.g. the BMS was recognized by an user (a person).

## 1.3 Abbreviations

### Functional Blocks:

| Abbreviation | Description  |
|--------------|--------------|
| ALSrc        | Alarm Source |
| ALSnk        | Alarm Sink   |

### General

| Abbreviation | Description                 |
|--------------|-----------------------------|
| BMS          | Building Management Station |
| UI           | User Interface              |
| cs           | Company Specific            |

## 2 Functional overview

### 2.1 Alarm mechanism

#### 2.1.1 Alarm generation

- An Alarm indicates to the operator that a serious fault condition occurred or still occurs in the system:  
E.g. - transient error event (e.g. software runtime-error, reset)  
- persistent error state (e.g. sensor fault, low battery)
- Alarm messages are provided for the system only on device-level (not on functional or Datapoint level)  
All alarm conditions reported by all the Functional Blocks within the device are collected and evaluated in the device.  
Only the alarm condition with highest priority (i.e. the worst problem) is provided by the device for the system by broadcast. Therefore multiple alarm conditions occurring in the device in parallel can not be reported completely to the system.
- Alarm messages contain information about:
  - application area where the alarm was produced (allows application dependent filtering)
  - error class: standardised error code to specify roughly the source of the alarm
  - alarm priority
  - additional manufacturer specific alarm information
- Alarms can be acknowledged by an operator. Alarms have therefore a corresponding 2 bit state machine (Alarm unacknowledged / In Alarm):

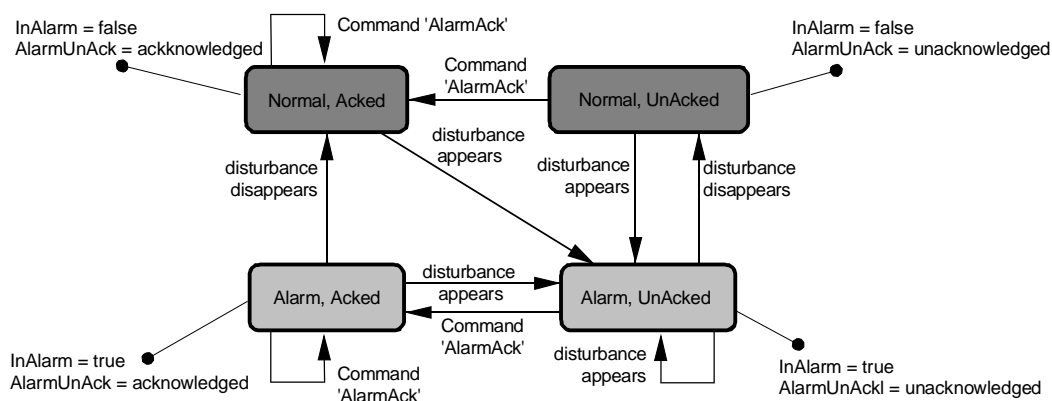


Figure 1 - Alarm State Machine

#### 2.1.2 Alarm distribution

The distribution of Alarm messages is event-driven and is also based on the producer/consumer principle (broadcast or multicast addressing).

A specific alarm Datapoint 'EnableAlarm' allows to suppress alarm messages from a device if not needed (e.g. during installation).

If alarms are enabled, alarm-messages are created on event:

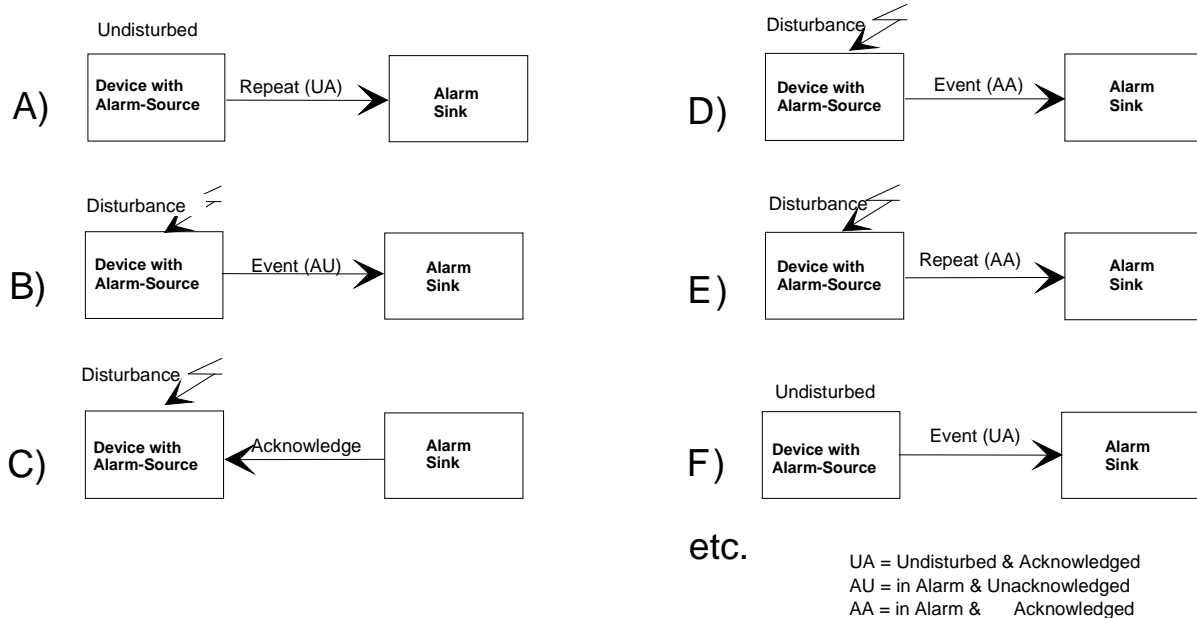
- change of Alarm Status
- change of Error class (if priority of new event is higher than priority of old event)

In order to improve reliability of alarm distribution, the Alarm message is repeated periodically (e.g. heartbeat every 30 minutes).

### 2.1.3 Alarm acknowledgement

Alarm acknowledgement can be done by an automated application process or by an operator by writing the corresponding Alarm Status Property. The alarm message contains the source Individual Address of the sender. Therefore the Alarm sink knows to which device the acknowledgement shall be sent.

This acknowledgement causes a change of the Alarm Status and a new Alarm message is created (see above).



**Figure 2 - Changes of alarm status & alarm messages**

## 2.2 Simple error vs. Alarm

There is a difference between a simple error and an alarm.

- A simple error is a data object that shows an actual error state (e.g. on a display). If the error disappears also the error message will disappear. Simple errors can not be acknowledged and have no internal state machine.
- Alarms are caused by a fatal error event. If the error disappears the alarm is kept until acknowledgement by a user.

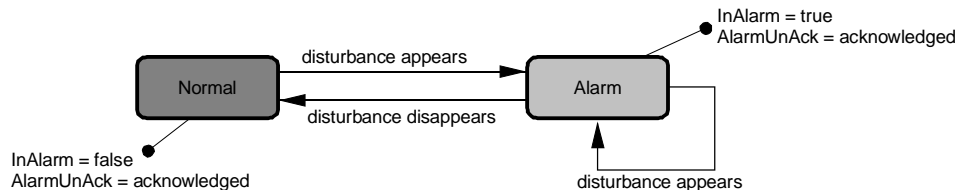


Figure 3 - State Machine 'Simple Error'

Although there's a difference between a simple error and an alarm, the same message format and data (point) type is used for transmission.

## 2.3 'Extended Alarms' / Alarms causing an application stop

In some cases, especially in HVAC applications, disappearing of a disturbance (transition from 'Alarm' to 'Normal') must be acknowledged. This acknowledge is called 'Alarm Reset'.

Therefore the alarm state machine in the Functional Block 'alarm source' supports the attribute *Locked/Unlocked*. *Locked* designates states where the control algorithms/application can be influenced by an alarm.

Example: a "fire-alarm" on a digital input is diagnosed, in this case ventilation must be stopped (not the entire application/user program, but the control algorithms are stopped!).

The application can be *Unlocked* with a "Trigger" command, the 'AlarmReset' (only from state *Normal/Acked*!). In the example, the application is restarted with 'AlarmReset' command (restarting is possible only after the 'fire alarm' disappeared on the digital input and was acknowledged!).

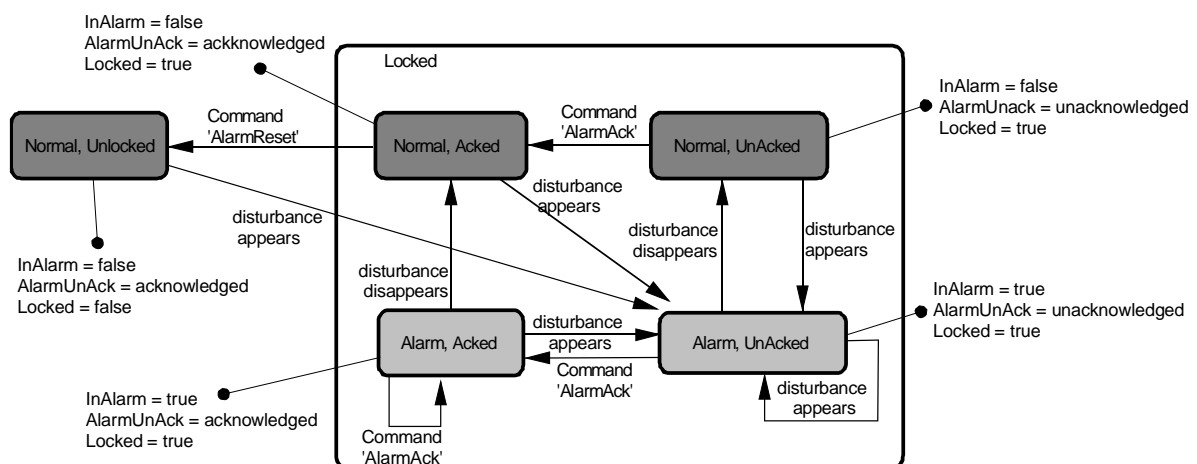


Figure 4 - State Machine 'Extended Alarms'

### 3 Functional Block ‘Alarm Source’ (ALSrc)

#### 3.1 Aims and objectives

The alarm information is generated and distributed by the Functional Block “Alarm Source” (ALSrc)

Consumers are devices containing the Functional Block “Alarm Sink” (ALSnk).

The basic alarm information is distributed in group communication mode with a reserved Group Address.

#### 3.2 Functional specification

##### 3.2.1 Outputs

###### *AlarmInfo*

This Datapoint contains the ‘basic alarm information’. It is a mandatory Datapoint and is sent with a Standard Mode Group Object with a reserved Group Address.

The Property *AlarmInfo* contains fields for:

- log number
- Alarm Priority
- Application Area (HVAC, Lighting, Blinds Control, ...)
- Error Class (code, specified within application area)
- Attributes (giving indications about information available in additional properties)
- Alarm Status attributes (alarm state machine)

The Datapoint *AlarmInfo* contains a field “log number”. This number is a local number in the originating device (Alarm Source).

Manufacturers may support additional (optional) ‘Alarm Datapoints’ with further alarm information belonging to the alarm events, e.g. timestamp, an alarm text etc. Such further alarm information are intended to be available as additional properties, readable with Property read/response services in client/server mode with Individual Addressing. The log number received with *AlarmInfo* then is used as array index within The Property to assign the additional information to the basic information it belongs to.

The used range of log numbers is manufacturer specific due to storage capacity of the ALSrc. It can be (e.g.) a 1-byte “free running counter”, which is incremented by each new alarm event

The log number must not be changed, if an alarm is sent only by heartbeat condition (repeated alarm).

###### *AlarmText*

This Datapoint is optional. It is intended for “clear text alarm information” in very simple alarming applications. It is available only as Group Object and uses the 14 byte data type for strings. Therefore it is also applicable in devices based on BCU1/2.

###### *InAlarm*

This Datapoint is onlyl available in Standard Mode.

It shall give a 1 bit information that may be a logical combination of the alarm state machine’s current values of the alarm attributes A-bit (*Normal/InAlarm* information), U-bit (Alarm Unacknowledged information) and L-bit (Alarm Locked information). The logical combination itself may be application dependent.

The *InAlarm* information (result of above mentioned logical combination) is intended to be linked to a binary output on the bus, e.g. to a lamp connected to a binary output actuator.

The output may be further dependent on parameter setting, e.g. to use only the A-bit or the above mentioned logical combination.



*InAlarm* does not use a predefined Group Address. Therefore, links must be engineered with the ETS Tool. *InAlarm* is sent cyclically with same heartbeat as *AlarmInfo*.

### 3.2.2 Inputs

#### ***EnableAlarmInfo***

Spontaneous sending of alarm messages of a device can be enabled or disabled. Default value of this input is company specific.

*Remark: Even if disabled, local alarm handling in devices with local alarm UI (display of alarms, local acknowledgment) can be running!*

*EnableAlarmInfo* as a process input allows to send only one telegram to start ‘send alarm’ in all devices. In LTE mode, this command is received with broadcast address. Standard Mode uses a Group Object with engineered Group Address.

If realised as a Property of an Interface Object, enabling also can be done for each device separately by writing to this Property in client/server (point to point) communication mode.

#### ***EnableAlarmText***

Spontaneous sending of *AlarmText* must be enabled or disabled with this parameter. The default value of this input is company specific. *EnableAlarmText* as a process input allows to send only one telegram to start ‘send alarm texts’ in all devices. In LTE mode, this command is received with broadcast address. Standard Mode uses a Group Object with engineered Group Address.

#### ***AlarmAck***

The alarm acknowledge message is generated by an (one) Alarm Sink (= device where the “acknowledge” is generated as a result of an user action) and transmitted ‘point to point’ to the alarm source either by a Group Address or by a Property. In LTE mode, the acknowledge is transmitted in client/server mode (with Individual Addressing). In Standard Mode, the acknowledge uses a Group Object with an engineered Group Address.

Alarm acknowledgement can also be done locally on the alarm source device.

#### ***AlarmReset***

Unlocking an application is a “trigger” command. Only one value (“1”) is allowed to be transmitted.

*Remark: AlarmReset* restarts the (parts of the) application program, which was/were stopped by alarms.

Example: in HVAC devices, VAC control algorithms can be stopped by alarms, but the local clock, alarm detection etc. are running during an ‘application stop’ caused by an alarm. *AlarmReset* restarts only the stopped VAC control algorithms.

An ‘Alarm Reset’ must be communicated point to point from the alarm sink device, where the reset action is done, to the alarm source device.

### 3.2.3 Parameters & diagnostic values

#### ***EnableAlarmAck***

Receiving alarm acknowledgements from the bus can be enabled or disabled.

If disabled, local acknowledgment on the device although can be enabled as well as sending the alarm messages to alarm displaying devices via the network.

#### ***EnableAlarmReset***

To allow unlocking (and restarting) of the device from the bus.

This parameter is necessary because there are legal restrictions about remote acknowledgment of alarms in HVAC systems in some (nordic) countries.

***TimeStamp***

A timestamp is additional information assigned to an alarm event. Timestamps are available as diagnostic values. The log number received with the basic alarm info is used as array index within The Property to assign a timestamp to the alarm event it belongs to. An attribute bit in the basic alarm info is used to indicate, if there's a timestamp available to a certain alarm event.

Time stamp uses the standard KNX date & time format (DPT\_DateTime). If a time stamp is no more available in the Functional Block 'Alarm Source' (e.g. because of limited storage), all fields of date & time are marked 'not valid' by the corresponding attribute bits (for further information about date & time: see KNX specification of DPT\_DateTime).

***AlarmText\_Log***

As additional information, a text can be assigned to a certain alarm event. It gives "clear text" information to the user, e.g. about the error cause of an alarm on a configurable digital alarm input.

Such Texts are available as diagnostic values in the Datapoint *AlarmText\_Log*. The log number received with the basic alarm info is used as array index within The Property to assign a text to the alarm event it belongs to. An attribute bit in the basic alarm info is used to indicate, if there's a text available to a certain alarm event.

The Property *AlarmText\_Log* supports a variable length string, string is 0-terminated. The String of a 'Logged Alarm Text' is 0-terminated, therefore the value field of the Datapoint type contains a variable number of characters, and the last character always is '00 h'.

When a text is not available in the alarm source, the answer to a read request is filled with one '00h' in the answers data field.

***ErrorCode***

Company specific error codes can be made available as diagnostic values with this Property. The log number received with the basic alarm info is used as array index within The Property to assign a specific text to the alarm event it belongs to.

A company specific error code in this Property is a 16 bit value. Interpretation of the values is company specific.

**3.3 Constraints**

- Alarm message distribution may not be reliable (no guaranteed delivery and reaction time). Therefore no safety-functions must be used depending on this alarm concept.
- Transmission of text in KNX Systems should generally be handled carefully because of limited bus load. Therefore 'Alarm Text' and 'AlarmText\_Log' should be used very carefully.

### 3.4 Functional Block diagram

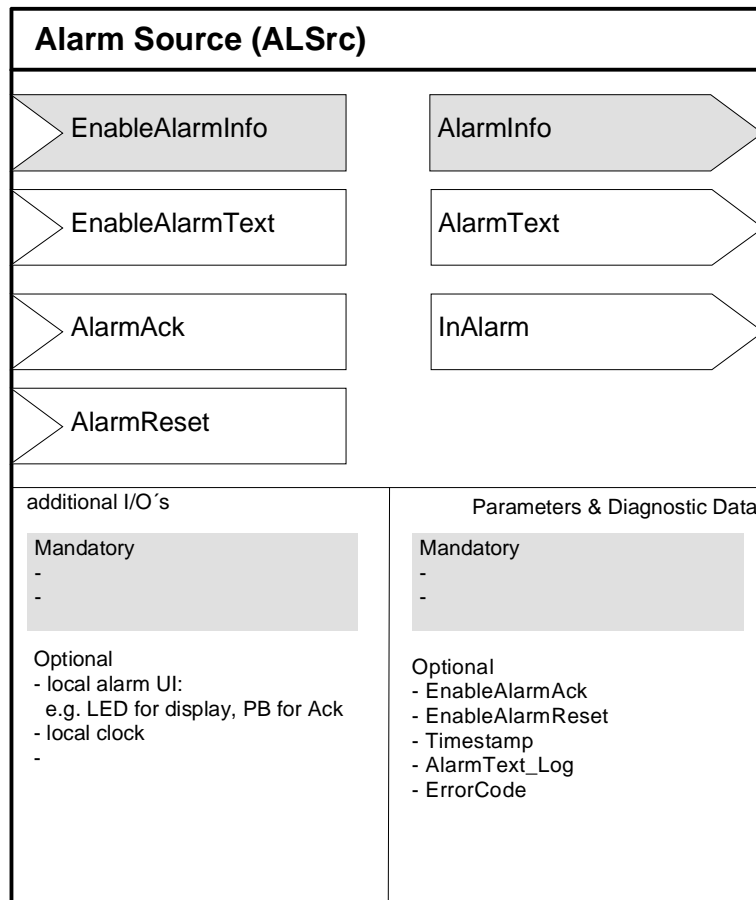


Figure 5 - Functional Block diagram 'Alarm Source' (ALSrc)

### 3.5 Datapoints

| Datapoint              | Description   | Data Point Type      | DPT Code |
|------------------------|---|----------------------|----------|
| <b>Outputs</b>         |   |                      |          |
| AlarmInfo              | Basic Alarm Information: log number, alarm priority, application area, error class  | DPT_AlarmInfo        | 219.001  |
| AlarmText              | Text; available only as Group Object!   | DPT_String_8859_1    | 16.001   |
| InAlarm                | Binary Information: Normal/InAlarm  | DPT_Alarm            | 1.005    |
| <b>Inputs</b>          |   |                      |          |
| EnableAlarmInfo        | enable/disable spontaneous sending of AlarmInfo output  | DPT_Enable           | 1.003    |
| EnableAlarmText        | enable/disable spontaneous sending of AlarmText output  | DPT_Enable           | 1.003    |
| AlarmAck               | “Trigger” input Alarm Acknowledge;<br>Standard Mode: Group Object<br>LTE Mode: as Property of an IO, written with A_PropertyValue_Write service   | DPT_AlarmAck         | 1.016    |
| AlarmReset             | “Trigger” input for unlocking an application;<br>Standard Mode: Group Object<br>LTE Mode: as Property of an IO, written with A_PropertyValue_Write service  | DPT_Reset            | 1.015    |
| <b>Parameters</b>      |   |                      |          |
| EnableAlarmAck         | Enable/disable reception of the acknowledges from the bus.<br>If enabled, <i>AlarmAck</i> command from the bus is accepted.   | DPT_Enable           | 1.003    |
| EnableAlarmReset       | Unlocking the device via the bus is enabled.<br>If enabled, <i>AlarmReset</i> command from the bus is accepted.<br>In some (nordic) countries, devices must not be Reset (AlarmReset) via the network due to legal restrictions | DPT_Enable           | 1.003    |
| <b>Diagnostic Data</b> |   |                      |          |
| TimeStamp              | Time Stamp, as additional alarm information   | DPT_DateTime         | 19.001   |
| AlarmText_Log          | Text, as additional alarm information   | DPT_VarString_8859_1 | 24.001   |
| ErrorCode              | Company specific Error Information  | DPT_Value_2_Ucount   | 7.001    |

**Table 1 - Runtime Interworking - Dependence on Configuration Modes**

|                |                          |                               | STANDARD<br>MODE | EXTENDED<br>MODE           |                  |
|----------------|--------------------------|-------------------------------|------------------|----------------------------|------------------|
|                |                          | Basic FB                      | S-Mode           | Standard Mode<br>Interface | HEE              |
| <b>Inputs</b>  | EnableAlarmInfo          | GO <sub>b</sub>               | GO               | GO                         | M                |
|                | EnableAlarmText          | GO <sub>b</sub> <sup>6)</sup> | GO <sup>6)</sup> | GO <sup>6)</sup>           | M <sup>6)</sup>  |
|                | AlarmAck <sup>1)</sup>   | (GO <sub>b</sub> )            | (GO)             | (GO)                       | NA <sup>1)</sup> |
|                | AlarmReset <sup>2)</sup> | (GO <sub>b</sub> )            | (GO)             | (GO)                       | NA <sup>2)</sup> |
| <b>Outputs</b> | AlarmInfo                | GO <sub>b</sub>               | GO               | GO                         | NA               |
|                | AlarmText                | (GO <sub>b</sub> )            | (GO)             | (GO)                       | NA               |
|                | InAlarm                  | GO <sub>b</sub>               | GO               | GO                         | NA               |

**Table 2 - Standard Properties of Interface Objects (or memory mapped DP)**

|                        |                                | Support         |
|------------------------|--------------------------------|-----------------|
| <b>Parameter</b>       | EnableAlarmAck <sup>3)</sup>   | O               |
|                        | EnableAlarmReset <sup>3)</sup> | O <sup>5)</sup> |
| <b>Diagnostic Data</b> | TimeStamp <sup>4)</sup>        | (IO)            |
|                        | AlarmText_Log <sup>4)</sup>    | (IO)            |
|                        | ErrorCode                      | (IO)            |

<sup>1)</sup> *AlarmAck*: in Standard Mode with Group Object, in LTE-Mode with A\_PropertyValue\_Write on IO-Property

<sup>2)</sup> *AlarmReset*: in Standard Mode with Group Object, in LTE-Mode with A\_PropertyValue\_Write on IO-Property

<sup>3)</sup> Property of an Interface Object or memory mapped value

<sup>4)</sup> if implemented, only as a Property of an Interface Object

<sup>5)</sup> mandatory if 'AlarmReset' is implemented, otherwise not applicable

<sup>6)</sup> mandatory if 'AlarmText' is implemented, otherwise not applicable

### 3.5.1 Detailed Specification of Data Points

#### 3.5.1.1 Output: AlarmInfo

##### Standard Mode

|  |   |                          |                                     |  |                                     |
|--|---|--------------------------|-------------------------------------|--|-------------------------------------|
| DP Name:   | AlarmInfo   | Abbr.:                   |                                     | Mandatory  | <input checked="" type="checkbox"/> |
| FB Name:   | Alarm Source (ALSrc)  |                          |                                     | Can be internal                                    | <input type="checkbox"/>            |
| <b>Description</b>   |   |                          |                                     |  |                                     |
| This Datapoint is used to transmit the 'basic alarm information' from an alarm source to one or several alarm sinks. |   |                          |                                     |  |                                     |
| <b>Datapoint Type</b>  |   |                          |                                     |  |                                     |
| DPT_Name:  | DPT_AlarmInfo   |                          |                                     |  |                                     |
| DPT Format:  | U <sub>8</sub> U <sub>8</sub> N <sub>8</sub> N <sub>8</sub> B <sub>8</sub> B <sub>8</sub> |                          | DPT_ID:                             | 219.001  |                                     |
| Field  | Description   | Supp.                    | Range                               | Unit   | Def. <sup>4)</sup>                  |
| Log number   | Log number  | O <sup>5)</sup>          | 0 to 255                            | U <sub>8</sub>                                     | 00h                                 |
| Alarm Priority   | see DPT_AlarmInfo   | O <sup>6)</sup>          | 0 to 3                              | enum.  | 03h <sup>6)</sup>                   |
| Application Area   | see DPT_AlarmInfo   | M                        | 0 to 255 <sup>7)</sup>              | enum.  | 00h                                 |
| Error Class  | see DPT_AlarmInfo   | M                        | depends on appl. area               | enum.  | 00h                                 |
| Attributes   | see DPT_AlarmInfo   | M                        |                                     |  |                                     |
| - Ack_Sup  |   | M                        | {0,1}                               | Boolean  | cs                                  |
| - TimeStamp_Sup  |   | M                        | {0,1}                               | Boolean  | cs                                  |
| - AlarmText_Sup  |   | M                        | {0,1}                               | Boolean  | cs                                  |
| - ErrorCode_Sup  |   | M                        | {0,1}                               | Boolean  | cs                                  |
| Alarm Status attributes  |   | M                        |                                     |  |                                     |
| - InAlarm  | Normal / InAlarm  | M                        | {0,1}                               | Boolean  | false                               |
| - AlarmUnAck   | acknowledged / unacknow.  | O                        | {0,1}                               | Boolean  | false                               |
| - Locked   | locked / unlocked   | O                        | {0,1}                               | Boolean  | false                               |
| <b>Access Type</b>   |   |                          |                                     |  |                                     |
| ◆ Output   |   |                          |                                     |  |                                     |
| this → M   | <input checked="" type="checkbox"/>   | this → 1                 | <input type="checkbox"/>            |  |                                     |
| Spontaneous  | <input checked="" type="checkbox"/>   | COV:                     | <input checked="" type="checkbox"/> | Δ-Value: <sup>1)</sup> <sup>2)</sup> <sup>3)</sup> | MinRepTime: 3 s                     |
|  |   | Cyclic                   | <input checked="" type="checkbox"/> | Period: 30 min                                     |                                     |
| Request  | <input type="checkbox"/>  |                          |                                     |  |                                     |
| <b>Communication Type</b>  |   |                          |                                     |  |                                     |
| ◆ Group Object Datapoint   |   |                          |                                     | Mandatory:   | <input checked="" type="checkbox"/> |
| Default Group Address:   |   | F3FAh                    |                                     |  |                                     |
| ◆ Interface Object Property Datapoint  |   |                          |                                     | Mandatory:   | <input type="checkbox"/>            |
| • Server   | Object_type:  | 1002 (ALSrc)             | PID:                                | 51   |                                     |
|  | Start_index:  | 1                        | Nr_of_elements:                     | 1  |                                     |
| <b>Dynamics</b>  |   |                          |                                     |  |                                     |
| Power down:  | Save:   | <input type="checkbox"/> |                                     |  |                                     |
| Power up:  | Value:  | No initialisation:       | <input type="checkbox"/>            | Default value:                                     | <input type="checkbox"/>            |
|  |   | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):                      | <input checked="" type="checkbox"/> |
|  | Transmit on bus (only for output):  |                          | <input checked="" type="checkbox"/> | Read from bus (only for input):                    | <input type="checkbox"/>            |

|  |           |        |  |           |  |
|--|-----------|--------|--|-----------|--|
| DP Name:   | AlarmInfo | Abbr.: |  | Continued |  |
| <b>Exception Handling</b>  |           |        |  |           |  |
| After power up, the device will go through its diagnosis routines and recognize errors if there are (still) any. Therefore it's not necessary to save the alarm information during power down.   |           |        |  |           |  |
| <b>Special Features</b>  |           |        |  |           |  |
| <sup>1)</sup> AlarmInfo is sent if alarm priority of new event is higher than the priority of the old alarm.<br><sup>2)</sup> AlarmInfo is sent if 'error code' code (application area and/or error class) changes, but only if new event has higher priority than old one.<br><sup>3)</sup> If one (or more) of the attribute bits of the alarm state machine (InAlarm, AlarmUnAck, Locked) change state<br><sup>4)</sup> Default value is "no error"<br><sup>5)</sup> if not supported, always send '00h'<br><sup>6)</sup> if not supported, always send '03h'; (0 = highest priority, 03h = 'void' priority)<br><sup>7)</sup> typically, a device can send only "a few" values, depending on the application area(s) the device belongs to. |           |        |  |           |  |

**LTE-HEE-Mode**

Not available as LTE-HEE process Datapoint.

### 3.5.1.2 Output: AlarmText

#### Standard Mode

|   |                                     |                          |                                     |                                 |                                     |
|---|-------------------------------------|--------------------------|-------------------------------------|---------------------------------|-------------------------------------|
| DP Name:  | AlarmText                           | Abbr.:                   |                                     | Mandatory                       | <input type="checkbox"/>            |
| FB Name:  | Alarm Source (ALSrc)                |                          |                                     | Can be internal                 | <input type="checkbox"/>            |
| <b>Description</b>  |                                     |                          |                                     |                                 |                                     |
| intended for "clear text alarm information" in very simple alarming applications. String with 14 characters, unused characters filled with '00h'.   |                                     |                          |                                     |                                 |                                     |
| <b>Datapoint Type</b>   |                                     |                          |                                     |                                 |                                     |
| DPT_Name:   | DPT_String_ASCII                    |                          |                                     |                                 |                                     |
| DPT Format:   | A[14]                               | DPT_ID:                  | 16.000                              |                                 |                                     |
| Field   | Description                         | Supp.                    | Range                               | Unit                            | Default                             |
|   |                                     |                          | see data type 4 "character set"     | ---                             | cs                                  |
| <b>Access Type</b>  |                                     |                          |                                     |                                 |                                     |
| ◆ Output  |                                     |                          |                                     |                                 |                                     |
| this → M  | <input checked="" type="checkbox"/> | this → 1                 | <input type="checkbox"/>            |                                 |                                     |
| Spontaneous   | <input checked="" type="checkbox"/> | COV:                     | <input checked="" type="checkbox"/> | Δ-Value:                        | <sup>1)</sup>                       |
|   |                                     | Cyclic                   | <input type="checkbox"/>            | Period:                         | <sup>3)</sup>                       |
| Request   | <input type="checkbox"/>            |                          |                                     |                                 |                                     |
| <b>Communication Type</b>   |                                     |                          |                                     |                                 |                                     |
| ◆ Group Object Datapoint  |                                     |                          |                                     | Mandatory:                      | <input checked="" type="checkbox"/> |
| Default Group Address:  |                                     | F3FBh                    |                                     |                                 |                                     |
| ◆ Interface Object Property Datapoint   |                                     |                          |                                     | Mandatory:                      | <input type="checkbox"/>            |
| • Server  | Object_type:                        | 1002 (ALSrc)             | PID:                                | 52 <sup>2)</sup>                |                                     |
|   | Start_index:                        | 1                        | Nr_of_elements:                     | 1                               |                                     |
| <b>Dynamics</b>   |                                     |                          |                                     |                                 |                                     |
| Power down:   | Save:                               | <input type="checkbox"/> |                                     |                                 |                                     |
| Power up:   | Value:                              | No initialisation:       | <input type="checkbox"/>            | Default value:                  | <input type="checkbox"/>            |
|   |                                     | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):   | <input checked="" type="checkbox"/> |
|   | Transmit on bus (only for output):  |                          | <input checked="" type="checkbox"/> | Read from bus (only for input): |                                     |
|   |                                     |                          |                                     | <input type="checkbox"/>        |                                     |
| <b>Exception Handling</b>   |                                     |                          |                                     |                                 |                                     |
| <b>Special Features</b>   |                                     |                          |                                     |                                 |                                     |
| <sup>1)</sup> 'Δ-Value' = alarm event<br><sup>2)</sup> reserved PID; The Property is intended to be available only as Group Object; but the PID is reserved for future use in an Interface Object<br><sup>3)</sup> The Datapoint <i>AlarmText</i> is transmitted only once per event, it's not repeated with heartbeat ( <i>AlarmInfo</i> has a heartbeat!). The optional Datapoint <i>AlarmText</i> is sent after the mandatory Datapoint <i>AlarmInfo</i> . |                                     |                          |                                     |                                 |                                     |

#### LTE-HEE-Mode

Not available as LTE-HEE process Datapoint.



**3.5.1.3 Output: InAlarm****Standard Mode**

|   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|------|-------------------------------------|--|--|----------|---------------|--|--|---------|--------|---------|--------------------------|--|--|--|--|--|--|--|-------------|-----|
| DP Name:  | InAlarm                             | Abbr.:                              |                                     | Mandatory                       | <input checked="" type="checkbox"/> |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| FB Name:  | Alarm Source (ALSrc)                |                                     |                                     | Can be internal                 | <input type="checkbox"/>            |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Description</b>  |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Simple 1-bit alarm information. Normal/InAlarm, available only as S-Mode Group Object (Output).   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Datapoint Type</b>   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| DPT_Name:   | DPT_Alarm                           |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| DPT Format:   | B <sub>1</sub>                      | DPT_ID:                             | 1.005                               |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Field   | Description                         | Supp.                               | Range                               | Unit                            | Default                             |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   |                                     |                                     | {true, false}                       | Boolean                         | No alarm                            |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Access Type</b>  |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| ◆ Output  |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <table border="1"> <tr> <td>this → M</td> <td><input checked="" type="checkbox"/></td> <td>this → 1</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Spontaneous</td> <td><input checked="" type="checkbox"/></td> <td>COV:</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td></td> <td></td> <td>Δ-Value:</td> <td><sup>1)</sup></td> </tr> <tr> <td></td> <td></td> <td>Period:</td> <td>30 min</td> </tr> <tr> <td>Request</td> <td><input type="checkbox"/></td> <td></td> <td></td> </tr> </table> | this → M                            | <input checked="" type="checkbox"/> | this → 1                            | <input type="checkbox"/>        | Spontaneous                         | <input checked="" type="checkbox"/> | COV: | <input checked="" type="checkbox"/> |  |  | Δ-Value: | <sup>1)</sup> |  |  | Period: | 30 min | Request | <input type="checkbox"/> |  |  | <table border="1"> <tr> <td>MinRepTime:</td> <td>3 s</td> </tr> </table> |  |  |  |  | MinRepTime: | 3 s |
| this → M  | <input checked="" type="checkbox"/> | this → 1                            | <input type="checkbox"/>            |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Spontaneous   | <input checked="" type="checkbox"/> | COV:                                | <input checked="" type="checkbox"/> |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   |                                     | Δ-Value:                            | <sup>1)</sup>                       |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   |                                     | Period:                             | 30 min                              |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Request   | <input type="checkbox"/>            |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| MinRepTime:   | 3 s                                 |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Communication Type</b>   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| ◆ Group Object Datapoint  |                                     |                                     |                                     |                                 | Mandatory:                          | <input checked="" type="checkbox"/> |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Default Group Address:  |                                     | ---                                 |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| ◆ Interface Object Property Datapoint   |                                     |                                     |                                     |                                 | Mandatory:                          | <input type="checkbox"/>            |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| • Server  | Object_type:                        | 1002 (ALSrc)                        | PID:                                | 57 <sup>2)</sup>                |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   | Start_index:                        | 1                                   | Nr_of_elements:                     | 1                               |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Dynamics</b>   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Power down:   | Save:                               | <input type="checkbox"/>            |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| Power up:   | Value:                              | No initialisation:                  | <input type="checkbox"/>            | Default value:                  | <input type="checkbox"/>            |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   |                                     | Saved value:                        | <input type="checkbox"/>            | Actual value (not for input):   | <input checked="" type="checkbox"/> |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
|   | Transmit on bus (only for output):  |                                     | <input checked="" type="checkbox"/> | Read from bus (only for input): | <input type="checkbox"/>            |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Exception Handling</b>   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <b>Special Features</b>   |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <sup>1)</sup> 'Δ-Value' = change of alarm state attribute <i>InAlarm</i>  |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |
| <sup>2)</sup> reserved PID; The Property is intended to be available only as Group Object; but the PID is reserved for future use in an Interface Object  |                                     |                                     |                                     |                                 |                                     |                                     |      |                                     |  |  |          |               |  |  |         |        |         |                          |  |  |  |  |  |  |  |             |     |

**LTE-HEE-Mode**

Not available as LTE-HEE process Datapoint.

**3.5.1.4 Input: EnableAlarmInfo****Standard Mode**

|   |                                     |   |   |                                 |                                     |
|---|-------------------------------------|---|---|---------------------------------|-------------------------------------|
| DP Name:  | EnableAlarmInfo                     | Abbr.:  |   | Mandatory                       | <input checked="" type="checkbox"/> |
| FB Name:  | Alarm Source (ALSrc)                |   |   | Can be internal                 | <input type="checkbox"/>            |
| <b>Description</b>  |                                     |   |   |                                 |                                     |
| Enables sending of alarm messages.  |                                     |   |   |                                 |                                     |
| <b>Datapoint Type</b>   |                                     |   |   |                                 |                                     |
| DPT_Name:   | DPT_Enable                          |   |   |                                 |                                     |
| DPT Format:   | B <sub>1</sub>                      | DPT_ID:   | 1.003   |                                 |                                     |
| Field   | Description                         | Supp.   | Range   | Unit                            | Default                             |
|   |                                     |   | {0,1}   | Boolean                         | cs                                  |
| <b>Access Type</b>  |                                     |   |   |                                 |                                     |
| ◆ Input   |                                     |   |   |                                 |                                     |
| N → this  | <input checked="" type="checkbox"/> | 1 → this  | <input type="checkbox"/>                          |                                 |                                     |
| Spontaneous   | <input checked="" type="checkbox"/> | Cyclically:                                       | <input checked="" type="checkbox"/> <sup>2)</sup> | Time-out:                       | --- <sup>2)</sup>                   |
| Request   | <input type="checkbox"/>            | Polling:  | <input type="checkbox"/>                          | Period:                         |                                     |
| <b>Communication Type</b>   |                                     |   |   |                                 |                                     |
| ◆ Group Object Datapoint  |                                     |   |   | Mandatory:                      | <input checked="" type="checkbox"/> |
| Default Group Address:  |                                     | ---   |   |                                 |                                     |
| ◆ Interface Object Property Datapoint   |                                     |   |   | Mandatory:                      | <input type="checkbox"/>            |
| • Server  | Object_type:                        | 1002 (ALSrc)                                      | PID:  | 53                              |                                     |
|   | Start_index:                        | 1   | Nr_of_elements:                                   | 1                               |                                     |
| <b>Dynamics</b>   |                                     |   |   |                                 |                                     |
| Power down:   | Save:                               | <input checked="" type="checkbox"/> <sup>1)</sup> |   |                                 |                                     |
| Power up:   | Value:                              | No initialisation:                                | <input type="checkbox"/>                          | Default value:                  | <input type="checkbox"/>            |
|   |                                     | Saved value:                                      | <input checked="" type="checkbox"/>               | Actual value (not for input):   | <input type="checkbox"/>            |
|   | Transmit on bus (only for output):  |   | <input type="checkbox"/>                          | Read from bus (only for input): | <input type="checkbox"/>            |
| <b>Exception Handling</b>   |                                     |   |   |                                 |                                     |
| <b>Special Features</b>   |                                     |   |   |                                 |                                     |
| <sup>1)</sup> Value must be available when power up occurs. It's allowed to save the value (non volatile storage) before power down e.g. immediately after reception from the bus.<br><sup>2)</sup> The client side of this Datapoint will send cyclically, but this feature is intended for enabling/disabling devices, which are (e.g.) added to an existing and running plant. |                                     |   |   |                                 |                                     |

**LTE-HEE-Mode**

|   |              |   |        |  |  |                        |  |           |                                     |
|---|--------------|---|--------|--|--|------------------------|--|-----------|-------------------------------------|
| <b>FB:</b>  | <b>ALSrc</b> | <b>LTE Server Input Name:</b>   |        |  |  | <b>EnableAlarmInfo</b> |  | Mandatory | <input checked="" type="checkbox"/> |
|   |              |   |        |  |  |                        |  | Optional  | <input type="checkbox"/>            |
| <b>Description:</b>   |              |   |        |  |  |                        |  |           |                                     |
| Enables sending of alarm messages.  |              |   |        |  |  |                        |  |           |                                     |
| <b>DPT:</b>   | Name         | DPT_Enable  | DPT ID | 1.003  | Datatype format                                  | B <sub>1</sub>         |  |           |                                     |
| Field   |              | Description   |        |  | Sup.   | Unit                   | Default  |           |                                     |
|   |              |   |        |  |  | Boolean                | cs   |           |                                     |
| <b>Communication:</b>   |              |   |        |  |  |                        |  |           |                                     |
| <b>Binding Group:</b>   |              |   |        |  |  |                        |  |           |                                     |
| Class   |              | Type  |        |  | Default  |                        |  |           |                                     |
| Geographical <input type="checkbox"/>   |              |   |        |  |  |                        |  |           |                                     |
| Application Specific <input type="checkbox"/>   |              |   |        |  |  |                        |  |           |                                     |
| Unassigned <input checked="" type="checkbox"/>  |              | Broadcast <input checked="" type="checkbox"/> Configurable <input type="checkbox"/> |        |  |  |                        |  |           |                                     |
| <b>DP Address:</b>  |              | IO Type(ID):  |        | 1002 (ALSrc)                                   |  | Property ID:           |  | 53        |                                     |
| <b>LTE-Service (event):</b>   |              | Timeout:  |        | --- <sup>2)</sup>                              |  | Min                    |  |           |                                     |
| Write <input checked="" type="checkbox"/>   |              |   |        |  |  |                        |  |           |                                     |
| <b>Property-Service (individual access):</b>  |              | Read only <input type="checkbox"/>  |        | Read/Write <input checked="" type="checkbox"/> |  |                        |  |           |                                     |
| <b>Value after Power up:</b>  |              | Default Value <input type="checkbox"/>  |        |  | Stored Value <input checked="" type="checkbox"/> |                        |  |           |                                     |
| <b>Exception Handling:</b>  |              |   |        |  |  |                        | Save at Power down <sup>1)</sup> <input checked="" type="checkbox"/> |           |                                     |
| <b>Special Features:</b>  |              |   |        |  |  |                        |  |           |                                     |
| <sup>1)</sup> Value must be available when power up occurs. It's allowed to save the value (non volatile storage) before power down e.g. immediately after reception from the bus.          |              |   |        |  |  |                        |  |           |                                     |
| <sup>2)</sup> The client side of this Datapoint will send cyclically, but this feature is intended for enabling/disabling devices, which are (e.g.) added to an existing and running plant. |              |   |        |  |  |                        |  |           |                                     |

**3.5.1.5 Input: EnableAlarmText****Standard Mode**

|   |                                     |   |   |                                 |   |
|---|-------------------------------------|---|---|---------------------------------|---|
| DP Name:  | EnableAlarmText                     | Abbr.:  |   | Mandatory                       | <input checked="" type="checkbox"/> <sup>1)</sup> |
| FB Name:  | Alarm Source (ALSrc)                |   |   | Can be internal                 | <input type="checkbox"/>                          |
| <b>Description</b>  |                                     |   |   |                                 |   |
| Enable/disable spontaneous sending of <i>AlarmText</i> (the Group Object Datapoint with 14 character string DPT).   |                                     |   |   |                                 |   |
| If enabled, alarm texts are sent spontaneous; if disabled, alarm texts are never sent.  |                                     |   |   |                                 |   |
| <b>Datapoint Type</b>   |                                     |   |   |                                 |   |
| DPT_Name:   | DPT_Enable                          |   |   |                                 |   |
| DPT Format:   | B <sub>1</sub>                      | DPT_ID:   | 1.003   |                                 |   |
| Field   | Description                         | Supp.   | Range   | Unit                            | Default   |
|   |                                     |   | {0,1}   | Boolean                         | cs  |
| <b>Access Type</b>  |                                     |   |   |                                 |   |
| ◆ Input   |                                     |   |   |                                 |   |
| N → this  | <input checked="" type="checkbox"/> | 1 → this  | <input type="checkbox"/>                          |                                 |   |
| Spontaneous   | <input checked="" type="checkbox"/> | Cyclically:                                       | <input checked="" type="checkbox"/> <sup>3)</sup> | Time-out:                       | --- <sup>3)</sup>                                 |
| Request   | <input type="checkbox"/>            | Polling:  | <input type="checkbox"/>                          | Period:                         |   |
| <b>Communication Type</b>   |                                     |   |   |                                 |   |
| ◆ Group Object Datapoint  |                                     |   |   | Mandatory:                      | <input checked="" type="checkbox"/>               |
| Default Group Address:  |                                     | ---   |   |                                 |   |
| ◆ Interface Object Property Datapoint   |                                     |   |   | Mandatory:                      | <input type="checkbox"/>                          |
| • Server  | Object_type:                        | 1002 (ALSrc)                                      | PID:  | 54                              |   |
|   | Start_index:                        | 1   | Nr_of_elements:                                   | 1                               |   |
| <b>Dynamics</b>   |                                     |   |   |                                 |   |
| Power down:   | Save:                               | <input checked="" type="checkbox"/> <sup>2)</sup> |   |                                 |   |
| Power up:   | Value:                              | No initialisation:                                | <input type="checkbox"/>                          | Default value:                  | <input type="checkbox"/>                          |
|   |                                     | Saved value:                                      | <input checked="" type="checkbox"/>               | Actual value (not for input):   | <input type="checkbox"/>                          |
|   | Transmit on bus (only for output):  |   | <input type="checkbox"/>                          | Read from bus (only for input): | <input type="checkbox"/>                          |
| <b>Exception Handling</b>   |                                     |   |   |                                 |   |
| <b>Special Features</b>   |                                     |   |   |                                 |   |
| <sup>1)</sup> mandatory, if <i>AlarmText</i> is implemented   |                                     |   |   |                                 |   |
| <sup>2)</sup> Value must be available when power up occurs. It's allowed to save the value (non volatile storage) before power down e.g. immediately after reception from the bus.          |                                     |   |   |                                 |   |
| <sup>3)</sup> The client side of this Datapoint will send cyclically, but this feature is intended for enabling/disabling devices, which are (e.g.) added to an existing and running plant. |                                     |   |   |                                 |   |

**LTE-HEE-Mode**

|   |              |   |                                       |  |  |                                   |
|---|--------------|---|---------------------------------------|--|--|-----------------------------------|
| <b>FB:</b>  | <b>ALSrc</b> | <b>LTE Server Input Name:</b>                 | <b>EnableAlarmText</b>                |  | Mandatory <input checked="" type="checkbox"/> <sup>1)</sup>          | Optional <input type="checkbox"/> |
| <b>Description:</b>   |              |   |                                       |  |  |                                   |
| Enable/disable spontaneous sending of <i>AlarmText</i> (the Group Object Datapoint with 14 character string DPT).   |              |   |                                       |  |  |                                   |
| If enabled, alarm texts are sent spontaneous; if disabled, alarm texts are never sent.  |              |   |                                       |  |  |                                   |
| <b>DPT:</b>   | Name         | DPT_Enable                                    | DPT ID                                | 1.003  | Datatype format  | B <sub>1</sub>                    |
| Field   | Description  |   |                                       |  | Sup.   | Unit                              |
|   |              |   |                                       |  | Boolean  | cs                                |
| <b>Communication:</b>   |              |   |                                       |  |  |                                   |
| <b>Binding Group:</b>   |              |   |                                       |  |  |                                   |
| Class   |              | Type  |                                       | Default  |  |                                   |
| Geographical <input type="checkbox"/>   |              |   |                                       |  |  |                                   |
| Application Specific <input type="checkbox"/>   |              |   |                                       |  |  |                                   |
| Unassigned <input checked="" type="checkbox"/>  |              | Broadcast <input checked="" type="checkbox"/> | Configurable <input type="checkbox"/> |  |  |                                   |
| <b>DP Address:</b>  |              | IO Type(ID):                                  |                                       | 1002 (ALSrc)                                     | Property ID: 54  |                                   |
| <b>LTE-Service (event):</b>   |              | Timeout:                                      |                                       | --- <sup>3)</sup>                                | Min  |                                   |
| Write <input checked="" type="checkbox"/>   |              |   |                                       |  |  |                                   |
| <b>Property-Service (individual access):</b>  |              | Read only <input type="checkbox"/>            |                                       | Read/Write <input checked="" type="checkbox"/>   |  |                                   |
| <b>Value after Power up:</b>  |              | Default Value <input type="checkbox"/>        |                                       | Stored Value <input checked="" type="checkbox"/> |  |                                   |
| <b>Exception Handling:</b>  |              |   |                                       |  | Save at Power down <sup>2)</sup> <input checked="" type="checkbox"/> |                                   |
| <b>Special Features:</b>  |              |   |                                       |  |  |                                   |
| <sup>1)</sup> mandatory, if <i>AlarmText</i> is implemented   |              |   |                                       |  |  |                                   |
| <sup>2)</sup> Value must be available when power up occurs. It's allowed to save the value (non volatile storage) before power down e.g. immediately after reception from the bus.          |              |   |                                       |  |  |                                   |
| <sup>3)</sup> The client side of this Datapoint will send cyclically, but this feature is intended for enabling/disabling devices, which are (e.g.) added to an existing and running plant. |              |   |                                       |  |  |                                   |

### 3.5.1.6 Input: AlarmAck

#### Standard Mode

|  |                                     |                          |                          |                                 |                                     |
|--|-------------------------------------|--------------------------|--------------------------|---------------------------------|-------------------------------------|
| DP Name:   | AlarmAck                            | Abbr.:                   |                          | Mandatory                       | <input type="checkbox"/>            |
| FB Name:   | Alarm Source (ALSrc)                |                          |                          | Can be internal                 | <input type="checkbox"/>            |
| <b>Description</b>   |                                     |                          |                          |                                 |                                     |
| In Standard Mode, alarm acknowledge is received with this Datapoint. |                                     |                          |                          |                                 |                                     |
| <b>Datapoint Type</b>  |                                     |                          |                          |                                 |                                     |
| DPT_Name:  | DPT_Ack                             |                          |                          |                                 |                                     |
| DPT Format:  | B <sub>1</sub>                      | DPT_ID:                  | 1.016                    |                                 |                                     |
| Field  | Description                         | Supp.                    | Range                    | Unit                            | Default                             |
| alarm ack bit  | Alarm ACK trigger command.          | M                        | {1}                      | Boolean                         | --                                  |
| <b>Access Type</b>   |                                     |                          |                          |                                 |                                     |
| ◆ Input  |                                     |                          |                          |                                 |                                     |
| N → this   | <input checked="" type="checkbox"/> | 1 → this                 | <input type="checkbox"/> |                                 |                                     |
| Spontaneous  | <input checked="" type="checkbox"/> | Cyclically:              | <input type="checkbox"/> | Time-out:                       |                                     |
| Request  | <input type="checkbox"/>            | Polling:                 | <input type="checkbox"/> | Period:                         |                                     |
| <b>Communication Type</b>  |                                     |                          |                          |                                 |                                     |
| ◆ Group Object Datapoint   |                                     |                          |                          | Mandatory:                      | <input checked="" type="checkbox"/> |
| Default Group Address:   |                                     | ---                      |                          |                                 |                                     |
| ◆ Interface Object Property Datapoint                                |                                     |                          |                          | Mandatory:                      | <input type="checkbox"/>            |
| • Server   | Object_type:                        | 1002 (ALSrc)             | PID:                     | 55                              |                                     |
|  | Start_index:                        | 1                        | Nr_of_elements:          | 1                               |                                     |
| <b>Dynamics</b>  |                                     |                          |                          |                                 |                                     |
| Power down:  | Save:                               | <input type="checkbox"/> |                          |                                 |                                     |
| Power up:  | Value:                              | No initialisation:       | <input type="checkbox"/> | Default value:                  | <input type="checkbox"/>            |
|  |                                     | Saved value:             | <input type="checkbox"/> | Actual value (not for input):   | <input type="checkbox"/>            |
|  | Transmit on bus (only for output):  |                          | <input type="checkbox"/> | Read from bus (only for input): | <input type="checkbox"/>            |
| <b>Exception Handling</b>  |                                     |                          |                          |                                 |                                     |
| ---  |                                     |                          |                          |                                 |                                     |
| <b>Special Features</b>  |                                     |                          |                          |                                 |                                     |
| see 4.3 'Constraints'  |                                     |                          |                          |                                 |                                     |

#### LTE-HEE-Mode

Devices with LTE-HEE mode communication receive the AlarmAck as Property of an Interface Object, with A\_PropertyValue\_Write Service. The following description uses the same style as the one for 'parameters'.

|  |                            |                                |                          |   |                                     |
|--|----------------------------|--------------------------------|--------------------------|---|-------------------------------------|
| <b>FB:</b>   | <b>ALSrc</b>               | <b>Property Name (Server):</b> | <b>AlarmAck</b>          | Mandatory   | <input type="checkbox"/>            |
|  |                            |                                |                          | Optional  | <input checked="" type="checkbox"/> |
| <b>Description:</b>  |                            |                                |                          |   |                                     |
| Device with LTE-HEE communication mode receive alarm acknowledge this Datapoint.   |                            |                                |                          |   |                                     |
| <b>DPT:</b>  | Name                       | DPT_Ack                        | DPT ID                   | 1.016   | Datatype format B <sub>1</sub>      |
| Field  | Description                | Sup.                           | Range                    | Unit  | Default                             |
| alarm ack bit  | Alarm ACK trigger command. | M                              | {1}                      | Boolean   | --                                  |
| <b>Communication:</b>  |                            |                                |                          |   |                                     |
| <b>DP Address:</b>   | IO Type(ID):               | 1002 (ALSrc)                   | Property ID:             | 55  |                                     |
| <b>(in the server)</b>   | Start-Index:               | 1                              | N° of elements           | 1   |                                     |
| <b>Property access:</b>  | Read only                  | <input type="checkbox"/>       | Read/Write               | <input checked="" type="checkbox"/> <sup>1)</sup> |                                     |
| <b>Exception Handling:</b>   | Value after Power up:      | Stored Value                   | <input type="checkbox"/> | Act Value   | <input type="checkbox"/>            |
|  |                            | Default Value                  | <input type="checkbox"/> |   |                                     |
| ---  |                            |                                |                          |   |                                     |
| <b>Special Features:</b>   |                            |                                |                          |   |                                     |
| <sup>1)</sup> This parameter is a 'trigger input' for change from 'Unacknowledged' to 'Acknowledged' in the alarm state machine. |                            |                                |                          |   |                                     |

### 3.5.1.7 Input: AlarmReset

#### Standard Mode

|   |                                     |                          |                          |  |                                     |
|---|-------------------------------------|--------------------------|--------------------------|--|-------------------------------------|
| DP Name:                                    | AlarmReset                          | Abbr.:                   |                          | Mandatory  | <input type="checkbox"/>            |
| FB Name:                                    | Alarm Source (ALSrc)                |                          |                          | Can be internal  | <input type="checkbox"/>            |
| <b>Description</b>                          |                                     |                          |                          |  |                                     |
| Alarm Reset is received with this Datapoint |                                     |                          |                          |  |                                     |
| <b>Datapoint Type</b>                       |                                     |                          |                          |  |                                     |
| DPT_Name:                                   | DPT_Reset                           |                          |                          |  |                                     |
| DPT Format:                                 | B <sub>1</sub>                      | DPT_ID:                  | 1.015                    |  |                                     |
| Field                                       | Description                         | Supp.                    | Range                    | Unit   | Default                             |
| alarm reset                                 | Alarm Reset trigger command.        | M                        | {1}                      | Boolean  | --                                  |
| <b>Access Type</b>                          |                                     |                          |                          |  |                                     |
| ◆ Input                                     |                                     |                          |                          |  |                                     |
| N → this                                    | <input checked="" type="checkbox"/> | 1 → this                 | <input type="checkbox"/> |  |                                     |
| Spontaneous                                 | <input checked="" type="checkbox"/> | Cyclically:              | <input type="checkbox"/> | Time-out:  |                                     |
| Request                                     | <input type="checkbox"/>            | Polling:                 | <input type="checkbox"/> | Period:  |                                     |
| <b>Communication Type</b>                   |                                     |                          |                          |  |                                     |
| ◆ Group Object Datapoint                    |                                     |                          |                          | Mandatory:   | <input checked="" type="checkbox"/> |
| Default Group Address:                      |                                     | ---                      |                          |  |                                     |
| ◆ Interface Object Property Datapoint       |                                     |                          |                          | Mandatory:   | <input type="checkbox"/>            |
| • Server                                    | Object_type:                        | 1002 (ALSrc)             | PID:                     | 56   |                                     |
|   | Start_index:                        | 1                        | Nr_of_elements:          | 1  |                                     |
| <b>Dynamics</b>                             |                                     |                          |                          |  |                                     |
| Power down:                                 | Save:                               | <input type="checkbox"/> |                          |  |                                     |
| Power up:                                   | Value:                              | No initialisation:       | <input type="checkbox"/> | Default value:   | <input type="checkbox"/>            |
|   |                                     | Saved value:             | <input type="checkbox"/> | Actual value (not for input):                            | <input type="checkbox"/>            |
|   | Transmit on bus (only for output):  |                          | <input type="checkbox"/> | Read from bus (only for input): <input type="checkbox"/> |                                     |
| <b>Exception Handling</b>                   |                                     |                          |                          |  |                                     |
| ---   |                                     |                          |                          |  |                                     |
| <b>Special Features</b>                     |                                     |                          |                          |  |                                     |
| see 4.3 'Constraints'                       |                                     |                          |                          |  |                                     |

#### LTE-HEE-Mode

Devices with LTE-HEE mode communication receive the AlarmReset as Property of an Interface Object, with A\_PropertyValue\_Write Service. The following description uses the same style as the one for 'parameters'.

|  |                              |                                |                          |                |   |
|--|------------------------------|--------------------------------|--------------------------|----------------|---|
| <b>FB:</b>   | <b>ALSrc</b>                 | <b>Property Name (Server):</b> | <b>AlarmReset</b>        | Mandatory      | <input type="checkbox"/>                          |
|  |                              |                                |                          | Optional       | <input checked="" type="checkbox"/>               |
| <b>Description:</b>  |                              |                                |                          |                |   |
| An alarm client can (try to) unlock the device's (HVAC control) application writing a "1" to this Datapoint.   |                              |                                |                          |                |   |
| <b>DPT:</b>  | Name                         | DPT_Reset                      | DPT ID                   | 1.015          | Datatype format B <sub>1</sub>                    |
| Field  | Description                  | Sup.                           | Range                    | Unit           | Default   |
| alarm reset  | Alarm Reset trigger command. | M                              | {1}                      | Boolean        | <sup>2)</sup>                                     |
| <b>Communication:</b>  |                              |                                |                          |                |   |
| <b>DP Address:</b>   |                              | IO Type(ID):                   | 1002 (ALSrc)             | Property ID:   | 56  |
| <b>(in the server)</b>   |                              | Start-Index:                   | 1                        | N° of elements | 1   |
| <b>Property access:</b>  |                              | Read only                      | <input type="checkbox"/> | Read/Write     | <input checked="" type="checkbox"/> <sup>1)</sup> |
| <b>Exception Handling:</b> Value after Power up: Stored Value <input type="checkbox"/> Act Value <input type="checkbox"/> Default Value <input type="checkbox"/> |                              |                                |                          |                |   |
| ---  |                              |                                |                          |                |   |
| <b>Special Features:</b>   |                              |                                |                          |                |   |
| <sup>1)</sup> This parameter is a 'trigger input' for change from <i>locked</i> to <i>unlocked</i> state in the alarm state machine.                             |                              |                                |                          |                |   |
| <sup>2)</sup> Only value "1" (= Reset) can be sent with this Datapoint   |                              |                                |                          |                |   |

**3.5.1.8 Parameter: EnableAlarmAck**

|   |              |                                    |        |  |                                    |                                    |  |  |  |
|---|--------------|------------------------------------|--------|--|------------------------------------|------------------------------------|--|--|--|
| <b>FB:</b>  | <b>ALSrc</b> | <b>Property Name (Server):</b>     |        | <b>EnableAlarmAck</b>                            |                                    | Mandatory <input type="checkbox"/> |  | Optional <input checked="" type="checkbox"/> |  |
| <b>Description:</b>   |              |                                    |        |  |                                    |                                    |  |  |  |
| Enables reception of alarm acknowledgement from the bus.<br>If enabled, alarm acknowledges from the bus are accepted. |              |                                    |        |  |                                    |                                    |  |  |  |
| <b>DPT:</b>   | Name         | DPT_Enable                         | DPT ID | 1.003  | Datatype format                    | B <sub>1</sub>                     |  |  |  |
| Field   | Description  |                                    | Sup.   | Range  | Unit                               | Default                            |  |  |  |
|   |              |                                    |        | {0,1}  | Boolean                            | enabled                            |  |  |  |
| <b>Communication:</b>   |              |                                    |        |  |                                    |                                    |  |  |  |
| <b>DP Address:</b>  |              | IO Type(ID):                       |        | 1002 (ALSrc)                                     | Property ID:                       |                                    | 101                                    |  |  |
| <b>(in the server)</b>  |              | Start-Index:                       |        | 1  | N° of elements                     |                                    | 1                                      |  |  |
| <b>Property access:</b>   |              | Read only <input type="checkbox"/> |        | Read/Write <input checked="" type="checkbox"/>   |                                    |                                    |  |  |  |
| <b>Exception Handling:</b>  |              | Value after Power up:              |        | Stored Value <input checked="" type="checkbox"/> | Act Value <input type="checkbox"/> |                                    | Default Value <input type="checkbox"/> |  |  |
| ---   |              |                                    |        |  |                                    |                                    |  |  |  |
| <b>Special Features:</b>  |              |                                    |        |  |                                    |                                    |  |  |  |
| ---   |              |                                    |        |  |                                    |                                    |  |  |  |

**3.5.1.9 Parameter: EnableAlarmReset**

|   |              |                                    |        |  |                                    |  |  |   |  |
|---|--------------|------------------------------------|--------|--|------------------------------------|--|--|---|--|
| <b>FB:</b>  | <b>ALSrc</b> | <b>Property Name (Server):</b>     |        | <b>EnableAlarmReset</b>                          |                                    | Mandatory <input type="checkbox"/> <sup>1)</sup> |  | Optional <input type="checkbox"/> <sup>1)</sup> |  |
| <b>Description:</b>   |              |                                    |        |  |                                    |  |  |   |  |
| Enables reception of the unlock trigger from the bus.<br>If enabled, unlock command from the bus is accepted. |              |                                    |        |  |                                    |  |  |   |  |
| <b>DPT:</b>   | Name         | DPT_Enable                         | DPT ID | 1.003  | Datatype format                    | B <sub>1</sub>                                   |  |   |  |
| Field   | Description  |                                    | Sup.   | Range  | Unit                               | Default  |  |   |  |
|   |              |                                    |        | {0,1}  | Boolean                            | disabled   |  |   |  |
| <b>Communication:</b>   |              |                                    |        |  |                                    |  |  |   |  |
| <b>DP Address:</b>  |              | IO Type(ID):                       |        | 1002 (ALSrc)                                     | Property ID:                       |  | 102                                    |   |  |
| <b>(in the server)</b>  |              | Start-Index:                       |        | 1  | N° of elements                     |  | 1                                      |   |  |
| <b>Property access:</b>   |              | Read only <input type="checkbox"/> |        | Read/Write <input checked="" type="checkbox"/>   |                                    |  |  |   |  |
| <b>Exception Handling:</b>  |              | Value after Power up:              |        | Stored Value <input checked="" type="checkbox"/> | Act Value <input type="checkbox"/> |  | Default Value <input type="checkbox"/> |   |  |
| ---   |              |                                    |        |  |                                    |  |  |   |  |
| <b>Special Features:</b>  |              |                                    |        |  |                                    |  |  |   |  |
| <sup>1)</sup> Mandatory if Datapoint <b>AlarmReset</b> is implemented, otherwise not applicable               |              |                                    |        |  |                                    |  |  |   |  |



**3.5.1.10 Diagnostic Value: TimeStamp**

|            |              |                                |                  |                  |                                     |
|------------|--------------|--------------------------------|------------------|------------------|-------------------------------------|
| <b>FB:</b> | <b>ALSrc</b> | <b>Property Name (Server):</b> | <b>TimeStamp</b> | <b>Mandatory</b> | <input type="checkbox"/>            |
|            |              |                                |                  | <b>Optional</b>  | <input checked="" type="checkbox"/> |

**Description:**

Time Stamp, which is related to an alarm event.

Array field index is the log number received with Datapoint 'AlarmInfo'.

| <b>DPT:</b>  | <b>Name</b>   | <b>DPT_DateTime</b> | <b>DPT ID</b> | <b>19.001</b> | <b>Datatype format</b> | <b>8 octet structured</b> |
|--------------|---|---------------------|---------------|---------------|------------------------|---------------------------|
| <b>Field</b> | <b>Description</b>  | <b>Sup.</b>         | <b>Range</b>  | <b>Unit</b>   | <b>Default</b>         |                           |
| Year         |   | O                   | 0 to 255      | Year          | cs                     |                           |
| Month        |   | O                   | 1 to 12       | Month         | cs                     |                           |
| Day of Month |   | O                   | 1 to 31       | Day of month  | cs                     |                           |
| Day of Week  |   | O                   | 0 to 7        | Day of week   | cs                     |                           |
| Hour         |   | M <sup>2)</sup>     | 0 to 23       | Hour of day   | cs                     |                           |
| Minutes      |   | M <sup>2)</sup>     | 0 to 59       | Minutes       | cs                     |                           |
| Seconds      |   | O                   | 0 to 59]      | Seconds       | cs                     |                           |
| Attributes   |   |                     |               |               |                        | <sup>3)</sup>             |
| - F          | normal / fault  | NA                  | {0}           |               | normal                 |                           |
| - WD         | Bank day / Working day                                    | O                   | {0,1}         |               | bank day               |                           |
| - NWD        | WD field valid / not valid                                | M                   | {0,1}         |               | no WD <sup>3)</sup>    |                           |
| - NY         | Year field valid / not valid                              | M                   | {0,1}         |               | no year <sup>3)</sup>  |                           |
| - ND         | Month and Day of Month fields valid / not valid           | M                   | {0,1}         |               | no date <sup>3)</sup>  |                           |
| - NDoW       | Day of week field valid / not valid                       | M                   | {0,1}         |               | no DoW <sup>3)</sup>   |                           |
| - NT         | Hour of day, Minutes and Seconds fields valid / not valid | M                   | {0,1}         |               | no time <sup>3)</sup>  |                           |
| - SUTi       | Summertime  | O                   | {0,1}         |               | standard time          |                           |
| - CLQ        | Clock quality bit (external synch.)                       | NA                  | {0}           |               | without                |                           |

**Communication:**

|                         |                     |                                     |                       |                          |
|-------------------------|---------------------|-------------------------------------|-----------------------|--------------------------|
| <b>DP Address:</b>      | <b>IO Type(ID):</b> | <b>1002 (ALSrc)</b>                 | <b>Property ID:</b>   | <b>103</b>               |
| <b>(in the server)</b>  | <b>Start-Index:</b> | <b>1</b>                            | <b>N° of elements</b> | <b>256 <sup>1)</sup></b> |
| <b>Property access:</b> | <b>Read only</b>    | <input checked="" type="checkbox"/> | <b>Read/Write</b>     | <input type="checkbox"/> |

**Exception Handling:** Value after Power up: Stored Value ☐ Act Value ☐ Default Value ☐

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**Special Features:**

<sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256. The range of log numbers may be limited, e.g. to 10, this is company specific. In such a case the quantity of array elements can be limited to the quantity of alarm log numbers.

<sup>2)</sup> If timestamp is supported, minimum information are hour and minute of alarm event, if 'seconds' is not supported, its field shall be filled with '0'.

<sup>3)</sup> timestamps become valid after their related alarm event occurred; only the fields become valid, which are supported by the local clock (a clock without date can't support the date fields).

**3.5.1.11 Diagnostic Value: AlarmText\_Log**

|  |                              |   |        |                                     |                 |                                    |                    |  |
|--|------------------------------|---|--------|-------------------------------------|-----------------|------------------------------------|--------------------|--|
| <b>FB:</b>   | <b>ALSrc</b>                 | <b>Property Name (Server):</b> AlarmText_Log  |        |                                     |                 | Mandatory <input type="checkbox"/> |                    | Optional <input checked="" type="checkbox"/> |
| <b>Description:</b>  |                              |   |        |                                     |                 |                                    |                    |  |
| Alarm text, which is related to an alarm event.<br>Array field index is the log number received with Datapoint 'AlarmInfo'.  |                              |   |        |                                     |                 |                                    |                    |  |
| <b>DPT:</b>  | Name                         | DPT_VarString_8859_1                          | DPT ID | 24.001                              | Datatype format |                                    | A[n] <sup>2)</sup> |  |
| Field  | Description                  |   | Sup.   | Range                               | Unit            | Default                            |                    |  |
| Alarm Info Text  | String with and 0-Terminator |   | M      | see datatype "char set"             |                 | all characters '00h'               |                    |  |
| <b>Communication:</b>  |                              |   |        |                                     |                 |                                    |                    |  |
| <b>DP Address:</b>   |                              | IO Type(ID):                                  |        | 1002 (ALSrc)                        | Property ID:    |                                    | 104                |  |
| <b>(in the server)</b>   |                              | Start-Index:                                  |        | 1                                   | N° of elements  |                                    | 256 <sup>1)</sup>  |  |
| <b>Property access:</b>  |                              | Read only <input checked="" type="checkbox"/> |        | Read/Write <input type="checkbox"/> |                 |                                    |                    |  |
| <b>Exception Handling:</b> Value after Power up: Stored Value <input type="checkbox"/> Act Value <input checked="" type="checkbox"/> Default Value <input type="checkbox"/>  |                              |   |        |                                     |                 |                                    |                    |  |
| ---  |                              |   |        |                                     |                 |                                    |                    |  |
| <b>Special Features:</b>   |                              |   |        |                                     |                 |                                    |                    |  |
| <sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256;<br>The range of log numbers may be limited, e.g. to 10, this is company specific. In such a case the quantity of array elements can be limited to the quantity of alarm log numbers. |                              |   |        |                                     |                 |                                    |                    |  |

**3.5.1.12 Diagnostic Value: ErrorCode**

|  |             |   |        |                                     |                 |                                    |                   |  |
|--|-------------|---|--------|-------------------------------------|-----------------|------------------------------------|-------------------|--|
| <b>FB:</b>   | <b>HPM</b>  | <b>Property Name (Server):</b> ErrorCode      |        |                                     |                 | Mandatory <input type="checkbox"/> |                   | Optional <input checked="" type="checkbox"/> |
| <b>Description:</b>  |             |   |        |                                     |                 |                                    |                   |  |
| Company specific 16 bit error code, interpretation is company specific   |             |   |        |                                     |                 |                                    |                   |  |
| <b>DPT:</b>  | Name        | DPT_Value_2_Ucount                            | DPT ID | 7.001                               | Datatype format |                                    | U <sub>16</sub>   |  |
| Field  | Description |   | Sup.   | Range                               | Unit            | Default                            |                   |  |
|  |             |   |        | full range                          | --              | cs                                 |                   |  |
| <b>Communication:</b>  |             |   |        |                                     |                 |                                    |                   |  |
| <b>DP Address:</b>   |             | IO Type(ID):                                  |        | 1002 (ALSrc)                        | Property ID:    |                                    | 105               |  |
| <b>(in the server)</b>   |             | Start-Index:                                  |        | 1                                   | N° of elements  |                                    | 256 <sup>1)</sup> |  |
| <b>Property access:</b>  |             | Read only <input checked="" type="checkbox"/> |        | Read/Write <input type="checkbox"/> |                 |                                    |                   |  |
| <b>Exception Handling:</b> Value after Power up: Stored Value <input type="checkbox"/> Act Value <input checked="" type="checkbox"/> Default Value <input type="checkbox"/>  |             |   |        |                                     |                 |                                    |                   |  |
| ---  |             |   |        |                                     |                 |                                    |                   |  |
| <b>Special Features:</b>   |             |   |        |                                     |                 |                                    |                   |  |
| <sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256;<br>The range of log numbers may be limited, e.g. to 10, this is company specific. In such a case the quantity of array elements can be limited to the quantity of alarm log numbers. |             |   |        |                                     |                 |                                    |                   |  |

### 3.5.2 ALSrc Property Identifier list

**Object Name:** ALSrc

**Object Type:** 1002

| Property Identifier  | Datapoint Name   | Datapoint Type Name  | Datapoint Type Code |
|--|------------------|----------------------|---------------------|
| process data (runtime interworking, zone addressing and Individual Addressing) |                  |                      |                     |
| 51   | AlarmInfo        | DPT_AlarmInfo        | 219.001             |
| 52   | AlarmText        | DPT_String_8859_1    | 16.001              |
| 53   | EnableAlarmInfo  | DPT_Enable           | 1.003               |
| 54   | EnableAlarmText  | DPT_Enable           | 1.003               |
| 55   | AlarmAck         | DPT_AlarmAck         | 1.016               |
| 56   | AlarmReset       | DPT_Reset            | 1.015               |
| 57   | InAlarm          | DPT_Alarm            | 1.005               |
| Parameters and Diagnostic Data (Individual Addressing only)                    |                  |                      |                     |
| 101  | EnableAlarmAck   | DPT_Enable           | 1.003               |
| 102  | EnableAlarmReset | DPT_Enable           | 1.003               |
| 103  | TimeStamp        | DPT_DateTime         | 19.001              |
| 104  | AlarmText_Log    | DPT_VarString_8859_1 | 24.001              |
| 105  | ErrorCode        | DPT_Value_2_Ucount   | 7.001               |
|  |                  |                      |                     |

## 4 Functional Block ‘Alarm Sink’ (ALSnk)

### 4.1 Aims and objectives

The Functional Block ‘Alarm Sink’ (ALSnk) is the consumer of *AlarmInfo* and *AlarmText*.

**All currently defined Inputs, Outputs, Parameters and Diagnostic Values of this Functional Block are Datapoint clients.**

Typically, the Functional Block ‘Alarm Sink’ (ALSnk) is part of a management client or a device that is partly a management client (at least for alarm handling).

All other ALSnk functionality, e.g. acknowledgment of alarms, alarm resets, is typically management functionality implemented on a BMS.

### 4.2 Functional specification

#### 4.2.1 Inputs

##### *AlarmInfo*

The Datapoint *AlarmInfo* receives alarm information from the bus, see also 3.2.1.

##### *AlarmText*

The Datapoint *AlarmText* receives alarm Texts from the bus, see also 3.2.1.

#### 4.2.2 Outputs

##### *EnableAlarmInfo*

An alarm client can enable or disable the spontaneous sending of alarm messages (Datapoint *AlarmInfo*) in the alarm sources. With this Datapoint, enabling to all devices in the network can be done with one single telegram.

##### *EnableAlarmText*

An alarm client can enable or disable the spontaneous sending of alarm texts (Datapoint *AlarmText*) in the alarm sources. With this Datapoint, enabling to all devices in the network can be done with one single telegram.

##### *AlarmAck*

Output for alarm acknowledges, see also 3.2.2.

##### *AlarmReset*

Output for alarm reset, see also 3.2.2.

#### 4.2.3 Property clients (of parameters and diagnostic values in ALSrc)

The Property clients for *EnableAlarmAck*, *EnableAlarmReset*, *TimeStamp*, *AlarmText\_Log* and *ErrorCode* are part of the Alarm Sink ALSnk, but The Property servers belong to the Alarm Source ALSrc. For further information, see descriptions of parameters and diagnostic values (‘server side’) in 3.2.3.

### 4.3 Constraints

- Use of Group Objects for alarm acknowledgment is only applicable if:
  - the alarm source (devices) can be identified as unique on the 'alarm client' (e.g. a BMS) (source Individual Address must be known on application level!)
  - on the 'alarm client', each unique and identifiable alarm source is mapped to an other acknowledge output.
  - the 'alarm client' has as much acknowledge outputs as it must be able to acknowledge different alarm source (devices). Acknowledges to different sources (devices) must have each its own Group Object with an own (engineered) Group Address. In this way, acknowledge can be done 'point to point' also in group communication mode.
- Use of Group Objects for alarm reset is only applicable under the same conditions as for alarm acknowledge, see above.

### 4.4 Functional Block diagram

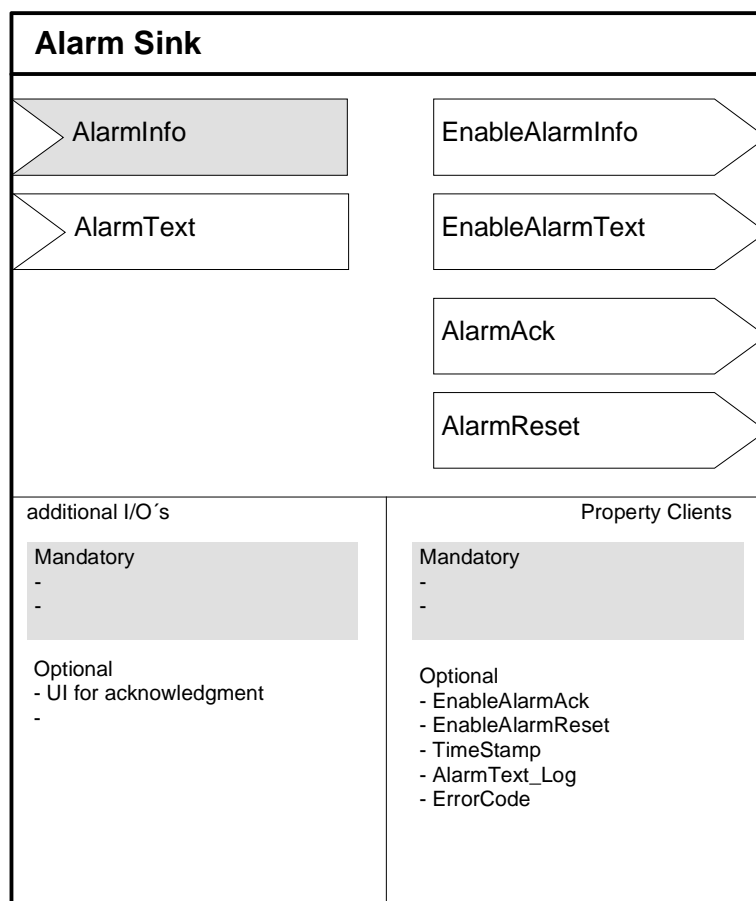


Figure 6 - Functional Block Diagram 'Alarm Sink' (ALSnk)

### 4.5 Datapoints

| Data Point      | Description   | Data Point Type | DPT Code |
|-----------------|---|-----------------|----------|
| <b>Outputs</b>  |   |                 |          |
| EnableAlarmInfo | Enable/disable <i>AlarmInfo</i> outputs in (all) Devices with FB 'Alarm Source' | DPT_Enable      | 1.003    |

|                         |   |                      |         |
|-------------------------|---|----------------------|---------|
| EnableAlarmText         | Enable/disable <i>AlarmText</i> outputs in (all) Devices with FB 'Alarm Source' | DPT_Enable           | 1.003   |
| AlarmAck                | "Trigger output" for Alarm Acknowledge  | DPT_AlarmAck         | 1.016   |
| AlarmReset              | "Trigger output" for unlocking an application                                   | DPT_Reset            | 1.015   |
| <b>Inputs</b>           |   |                      |         |
| AlarmInfo               | Time Stamp, Error Code, Priority, ...   | DPT_AlarmInfo        | 219.001 |
| AlarmText               | AlarmText   | DPT_String_8859_1    | 16.001  |
| <b>Property Clients</b> |   |                      |         |
| EnableAlarmAck          | see description of Property servers   | DPT_Enable           | 1.003   |
| EnableAlarmReset        |   | DPT_Enable           | 1.003   |
| TimeStamp               |   | DPT_DateTime         | 19.001  |
| AlarmText_Log           |   | DPT_VarString_8859_1 | 24.001  |
| ErrorCode               |   | DPT_Value_2_Ucount   | 7.001   |

Table 3 - Runtime Interworking - Dependence on Configuration Modes

|                |                          | STANDARD MODE      |        | EXTENDED MODE           |                  |
|----------------|--------------------------|--------------------|--------|-------------------------|------------------|
|                |                          | Basic FB           | S-Mode | Standard Mode Interface | HEE              |
| <b>Inputs</b>  | AlarmInfo                | GO <sub>b</sub>    | GO     | GO                      | NA               |
|                | AlarmText                | (GO)               | (GO)   | (GO)                    | NA               |
| <b>Outputs</b> | EnableAlarmInfo          | (GO <sub>b</sub> ) | (GO)   | (GO)                    | O                |
|                | EnableAlarmText          | (GO <sub>b</sub> ) | (GO)   | (GO)                    | O                |
|                | AlarmAck <sup>1)</sup>   | (GO <sub>b</sub> ) | (GO)   | (GO)                    | NA <sup>1)</sup> |
|                | AlarmReset <sup>2)</sup> | (GO <sub>b</sub> ) | (GO)   | (GO)                    | NA <sup>2)</sup> |

Table 4 - Standard Property Clients

|                        |                                | Support |
|------------------------|--------------------------------|---------|
| <b>Parameter</b>       | EnableAlarmAck <sup>3)</sup>   | O       |
|                        | EnableAlarmReset <sup>3)</sup> | O       |
| <b>Diagnostic Data</b> | TimeStamp <sup>4)</sup>        | (IO)    |
|                        | AlarmText_Log <sup>4)</sup>    | (IO)    |
|                        | ErrorCode <sup>4)</sup>        | (IO)    |

<sup>1)</sup> *AlarmAck*: in Standard Mode with Group Object, in LTE-Mode with A\_PropertyValue\_Write on IO-Property

<sup>2)</sup> *AlarmReset*: in Standard Mode with Group Object, in LTE-Mode with A\_PropertyValue\_Write on IO-Property

<sup>3)</sup> Property of an Interface Object or memory mapped value

<sup>4)</sup> if implemented, only as a Property of an Interface Object

## 4.5.1 Detailed specification of Datapoints

### 4.5.1.1 Input: AlarmInfo

#### Standard Mode

|  |   |                          |                                     |                                 |                                     |
|--|---|--------------------------|-------------------------------------|---------------------------------|-------------------------------------|
| DP Name:   | AlarmInfo   | Abbr.:                   |                                     | Mandatory                       | <input checked="" type="checkbox"/> |
| FB Name:   | Alarm Sink (ALSnk)  |                          |                                     | Can be internal                 | <input type="checkbox"/>            |
| <b>Description</b>   |   |                          |                                     |                                 |                                     |
| This Datapoint is used to receive the 'basic alarm information' from an alarm source   |   |                          |                                     |                                 |                                     |
| <b>Datapoint Type</b>  |   |                          |                                     |                                 |                                     |
| DPT_Name:  | DPT_AlarmInfo   |                          |                                     |                                 |                                     |
| DPT Format:  | U <sub>8</sub> U <sub>8</sub> N <sub>8</sub> N <sub>8</sub> B <sub>8</sub> B <sub>8</sub> | DPT_ID:                  | 219.001                             |                                 |                                     |
| Field  | Description   | Supp                     | Range                               | Unit                            | Def. <sup>1)</sup>                  |
| Log number   | Log number  | O <sup>2)</sup>          | U <sub>8</sub>                      | U <sub>8</sub>                  | 00h                                 |
| Alarm Priority   | see DPT_AlarmInfo   | O <sup>2)</sup>          | N <sub>8</sub>                      | enum.                           | FFh                                 |
| Application Area   | see DPT_AlarmInfo   | M                        | N <sub>8</sub>                      | enum.                           | 00h                                 |
| Error Class  | see DPT_AlarmInfo   | M                        | N <sub>8</sub>                      | enum.                           | 00h                                 |
| Attributes   | see DPT_AlarmInfo   | M                        |                                     |                                 |                                     |
| - Ack_Sup  | yes / no  | O <sup>2)</sup>          | {0,1}                               | Boolean                         | no                                  |
| - TimeStamp_Sup  | yes / no  | O <sup>2)</sup>          | {0,1}                               | Boolean                         | no                                  |
| - AlarmText_Sup  | yes / no  | O <sup>2)</sup>          | {0,1}                               | Boolean                         | no                                  |
| - ErrorCode_Sup  | yes / no  | O <sup>2)</sup>          | {0,1}                               | Boolean                         | no                                  |
| Alarm Status attributes  |   | M                        |                                     |                                 |                                     |
| - InAlarm  | Normal / InAlarm  | M                        | {0,1}                               | Boolean                         | false                               |
| - AlarmUnAck   | acknowledged / unacknow.  | O <sup>2)</sup>          | {0,1}                               | Boolean                         | false                               |
| - Locked   | locked / unlocked   | O <sup>2)</sup>          | {0,1}                               | Boolean                         | false                               |
| <b>Access Type</b>   |   |                          |                                     |                                 |                                     |
| ◆ Input  |   |                          |                                     |                                 |                                     |
| N → this   | <input checked="" type="checkbox"/>   | 1 → this                 | <input type="checkbox"/>            |                                 |                                     |
| Spontaneous  | <input checked="" type="checkbox"/>   | Cyclically:              | <input checked="" type="checkbox"/> | Time-out:                       | 61 min.                             |
| Request  | <input type="checkbox"/>  | Polling:                 | <input type="checkbox"/>            | Period:                         |                                     |
| <b>Communication Type</b>  |   |                          |                                     |                                 |                                     |
| ◆ Group Object Datapoint   |   |                          |                                     | Mandatory:                      | <input checked="" type="checkbox"/> |
| Default Group Address:   |   | F3FAh                    |                                     |                                 |                                     |
| ◆ Interface Object Property Datapoint  |   |                          |                                     | Mandatory:                      | <input type="checkbox"/>            |
| • Client   | Object_type (server):   | 1002 (ALSrc)             | PID (Property server):              | 51                              |                                     |
|  | Start_index:  | 1                        | Nr_of_elements:                     | 1                               |                                     |
| <b>Dynamics</b>  |   |                          |                                     |                                 |                                     |
| Power down:  | Save:   | <input type="checkbox"/> |                                     |                                 |                                     |
| Power up:  | Value:  | No initialisation:       | <input type="checkbox"/>            | Default value:                  | <input checked="" type="checkbox"/> |
|  |   | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):   | <input type="checkbox"/>            |
|  | Transmit on bus (only for output):  |                          | <input type="checkbox"/>            | Read from bus (only for input): | <input type="checkbox"/>            |
| <b>Exception Handling</b>  |   |                          |                                     |                                 |                                     |
| ---  |   |                          |                                     |                                 |                                     |
| <b>Special Features</b>  |   |                          |                                     |                                 |                                     |
| <sup>1)</sup> Default value on this input is "no fault"<br><sup>2)</sup> All values must be accepted (full range in all the fields); action as a result on received values is manufacturer specific, it is functionality on an 'alarm client', e.g. on a BMS |   |                          |                                     |                                 |                                     |

#### LTE-HEE-Mode

Not available as LTE-HEE process Datapoint.

**4.5.1.2 Input: AlarmText****Standard Mode**

|   |                                     |                          |                                 |                                 |                                     |
|---|-------------------------------------|--------------------------|---------------------------------|---------------------------------|-------------------------------------|
| DP Name:  | AlarmText                           | Abbr.:                   |                                 | Mandatory                       | <input type="checkbox"/>            |
| FB Name:  | Alarm Sink (ALSnk)                  |                          |                                 | Can be internal                 | <input type="checkbox"/>            |
| <b>Description</b>  |                                     |                          |                                 |                                 |                                     |
| intended for "clear text alarm information" in very simple alarming applications. String with 14 characters, unused characters filled with '00h'. |                                     |                          |                                 |                                 |                                     |
| <b>Datapoint Type</b>   |                                     |                          |                                 |                                 |                                     |
| DPT_Name:   | DPT_String_ASCII                    |                          |                                 |                                 |                                     |
| DPT Format:   | A[14]                               | DPT_ID:                  | 16.000                          |                                 |                                     |
| Field   | Description                         | Supp.                    | Range                           | Unit                            | Default                             |
|   |                                     |                          | see data type 4 "character set" | ---                             | cs                                  |
| <b>Input</b>  |                                     |                          |                                 |                                 |                                     |
| N → this  | <input checked="" type="checkbox"/> | 1 → this                 | <input type="checkbox"/>        |                                 |                                     |
| Spontaneous   | <input checked="" type="checkbox"/> | Cyclically:              | <input type="checkbox"/>        | Time-out:                       |                                     |
| Request   | <input type="checkbox"/>            | Polling:                 | <input type="checkbox"/>        | Period:                         |                                     |
| <b>Communication Type</b>   |                                     |                          |                                 |                                 |                                     |
| ♦ Group Object Datapoint  |                                     |                          |                                 | Mandatory:                      | <input checked="" type="checkbox"/> |
| Default Group Address:  |                                     | F3FBh                    |                                 |                                 |                                     |
| ♦ Interface Object Property Datapoint   |                                     |                          |                                 | Mandatory:                      | <input type="checkbox"/>            |
| • Client  | Object_type (server):               | 1002 (ALSrc)             | PID (Property server):          | 52 <sup>1)</sup>                |                                     |
|   | Start_index:                        | 1                        | Nr_of_elements:                 | 1                               |                                     |
| <b>Dynamics</b>   |                                     |                          |                                 |                                 |                                     |
| Power down:   | Save:                               | <input type="checkbox"/> |                                 |                                 |                                     |
| Power up:   | Value:                              | No initialisation:       | <input type="checkbox"/>        | Default value:                  | <input checked="" type="checkbox"/> |
|   |                                     | Saved value:             | <input type="checkbox"/>        | Actual value (not for input):   | <input type="checkbox"/>            |
|   | Transmit on bus (only for output):  |                          | <input type="checkbox"/>        | Read from bus (only for input): | <input type="checkbox"/>            |
| <b>Exception Handling</b>   |                                     |                          |                                 |                                 |                                     |
| ---   |                                     |                          |                                 |                                 |                                     |
| <b>Special Features</b>   |                                     |                          |                                 |                                 |                                     |
| <sup>1)</sup> see Note <sup>2)</sup> in description of Property server  |                                     |                          |                                 |                                 |                                     |

LTE-HEE-Mode

Not available as LTE-HEE process Datapoint.



**4.5.1.3 Output: EnableAlarmInfo****Standard Mode**

|                                       |                                     |                          |                                     |  |                                     |
|---------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--|-------------------------------------|
| DP Name:                              | EnableAlarmInfo                     | Abbr.:                   |                                     | Mandatory  | <input type="checkbox"/>            |
| FB Name:                              | Alarm Sink (ALSnk)                  |                          |                                     | Can be internal  | <input type="checkbox"/>            |
| <b>Description</b>                    |                                     |                          |                                     |  |                                     |
| Enables sending of alarm messages.    |                                     |                          |                                     |  |                                     |
| <b>Datapoint Type</b>                 |                                     |                          |                                     |  |                                     |
| DPT_Name:                             | DPT_Enable                          |                          |                                     |  |                                     |
| DPT Format:                           | B <sub>1</sub>                      | DPT_ID:                  | 1.003                               |  |                                     |
| Field                                 | Description                         | Supp.                    | Range                               | Unit   | Default                             |
|                                       |                                     |                          | {0,1}                               | Boolean  | cs                                  |
| ◆ Output                              |                                     |                          |                                     |  |                                     |
| this → M                              | <input checked="" type="checkbox"/> | this → 1                 | <input type="checkbox"/>            |  |                                     |
| Spontaneous                           | <input checked="" type="checkbox"/> | COV:                     | <input type="checkbox"/>            | Δ-Value:   | MinRepTime:                         |
|                                       |                                     | Cyclic                   | <input checked="" type="checkbox"/> | Period:  | 24 h                                |
| Request                               | <input type="checkbox"/>            |                          |                                     |  |                                     |
| <b>Communication Type</b>             |                                     |                          |                                     |  |                                     |
| ◆ Group Object Datapoint              |                                     |                          |                                     | Mandatory:   | <input type="checkbox"/>            |
| Default Group Address:                |                                     | ---                      |                                     |  |                                     |
| ◆ Interface Object Property Datapoint |                                     |                          |                                     | Mandatory:   | <input type="checkbox"/>            |
| • Client                              | Object_type (server):               | 1002 (ALSrc)             | PID (Property server):              | 53   |                                     |
|                                       | Start_index:                        | 1                        | Nr_of_elements:                     | 1  |                                     |
| <b>Dynamics</b>                       |                                     |                          |                                     |  |                                     |
| Power down:                           | Save:                               | <input type="checkbox"/> |                                     |  |                                     |
| Power up:                             | Value:                              | No initialisation:       | <input type="checkbox"/>            | Default value:   | <input type="checkbox"/>            |
|                                       |                                     | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):                            | <input checked="" type="checkbox"/> |
|                                       | Transmit on bus (only for output):  |                          | <input checked="" type="checkbox"/> | Read from bus (only for input): <input type="checkbox"/> |                                     |
| <b>Exception Handling</b>             |                                     |                          |                                     |  |                                     |
| ---                                   |                                     |                          |                                     |  |                                     |
| <b>Special Features</b>               |                                     |                          |                                     |  |                                     |
| ---                                   |                                     |                          |                                     |  |                                     |

**LTE-HEE-Mode**

|   |              |  |        |   |                 |   |                          |                                |                                     |
|---|--------------|--|--------|---|-----------------|---|--------------------------|--------------------------------|-------------------------------------|
| <b>FB:</b>  | <b>ALSnk</b> | <b>LTE Client Output Name:</b>                                       |        | <b>EnableAlarmInfo</b>                        |                 | Mandatory   | <input type="checkbox"/> | Optional                       | <input checked="" type="checkbox"/> |
| <b>Description:</b>   |              |  |        |   |                 |   |                          |                                |                                     |
| Enable/disable AlarmInfo Outputs in (all) Devices with FB 'Alarm Source'  |              |  |        |   |                 |   |                          |                                |                                     |
| <b>DPT:</b>   | Name         | DPT_Enable   | DPT ID | 1.003   | Datatype format | B <sub>1</sub>  |                          |                                |                                     |
| Field   | Description  |  | Sup.   | Range   | Unit            | COV   | Default                  |                                |                                     |
|   |              |  |        | {0,1}   | Boolean         | ----  | cs                       |                                |                                     |
| <b>Communication:</b>   |              |  |        |   |                 |   |                          |                                |                                     |
| <b>Binding Group:</b>   |              |  |        |   |                 |   |                          |                                |                                     |
| Class   |              | Type   |        |   |                 | Default   |                          |                                |                                     |
| Geographical <input type="checkbox"/>                                     |              |  |        |   |                 |   |                          |                                |                                     |
| Application Specific <input type="checkbox"/>                             |              |  |        |   |                 |   |                          |                                |                                     |
| Unassigned <input checked="" type="checkbox"/>                            |              | Broadcast <input checked="" type="checkbox"/>                        |        | Configurable <input type="checkbox"/>         |                 |   |                          |                                |                                     |
| <b>DP Address:</b><br>(in the server)                                     |              | IO Type(ID):   |        | 1002 (ALSrc)                                  |                 | Property ID:  |                          | 53                             |                                     |
| <b>LTE-Services (event):</b><br>Write <input checked="" type="checkbox"/> |              | COV <input type="checkbox"/>   |        | MinRepTime: ---                               |                 | sec   |                          | Heartbeat: 24 h <del>min</del> |                                     |
|   |              | Output per default communicating <input checked="" type="checkbox"/> |        |   |                 | Binding Group Wildcard allowed <input type="checkbox"/> |                          |                                |                                     |
|   |              | Tx Prio: High <input type="checkbox"/>                               |        | Normal <input checked="" type="checkbox"/>    |                 | Low <input type="checkbox"/>                            |                          |                                |                                     |
|   |              | Transm after Power up: Stored Value <input type="checkbox"/>         |        | Act Value <input checked="" type="checkbox"/> |                 | Default Value <input type="checkbox"/>                  |                          |                                |                                     |
| <b>Exception Handling:</b>  |              |  |        |   |                 | Save at Power down <input type="checkbox"/>             |                          |                                |                                     |
| ---   |              |  |        |   |                 |   |                          |                                |                                     |
| <b>Special Features:</b>  |              |  |        |   |                 |   |                          |                                |                                     |
| ---   |              |  |        |   |                 |   |                          |                                |                                     |

**4.5.1.4 Output: EnableAlarmText****Standard Mode**

|  |                                     |                          |                                     |                                     |  |
|--|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--|
| DP Name:                                     | EnableAlarmText                     | Abbr.:                   |                                     | Mandatory                           | <input type="checkbox"/>                                 |
| FB Name:                                     | Alarm Sink (ALSnk)                  |                          |                                     | Can be internal                     | <input type="checkbox"/>                                 |
| <b>Description</b>                           |                                     |                          |                                     |                                     |  |
| Enables sending of alarm messages.           |                                     |                          |                                     |                                     |  |
| <b>Datapoint Type</b>                        |                                     |                          |                                     |                                     |  |
| DPT_Name:                                    | DPT_Enable                          |                          |                                     |                                     |  |
| DPT Format:                                  | B <sub>1</sub>                      | DPT_ID:                  | 1.003                               |                                     |  |
| Field  | Description                         | Supp.                    | Range                               | Unit                                | Default  |
|  |                                     |                          | {0,1}                               | Boolean                             | cs   |
| <b>◆ Output</b>                              |                                     |                          |                                     |                                     |  |
| this → M                                     | <input checked="" type="checkbox"/> | this → 1                 | <input type="checkbox"/>            |                                     |  |
| Spontaneous                                  | <input checked="" type="checkbox"/> | COV:                     | <input type="checkbox"/>            | Δ-Value:                            | MinRepTime:  |
|  |                                     | Cyclic                   | <input checked="" type="checkbox"/> | Period:                             | 24 h   |
| Request                                      | <input type="checkbox"/>            |                          |                                     |                                     |  |
| <b>Communication Type</b>                    |                                     |                          |                                     |                                     |  |
| <b>◆ Group Object Datapoint</b>              |                                     |                          |                                     | Mandatory:                          | <input type="checkbox"/>                                 |
| Default Group Address:                       |                                     | ---                      |                                     |                                     |  |
| <b>◆ Interface Object Property Datapoint</b> |                                     |                          |                                     | Mandatory:                          | <input type="checkbox"/>                                 |
| • Client                                     | Object_type (server):               | 1002 (ALSrc)             | PID (Property server):              | 54                                  |  |
|  | Start_index:                        | 1                        | Nr_of_elements:                     | 1                                   |  |
| <b>Dynamics</b>                              |                                     |                          |                                     |                                     |  |
| Power down:                                  | Save:                               | <input type="checkbox"/> |                                     |                                     |  |
| Power up:                                    | Value:                              | No initialisation:       | <input type="checkbox"/>            | Default value:                      | <input type="checkbox"/>                                 |
|  |                                     | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):       | <input checked="" type="checkbox"/>                      |
|  | Transmit on bus (only for output):  |                          |                                     | <input checked="" type="checkbox"/> | Read from bus (only for input): <input type="checkbox"/> |
| <b>Exception Handling</b>                    |                                     |                          |                                     |                                     |  |
| ---  |                                     |                          |                                     |                                     |  |
| <b>Special Features</b>                      |                                     |                          |                                     |                                     |  |
| ---  |                                     |                          |                                     |                                     |  |

**LTE-HEE-Mode**

|   |              |   |        |                        |   |      |  |                                |
|---|--------------|---|--------|------------------------|---|------|--|--------------------------------|
| <b>FB:</b>  | <b>ALSnk</b> | <b>LTE Client Output Name:</b>  |        | <b>EnableAlarmText</b> | Mandatory <input type="checkbox"/>                      |      | Optional <input checked="" type="checkbox"/> |                                |
| <b>Description:</b>   |              |   |        |                        |   |      |  |                                |
| Enable/disable AlarmInfo Outputs in (all) Devices with FB 'Alarm Source'  |              |   |        |                        |   |      |  |                                |
| <b>DPT:</b>   | Name         | DPT_Enable  | DPT ID | 1.003                  | Datatype format   |      | B <sub>1</sub>                               |                                |
| Field   | Description  |   | Sup.   | Range                  | Unit  | COV  | Default                                      |                                |
|   |              |   |        | {0,1}                  | Boolean   | ---- | cs   |                                |
| <b>Communication:</b>   |              |   |        |                        |   |      |  |                                |
| <b>Binding Group:</b>   |              |   |        |                        |   |      |  |                                |
| Class   |              | Type  |        |                        | Default   |      |  |                                |
| Geographical <input type="checkbox"/>                                     |              |   |        |                        |   |      |  |                                |
| Application Specific <input type="checkbox"/>                             |              |   |        |                        |   |      |  |                                |
| Unassigned <input checked="" type="checkbox"/>                            |              | Broadcast <input checked="" type="checkbox"/> Configurable <input type="checkbox"/> |        |                        |   |      |  |                                |
| <b>DP Address:</b><br>(in the server)                                     |              | IO Type(ID):  |        | 1002 (ALSrc)           | Property ID:  |      | 54   |                                |
| <b>LTE-Services (event):</b><br>Write <input checked="" type="checkbox"/> |              | COV <input type="checkbox"/>  |        | MinRepTime: ---        |   | sec  |  | Heartbeat: 24 h <del>min</del> |
|   |              | Output per default communicating <input checked="" type="checkbox"/>                |        |                        | Binding Group Wildcard allowed <input type="checkbox"/> |      |  |                                |
|   |              | Tx Prio: High <input type="checkbox"/>  |        |                        | Normal <input checked="" type="checkbox"/>              |      | Low <input type="checkbox"/>                 |                                |
|   |              | Transm after Power up: Stored Value <input type="checkbox"/>                        |        |                        | Act Value <input checked="" type="checkbox"/>           |      | Default Value <input type="checkbox"/>       |                                |
| <b>Exception Handling:</b>  |              |   |        |                        | Save at Power down <input type="checkbox"/>             |      |  |                                |
| ---   |              |   |        |                        |   |      |  |                                |
| <b>Special Features:</b>  |              |   |        |                        |   |      |  |                                |
| ---   |              |   |        |                        |   |      |  |                                |

### 4.5.1.5 Output: AlarmAck

#### Standard Mode

|  |                                     |                          |                                     |  |                                     |
|--|-------------------------------------|--------------------------|-------------------------------------|--|-------------------------------------|
| DP Name:   | AlarmAck                            | Abbr.:                   |                                     | Mandatory  | <input type="checkbox"/>            |
| FB Name:   | Alarm Sink (ALSnk)                  |                          |                                     | Can be internal  | <input type="checkbox"/>            |
| <b>Description</b>   |                                     |                          |                                     |  |                                     |
| In Standard Mode, alarm acknowledge is sent with this Datapoint. |                                     |                          |                                     |  |                                     |
| <b>Datapoint Type</b>  |                                     |                          |                                     |  |                                     |
| DPT_Name:  | DPT_Ack                             |                          |                                     |  |                                     |
| DPT Format:  | B <sub>1</sub>                      | DPT_ID:                  | 1.016                               |  |                                     |
| Field  | Description                         | Supp.                    | Range                               | Unit   | Default                             |
| alarm ack bit  | Alarm ACK trigger command.          | M                        | {1}                                 | Boolean  | --                                  |
| ◆ Output   |                                     |                          |                                     |  |                                     |
| this → M   | <input type="checkbox"/>            | this → 1                 | <input checked="" type="checkbox"/> |  |                                     |
| Spontaneous  | <input checked="" type="checkbox"/> | COV:                     | <input type="checkbox"/>            | Δ-Value:   | MinRepTime:                         |
|  |                                     | Cyclic                   | <input type="checkbox"/>            | Period:  |                                     |
| Request  | <input type="checkbox"/>            |                          |                                     |  |                                     |
| <b>Communication Type</b>  |                                     |                          |                                     |  |                                     |
| ◆ Group Object Datapoint   |                                     |                          |                                     |  | Mandatory: <input type="checkbox"/> |
| Default Group Address:   |                                     | ---                      |                                     |  |                                     |
| ◆ Interface Object Property Datapoint                            |                                     |                          |                                     |  | Mandatory: <input type="checkbox"/> |
| • Client   | Object_type (server):               | 1002 (ALSrc)             | PID (Property server):              | 55   |                                     |
|  | Start_index:                        | 1                        | Nr_of_elements:                     | 1  |                                     |
| <b>Dynamics</b>  |                                     |                          |                                     |  |                                     |
| Power down:  | Save:                               | <input type="checkbox"/> |                                     |  |                                     |
| Power up:  | Value:                              | No initialisation:       | <input checked="" type="checkbox"/> | Default value:   | <input type="checkbox"/>            |
|  |                                     | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):                            | <input type="checkbox"/>            |
|  | Transmit on bus (only for output):  |                          | <input type="checkbox"/>            | Read from bus (only for input): <input type="checkbox"/> |                                     |
| <b>Exception Handling</b>  |                                     |                          |                                     |  |                                     |
| ---  |                                     |                          |                                     |  |                                     |
| <b>Special Features</b>  |                                     |                          |                                     |  |                                     |
| see 4.3 'Constraints'  |                                     |                          |                                     |  |                                     |

#### LTE-HEE-Mode

Devices with LTE-HEE mode communication sent the AlarmAck as Property of an Interface Object, with A\_PropertyValue\_Write Service. The following description uses the same style as the one for 'Property clients'.

|  |                            |                                     |                 |   |                                     |
|--|----------------------------|-------------------------------------|-----------------|---|-------------------------------------|
| <b>FB:</b>   | <b>ALSnk</b>               | <b>Property Name (Client):</b>      | <b>AlarmAck</b> | Mandatory   | <input type="checkbox"/>            |
|  |                            |                                     |                 | Optional  | <input checked="" type="checkbox"/> |
| <b>Description:</b>  |                            |                                     |                 |   |                                     |
| Alarm Acknowledge is sent with this, further description: see Datapoint description in ALSrc, 3.5.1.6                        |                            |                                     |                 |   |                                     |
| <b>DPT:</b>  | Name                       | DPT_Ack                             | DPT ID          | 1.016   | Datatype format                     |
|  |                            |                                     |                 |   | B <sub>1</sub>                      |
| Field  | Description                |                                     |                 | Sup.  | Unit                                |
|  |                            |                                     |                 |   | Default                             |
| alarm ack bit  | Alarm ACK trigger command. |                                     |                 | M   | Boolean                             |
|  |                            |                                     |                 |   | --                                  |
| <b>Communication:</b>  |                            |                                     |                 |   |                                     |
| <b>DP Address:</b>   | IO Type(ID):               | 1002 (ALSrc)                        | Property ID:    | 55  |                                     |
| <b>(in the server)</b>   | Start-Index:               | 1                                   | N° of elements  | 1   |                                     |
| <b>Property access:</b>  | Read only                  | <input type="checkbox"/>            | Read/Write      | <input checked="" type="checkbox"/> <sup>1)</sup> |                                     |
| <b>Update /polling</b> <sup>1)</sup>   | On request                 | <input checked="" type="checkbox"/> | Periodically    | <input type="checkbox"/>                          | ---                                 |
| <b>Exception Handling:</b>   |                            |                                     |                 |   |                                     |
| ---  |                            |                                     |                 |   |                                     |
| <b>Special Features:</b>   |                            |                                     |                 |   |                                     |
| <sup>1)</sup> This Property client is a 'trigger' for change from 'Unacknowledged' to 'Acknowledged' in The Property server. |                            |                                     |                 |   |                                     |

**4.5.1.6 Output: AlarmReset****Standard Mode**

|   |                                     |                          |                                     |                                 |                          |
|---|-------------------------------------|--------------------------|-------------------------------------|---------------------------------|--------------------------|
| DP Name:  | AlarmReset                          | Abbr.:                   |                                     | Mandatory                       | <input type="checkbox"/> |
| FB Name:  | Alarm Sink (ALSnk)                  |                          |                                     | Can be internal                 | <input type="checkbox"/> |
| <b>Description</b>  |                                     |                          |                                     |                                 |                          |
| Alarm Reset is sent with this Datapoint.                                |                                     |                          |                                     |                                 |                          |
| <b>Datapoint Type</b>   |                                     |                          |                                     |                                 |                          |
| DPT_Name:   | DPT_Reset                           |                          |                                     |                                 |                          |
| DPT Format:   | B <sub>1</sub>                      | DPT_ID:                  | 1.015                               |                                 |                          |
| Field   | Description                         | Supp.                    | Range                               | Unit                            | Default                  |
| alarm reset   | Alarm Reset trigger command.        | M                        | {1} <sup>1)</sup>                   | Boolean                         | --                       |
| <b>Output</b>   |                                     |                          |                                     |                                 |                          |
| this → M  | <input type="checkbox"/>            | this → 1                 | <input checked="" type="checkbox"/> |                                 |                          |
| Spontaneous   | <input checked="" type="checkbox"/> | COV:                     | <input type="checkbox"/>            | Δ-Value:                        | MinRepTime:              |
|   |                                     | Cyclic                   | <input type="checkbox"/>            | Period:                         |                          |
| Request   | <input type="checkbox"/>            |                          |                                     |                                 |                          |
| <b>Communication Type</b>   |                                     |                          |                                     |                                 |                          |
| ♦ Group Object Datapoint  |                                     |                          |                                     | Mandatory:                      | <input type="checkbox"/> |
| Default Group Address:  |                                     | ---                      |                                     |                                 |                          |
| ♦ Interface Object Property Datapoint                                   |                                     |                          |                                     | Mandatory:                      | <input type="checkbox"/> |
| • Client  | Object_type (server):               | 1002 (ALSrc)             | PID (Property server):              | 56                              |                          |
|   | Start_index:                        | 1                        | Nr_of_elements:                     | 1                               |                          |
| <b>Dynamics</b>   |                                     |                          |                                     |                                 |                          |
| Power down:   | Save:                               | <input type="checkbox"/> |                                     |                                 |                          |
| Power up:   | Value:                              | No initialisation:       | <input type="checkbox"/>            | Default value:                  | <input type="checkbox"/> |
|   |                                     | Saved value:             | <input type="checkbox"/>            | Actual value (not for input):   | <input type="checkbox"/> |
|   | Transmit on bus (only for output):  |                          | <input type="checkbox"/>            | Read from bus (only for input): | <input type="checkbox"/> |
| <b>Exception Handling</b>   |                                     |                          |                                     |                                 |                          |
| ---   |                                     |                          |                                     |                                 |                          |
| <b>Special Features</b>   |                                     |                          |                                     |                                 |                          |
| see 4.3 'Constraints'   |                                     |                          |                                     |                                 |                          |
| <sup>1)</sup> Only value "1" (= Reset ) can be sent with this Datapoint |                                     |                          |                                     |                                 |                          |

**LTE-HEE-Mode**

Devices with LTE-HEE mode communication send the AlarmReset as Property of an Interface Object, with A\_PropertyValue\_Write Service. The following description uses the same style as the one for 'Property clients'.

|   |       |                              |                                     |                |                                     |                |                                     |
|---|-------|------------------------------|-------------------------------------|----------------|-------------------------------------|----------------|-------------------------------------|
| FB:   | ALSnk | Property Name (Client):      | AlarmReset                          | Mandatory      | <input type="checkbox"/>            | Optional       | <input checked="" type="checkbox"/> |
| <b>Description:</b>   |       |                              |                                     |                |                                     |                |                                     |
| Alarm Reset is sent with this Datapoint. Further description: see Datapoint description in ALSrc,3.5.1.7.   |       |                              |                                     |                |                                     |                |                                     |
| DPT:  | Name  | DPT_Reset                    | DPT ID                              | 1.015          | Datatype format                     | B <sub>1</sub> |                                     |
| Field   |       | Description                  |                                     |                | Sup.                                | Unit           | Default                             |
| alarm reset   |       | Alarm Reset trigger command. |                                     |                | M                                   | Boolean        | <sup>2)</sup>                       |
| <b>Communication:</b>   |       |                              |                                     |                |                                     |                |                                     |
| DP Address:<br>(in the server)  |       | IO Type(ID):                 | 1002 (ALSrc)                        | Property ID:   | 56                                  |                |                                     |
|   |       | Start-Index:                 | 1                                   | N° of elements | 1                                   |                |                                     |
| Property access:  |       | Read only                    | <input type="checkbox"/>            | Read/Write     | <input checked="" type="checkbox"/> | <sup>1)</sup>  |                                     |
| Update /polling <sup>1)</sup>   |       | On request                   | <input checked="" type="checkbox"/> | Periodically   | <input type="checkbox"/>            | ---            |                                     |
| <b>Exception Handling:</b>  |       |                              |                                     |                |                                     |                |                                     |
| ---   |       |                              |                                     |                |                                     |                |                                     |
| <b>Special Features:</b>  |       |                              |                                     |                |                                     |                |                                     |
| <sup>1)</sup> This Property client is a 'trigger' for change from <i>locked</i> to <i>unlocked</i> state of the alarm state machine in The Property server. |       |                              |                                     |                |                                     |                |                                     |
| <sup>2)</sup> Only value "1" (= Reset ) can be sent with this Datapoint   |       |                              |                                     |                |                                     |                |                                     |

**4.5.1.7 Parameter: EnableAlarmAck**

|   |      |  |  |  |       |                                    |         |  |         |
|---|------|--|--|--|-------|------------------------------------|---------|--|---------|
| FB:    ALSnk                            |      | Property Name (Client):    EnableAlarmAck      |  |  |       | Mandatory <input type="checkbox"/> |         | Optional <input checked="" type="checkbox"/> |         |
| Description:                            |      |  |  |  |       |                                    |         |  |         |
| Datapoint description in ALSrc, 3.5.1.8 |      |  |  |  |       |                                    |         |  |         |
| DPT:                                    | Name | DPT_Enable                                     |  | DPT ID   | 1.003 | Datatype format                    |         | B <sub>1</sub>                               |         |
| Field                                   |      | Description                                    |  |  |       | Sup.                               | Unit    |  | Default |
|   |      |  |  |  |       |                                    | Boolean |  | enabled |
| Communication:                          |      |  |  |  |       |                                    |         |  |         |
| DP Address:<br>(in the server)          |      | IO Type(ID):                                   |  | 1002 (ALSrc)                                   |       | Property ID:                       |         | 101  |         |
|   |      | Start-Index:                                   |  | 1  |       | N° of elements                     |         | 1  |         |
| Property access:                        |      | Read only <input type="checkbox"/>             |  | Read/Write <input checked="" type="checkbox"/> |       |                                    |         |  |         |
| Update /polling                         |      | On request <input checked="" type="checkbox"/> |  | Periodically <input type="checkbox"/>          |       | ---                                |         |  |         |
| Exception Handling:                     |      |  |  |  |       |                                    |         |  |         |
| ---                                     |      |  |  |  |       |                                    |         |  |         |
| Special Features:                       |      |  |  |  |       |                                    |         |  |         |
| ---                                     |      |  |  |  |       |                                    |         |  |         |

**4.5.1.8 Parameter: EnableAlarmReset**

|   |              |   |        |                                     |                 |                                    |                                     |  |  |
|---|--------------|---|--------|-------------------------------------|-----------------|------------------------------------|-------------------------------------|--|--|
| <b>FB:</b>                              | <b>ALSnk</b> | <b>Property Name (Client):</b> EnableAlarmReset |        |                                     |                 | Mandatory <input type="checkbox"/> |                                     | Optional <input checked="" type="checkbox"/> |  |
| <b>Description:</b>                     |              |   |        |                                     |                 |                                    |                                     |  |  |
| Datapoint description in ALSrc, 3.5.1.9 |              |   |        |                                     |                 |                                    |                                     |  |  |
| <b>DPT:</b>                             | Name         | DPT_Enable                                      | DPT ID | 1.003                               | Datatype format |                                    | B <sub>1</sub>                      |  |  |
| Field                                   | Description  |   |        |                                     | Sup.            | Unit                               | Default                             |  |  |
|   |              |   |        |                                     |                 | Boolean                            | disabled                            |  |  |
| <b>Communication:</b>                   |              |   |        |                                     |                 |                                    |                                     |  |  |
| <b>DP Address:</b>                      |              | IO Type(ID):                                    |        | 1002 (ALSrc)                        | Property ID:    |                                    | 102                                 |  |  |
| <b>(in the server)</b>                  |              | Start-Index:                                    |        | 1                                   | N° of elements  |                                    | 1                                   |  |  |
| <b>Property access:</b>                 |              | Read only                                       |        | <input type="checkbox"/>            | Read/Write      |                                    | <input checked="" type="checkbox"/> |  |  |
| <b>Update /polling</b>                  |              | On request                                      |        | <input checked="" type="checkbox"/> | Periodically    |                                    | <input type="checkbox"/>            | ---  |  |
| <b>Exception Handling:</b>              |              |   |        |                                     |                 |                                    |                                     |  |  |
| ---                                     |              |   |        |                                     |                 |                                    |                                     |  |  |
| <b>Special Features:</b>                |              |   |        |                                     |                 |                                    |                                     |  |  |
| ---                                     |              |   |        |                                     |                 |                                    |                                     |  |  |

**4.5.1.9 Diagnostic Value: TimeStamp**

|  |                                    |  |        |                                     |                 |                                    |                          |  |  |
|--|------------------------------------|--|--------|-------------------------------------|-----------------|------------------------------------|--------------------------|--|--|
| <b>FB:</b>   | <b>ALSnk</b>                       | <b>Property Name (Client):</b> TimeStamp |        |                                     |                 | Mandatory <input type="checkbox"/> |                          | Optional <input checked="" type="checkbox"/> |  |
| <b>Description:</b>  |                                    |  |        |                                     |                 |                                    |                          |  |  |
| Datapoint description in ALSrc, 3.5.1.10.  |                                    |  |        |                                     |                 |                                    |                          |  |  |
| <b>DPT:</b>  | Name                               | DPT_DateTime                             | DPT ID | 19.001                              | Datatype format |                                    | see DPT Descr.           |  |  |
| Field  | Description                        |  |        |                                     | Sup.            | Unit                               | Default                  |  |  |
|  | see 'server' description, 3.5.1.10 |  |        |                                     |                 |                                    |                          |  |  |
| <b>Communication:</b>  |                                    |  |        |                                     |                 |                                    |                          |  |  |
| <b>DP Address:</b>   |                                    | IO Type(ID):                             |        | 1002 (ALSrc)                        | Property ID:    |                                    | 103                      |  |  |
| <b>(in the server)</b>   |                                    | Start-Index:                             |        | 1                                   | N° of elements  |                                    | 256 <sup>1)</sup>        |  |  |
| <b>Property access:</b>  |                                    | Read only                                |        | <input checked="" type="checkbox"/> | Read/Write      |                                    | <input type="checkbox"/> |  |  |
| <b>Update /polling</b>   |                                    | On request                               |        | <input checked="" type="checkbox"/> | Periodically    |                                    | <input type="checkbox"/> | ---  |  |
| <b>Exception Handling:</b>   |                                    |  |        |                                     |                 |                                    |                          |  |  |
| ---  |                                    |  |        |                                     |                 |                                    |                          |  |  |
| <b>Special Features:</b>   |                                    |  |        |                                     |                 |                                    |                          |  |  |
| <sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256 |                                    |  |        |                                     |                 |                                    |                          |  |  |



**4.5.1.10 Diagnostic Value: AlarmText\_Log**

|  |                                     |                                |               |                                     |                        |                  |                          |                                     |
|--|-------------------------------------|--------------------------------|---------------|-------------------------------------|------------------------|------------------|--------------------------|-------------------------------------|
| <b>FB:</b>   | <b>ALSnk</b>                        | <b>Property Name (Client):</b> |               | <b>AlarmText_Log</b>                |                        | <b>Mandatory</b> |                          | <input type="checkbox"/>            |
|  |                                     |                                |               |                                     |                        | <b>Optional</b>  |                          | <input checked="" type="checkbox"/> |
| <b>Description:</b>  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| Datapoint description in ALSrc,3.5.1.11.   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>DPT:</b>  | <b>Name</b>                         | <sup>2)</sup>                  | <b>DPT ID</b> | <sup>2)</sup>                       | <b>Datatype format</b> | <sup>2)</sup>    |                          |                                     |
| <b>Field</b>   | <b>Description</b>                  |                                |               |                                     | <b>Sup.</b>            | <b>Unit</b>      | <b>Default</b>           |                                     |
|  | see 'server' description, 3.5.1.11. |                                |               |                                     |                        |                  |                          |                                     |
| <b>Communication:</b>  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>DP Address:</b>   |                                     | <b>IO Type(ID):</b>            |               | 1002 (ALSrc)                        | <b>Property ID:</b>    |                  | 104                      |                                     |
| <b>(in the server)</b>   |                                     | <b>Start-Index:</b>            |               | 1                                   | <b>N° of elements</b>  |                  | 256 <sup>1)</sup>        |                                     |
| <b>Property access:</b>  |                                     | <b>Read only</b>               |               | <input checked="" type="checkbox"/> | <b>Read/Write</b>      |                  | <input type="checkbox"/> |                                     |
| <b>Update /polling</b>   |                                     | <b>On request</b>              |               | <input checked="" type="checkbox"/> | <b>Periodically</b>    |                  | <input type="checkbox"/> | ---                                 |
| <b>Exception Handling:</b>   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| ---  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>Special Features:</b>   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256 |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <sup>2)</sup> see 'server' description, 3.5.1.11.  |                                     |                                |               |                                     |                        |                  |                          |                                     |

**4.5.1.11 Diagnostic Value: ErrorCode**

|  |                                     |                                |               |                                     |                        |                  |                          |                                     |
|--|-------------------------------------|--------------------------------|---------------|-------------------------------------|------------------------|------------------|--------------------------|-------------------------------------|
| <b>FB:</b>   | <b>ALSnk</b>                        | <b>Property Name (Client):</b> |               | <b>ErrorCode</b>                    |                        | <b>Mandatory</b> |                          | <input type="checkbox"/>            |
|  |                                     |                                |               |                                     |                        | <b>Optional</b>  |                          | <input checked="" type="checkbox"/> |
| <b>Description:</b>  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| Datapoint description in ALSrc,3.5.1.12.   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>DPT:</b>  | <b>Name</b>                         | <b>DPT_Value_2_Ucount</b>      | <b>DPT ID</b> | 7.001                               | <b>Datatype format</b> | U <sub>16</sub>  |                          |                                     |
| <b>Field</b>   | <b>Description</b>                  |                                |               |                                     | <b>Sup.</b>            | <b>Unit</b>      | <b>Default</b>           |                                     |
|  | see 'server' description, 3.5.1.12. |                                |               |                                     |                        |                  |                          |                                     |
| <b>Communication:</b>  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>DP Address:</b>   |                                     | <b>IO Type(ID):</b>            |               | 1002 (ALSrc)                        | <b>Property ID:</b>    |                  | 105                      |                                     |
| <b>(in the server)</b>   |                                     | <b>Start-Index:</b>            |               | 1                                   | <b>N° of elements</b>  |                  | 256 <sup>1)</sup>        |                                     |
| <b>Property access:</b>  |                                     | <b>Read only</b>               |               | <input checked="" type="checkbox"/> | <b>Read/Write</b>      |                  | <input type="checkbox"/> |                                     |
| <b>Update /polling</b>   |                                     | <b>On request</b>              |               | <input checked="" type="checkbox"/> | <b>Periodically</b>    |                  | <input type="checkbox"/> | ---                                 |
| <b>Exception Handling:</b>   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| ---  |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <b>Special Features:</b>   |                                     |                                |               |                                     |                        |                  |                          |                                     |
| <sup>1)</sup> Array Index = 'log number' + 1; range of log number 0 to 255, start index = 1 → last index = 256 |                                     |                                |               |                                     |                        |                  |                          |                                     |

**4.5.2 ALSnk Property Identifier list****Object Name:** ALSnk**Object Type:** 1003

Currently, the Alarm Sink Functional Block has no own Properties. ALSnk is not Property Server of any Properties.

| Property Identifier  | Datapoint Name | Datapoint Type Name | Datapoint Type Code |
|--|----------------|---------------------|---------------------|
| process data (runtime interworking, zone addressing and Individual Addressing) |                |                     |                     |
|  |                |                     |                     |
|  |                |                     |                     |
| Parameters and Diagnostic Data (Individual Addressing only)                    |                |                     |                     |
|  |                |                     |                     |
|  |                |                     |                     |

## 5 FB Technical Alarm vs. other alarm/supervising techniques

### 5.1 Fast Polling Mechanism on TP1

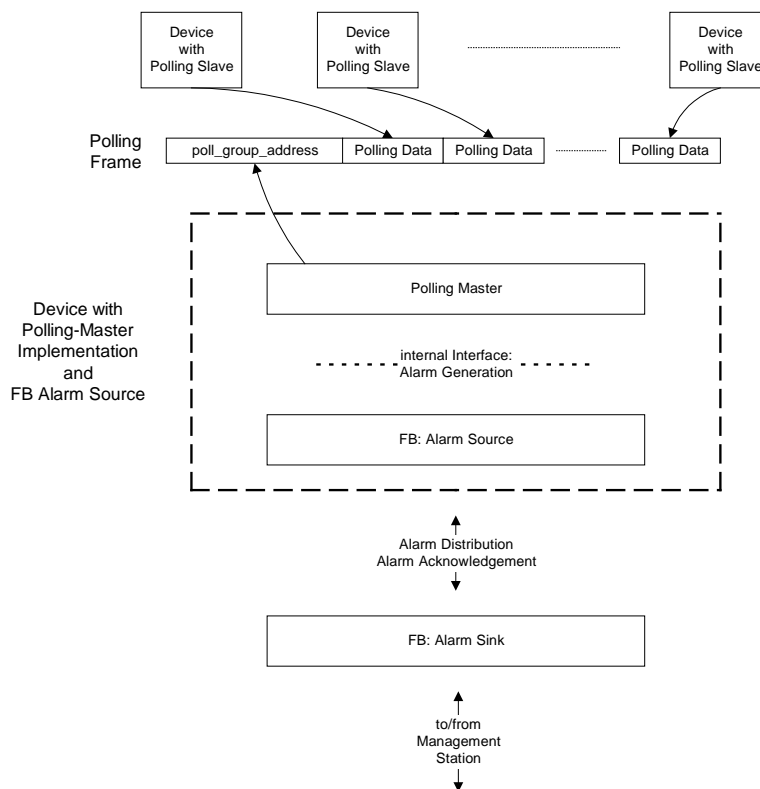
#### 5.1.1 Polling mechanism

Using the Polling Mechanism it is possible to get data from up to 15 devices in one single Frame on the KNX TP1 Medium. The Polling Master initiates the transmission of the Frame; the addressing of the devices is done by the “poll\_group\_address”. Each addressed Polling Slave insert its Polling Data (one character) in a specified time slot.

For a detailed description see [01] clause 2.2.6 “L\_Poll\_Data-Frame” and clause 2.4.2 “L\_Poll\_Data Service and Protocol” and [02] clause 2.4 “L\_Poll\_Data Service and Protocol”.

#### 5.1.2 Usage in relation to FB “Alarm Source”

The data provided by the Polling Slaves can be used by the Polling Master for Alarm Generation. This alarm may be considered as “Wired Or” over the affected devices. Figure 7 shows a meaningful combination of the Polling Master in combination with the FB “Alarm Source” in a device.



**Figure 7**

The Polling Master holds information about the supervised devices in the Polling Master Interface Object. The interpretation of The Property “Poll Status” identifies the devices that cause an alarm condition: the Individual Addresses of the devices is available in The Property “Slave Addresses”.

Via an internal interface the Polling Master may map its information to the Datapoints of FB Alarm Source AlarmInfo and AlarmText. Thus the information becomes available on the whole network.

### 5.1.3 Advantages

The implementation of a Polling Slave does not consume many resources, because most of the needs are covered by the system implementation of BCU 2. The advantage of this combination is, that the state of devices without an implementation of the FB “Alarm Source” can be used in the context of Technical Alarm.

At time the Polling Mechanism is not often used by manufacturers, because no Polling Master is available.

### 5.1.4 Interworking Standard for Polling Information

Please also refer to [04].

The general format for polling data for interworking of applications is 0EErrrrr (8 bit). The bits r are application specific and are not yet defined. They shall be set to 0.

For devices supporting “Technical Alarm” and “Fast polling mechanism”, the following applies.

If a device (polling slave) has a Technical Alarm, it should send the data 010rrrrr. The receiver (polling master) shall only interpret EE=10 as Technical Alarm (independent of the value of rrrrr). EE<>10 shall be interpreted as 'No technical alarm'.