Product Manual

ABB i-bus® EIB / KNX
Fault Monitoring Unit SMB/S 1.1

Intelligent Installation Systems

ABB

This manual describes the function of the Fault Monitoring Unit SMB/S 1.1 with the application program fault signal/1.
Subject to changes and errors excepted.

Exclusion of liability:
Despite checking that the contents of this document matching the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this. Any necessary corrections will be inserted in new versions of the manual. Please inform us of any suggested improvements.

Contents

1 General

The Fault Monitoring Unit SMB/S 1.1 is an EIB / KNX modular installation device with a module width of 2 space units. It detects information such as, e.g. fault messages from an EIB / KNX system and uses them to generate the control signals for optical and acoustic signals conform to DIN 19235.

The Fault Monitoring Unit SMB/S 1.1 can process up to 100 fault signals. The fault signals can be combined to a single fault message group or distributed to multiple fault signal groups that are independent of each other.

This manual provides you with detailed technical information relating to the Fault Monitoring Unit, installation, programming and explains the use of the SMB/S 1.1 using examples.

This manual is divided into the following sections:

- Chapter 1 General
- Chapter 2 Device technology
- Chapter 3 Commissioning
- Chapter 4 Planning and application
- Appendix

1.1 Product and functional overview

The Fault Monitoring Unit SMB/S 1.1 can detect any assignable 1-Bit information (fault signals) and uses this information to generate the control signals for optical and acoustic signals. Thus for example, the optical displays and acoustic signals of fault signal tableau can be actuated via switch actuators. For acknowledgement, i.e. to reset the optical and acoustic signal transmitters, it is possible for example, to use an acknowledge button via a binary input to send the information to the Fault Monitoring Unit SMB/S 1.1.

The Fault Monitoring Unit SMB/S 1.1 supports the following DIN 19235 specified monitored information:

1. Fault signal with permanent light
2. New value signal with simple flashing light
3. Initial value signal with simple acknowledgement
4. Motor signal

2 Device technology

The Fault Monitoring Unit SMB/S 1.1 can detect information, such as, e.g. fault messages from an EIB / KNX system and uses them to generate the control signals for optical and acoustic signals conform to DIN 19235.

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Fig. 1: SMB/S 1.1

2.1 Technical Data

Power supply	– Operating voltage – Current consumption – Power consumption – Leakage loss	21...30 V DC, made available by the bus typ. 10 mA 250 mW Max. 250 mW
Connections	– EIB / KNX	Bus connection terminal
Operating and display elements	– Red LED and button	for assignment of the physical address
Enclosure	– IP 20	to DIN EN 60 529
Safety class	– II	to DIN EN 61 140
Isolation category	– Overvoltage category – Pollution degree	III to DIN EN 60 664-1 2 to DIN EN 60 664-1
EIB / KNX safety extra low voltage	– SELV 24 V DC	
Temperature range	– Operation – Storage – Transport	– 5 °C ... + 45 °C – 25 °C ... + 55 °C – 25 °C ... + 70 °C
Environment conditions	– max. humidity	93 %, without bedewing
Design	– Modular installation device (REG) – Dimensions – Module width – Mounting depth	Modular installation device, Pro*M* 90 x 36 x 64.5 mm (H x W x D) 2 modules at 18 mm 64.5 mm
Installation	– On 35 mm mounting rail	to DIN EN 60 715
Mounting position	– as required	
Weight	– 0.1 kg	
Housing, colour	– Plastic housing, grey	
Approvals	– EIB / KNX to EN 50 090-1, -2	
CE mark	– in accordance with the EMC guide-line and low-voltage guideline	

Table 1: Technical data

Application program	Max. number of communication objects	Max. number of group addresses	Max. number of associations
Fault signal / 1	254	254	255

Table 2: Application program

Note: The programming requires EIB Software Tool ETS2 V1.1.3a or higher. If ETS3 is used a ".VD3" type file must be imported. The application program is available in the ETS2 / ETS3 at ABB/Security and monitoring / Controller.

2.2 Circuit diagram

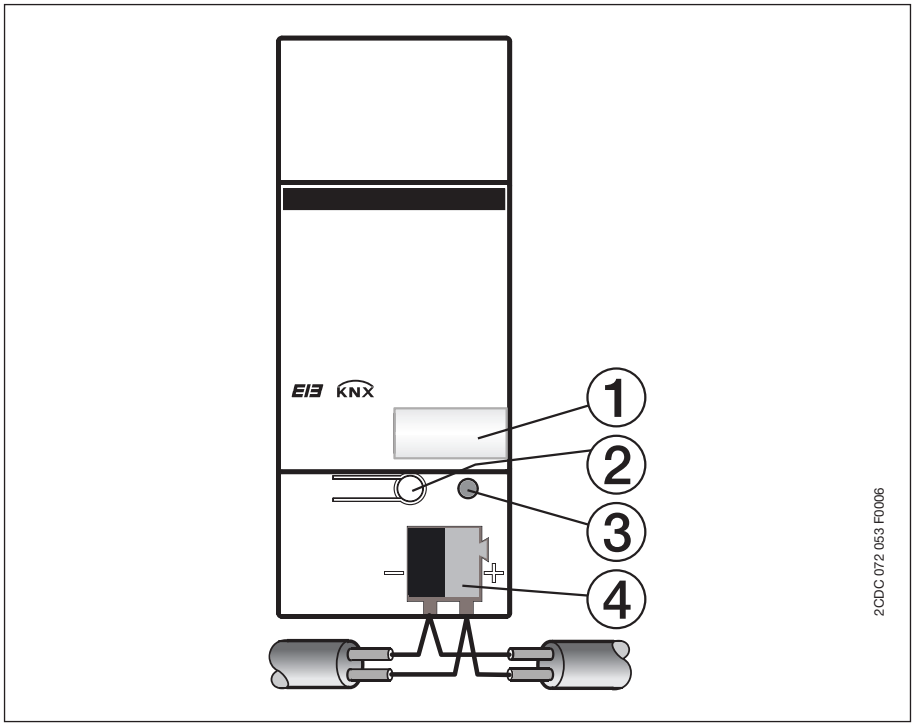

Fig. 2: Circuit diagram of SMB/S 1.1

1 Label carriers
2 Programming button
3 Programming LED
4 Bus connection terminal

2.3 Dimension drawing

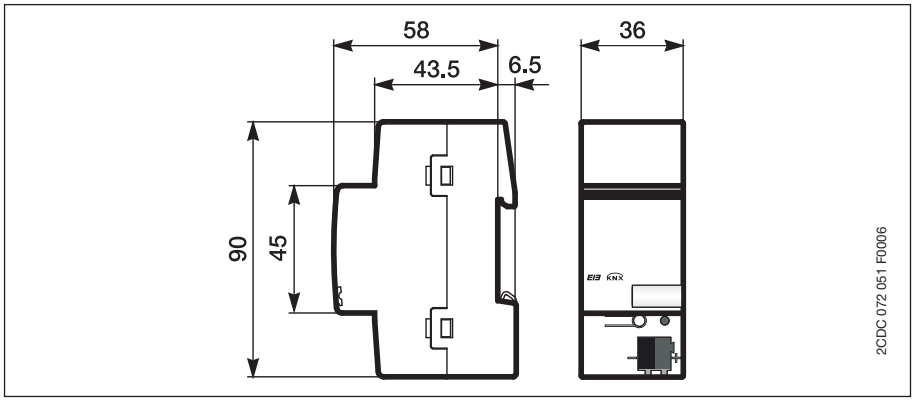

Fig. 3: Dimension drawing of SMB/S 1.1

2.4 Assembly and installation

The Fault Monitoring Unit SMB/S 1.1 is a modular installation device for fast installation in the distribution board on 35 mm mounting rails to DIN EN 60 715.

The connection to the bus is implemented using the supplied bus connection terminal.

Accessibility to the device for the purpose of operation, testing, visual inspection, maintenance and repair must be must be provided (conform to DIN VDE 0100-520).

Commissioning requirements
To put the Fault Monitoring Unit SMB/S 1.1 into operation, you require a PC with the Engineering Tool Software ETS2 from V1.3a onwards in conjunction with an RS232 interface or a USB interface. The device is ready for operation after connection to the bus voltage.

The installation and commissioning may only be carried out by electrical specialists. The appropriate norms, guidelines, regulations and specifications should be observed when planning and setting up electrical installations.

– The device should be protected from damp, dirt and damage during transport, storage and operation.
– The device should not be operated outside the specified technical data!
– The device should only be operated in a closed housing (distribution board)!

Supplied state
The Fault Monitoring Unit is supplied with the physical address 15.15.255. The ***Fault signal/1*** user program is preinstalled. Hence, only group addresses and parameters must be loaded during commissioning. In order to completely reprogram the unit, it must be discharged beforehand via the ETS. The entire application can be reloaded if required.

Assignment of the physical address
The assignment and programming of the physical address, group address and parameters is carried out in the ETS.

Cleaning
If devices become dirty, they can be cleaned using a dry cloth. Should a dry cloth not remove the dirt, they can be cleaned using a slightly damp cloth and soap solution. Corrosive materials or solutions should never be used.

Maintenance
The device is maintenance-free. No repairs should be carried out by unauthorised personnel if damage occurs (e.g. during transport or storage). The warranty expires if the device is opened.

3 Commissioning

3.1 Overview

For Fault Monitoring Unit SMB/S 1.1 a high-performance user program ***Fault signal/1*** is available. The programming requires EIB Software Tool ETS2 **V1.1.3a** or higher. When ETS3 is used the product files with the file extension .VD3 must be imported.

Max. number of communication objects	254
Max. number of group addresses	254
Max. number of associations	255

The user program supports the following DIN 19235 conform signal types:

1. Fault signal with permanent light
2. New value signal with simple flashing light
3. Initial value signal with simple acknowledgement
4. Motor signal

3.2 Parameter

Note: The standard settings for the options are underlined, e.g. options: no/yes

3.2.1 Parameter window “General”

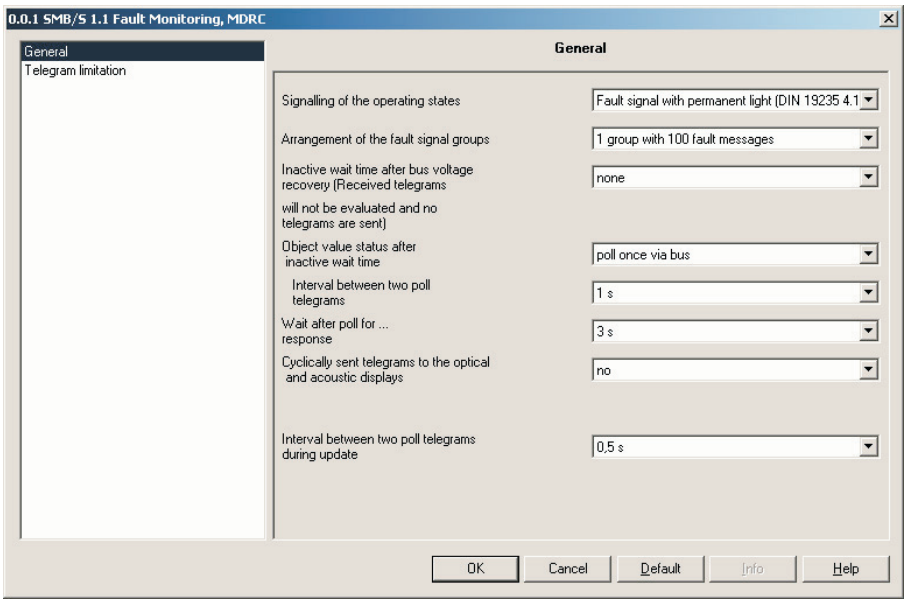

Fig. 4: Parameter window “General”

Signalling of the operating states

Options:	Fault signal with permanent light	(DIN 19235 4.1.1)
	New value signal	(DIN 19235 4.1.2.1)
	Initial value signal	(DIN 19235 4.1.3.1)
	Motor signal	(DIN 19235 4.1.4.1)

For setting the signal type. If the option *Motor signal* is selected, the *Motor signal* parameter page also appears.

Fault signal with permanent light (DIN 19235 4.1.1)

An operating state to be signalled is indicated by permanent lighting of a visual indicator which is assigned to this signal At the same time, a central acoustic and visual indicator which is assigned to this signal and which can also be assigned to other signals, is switched on. An acknowledgement signal switches both the respective visual indicator and the central acoustic and visual indicator off at the same time.

The central audible signal is switched off immediately when acknowledged. If the signalled operating state still exists during acknowledgement, the permanent lighting of the assigned visual indicator switches off only, if the operating state transfers to a non signalling state. If during acknowledgement, the operating state to be signalled no longer exists, the permanent light will switch off directly after acknowledgement.

The following function diagram for the fault signal with permanent light corresponds with the representation in the DIN 19235 from March 1985.

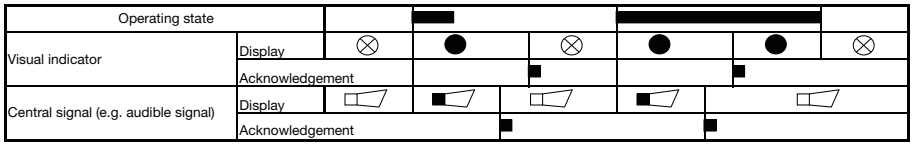

Fig. 5: Function diagram *Fault signal with permanent light*

The central visual indicator not represented in this diagram is activated until at least one visual indicator is activated, i.e. it establishes the OR logic of the individual visual indicators.

In the application software ***Fault signal/1***, a common acknowledgement is intended for all the individual visual indicators as well as for central acoustic and visual indicators.

In the following illustration, the functionality of the fault signal with permanent lighting is observed with two fault signals and an additional central visual indicator for three different cases.

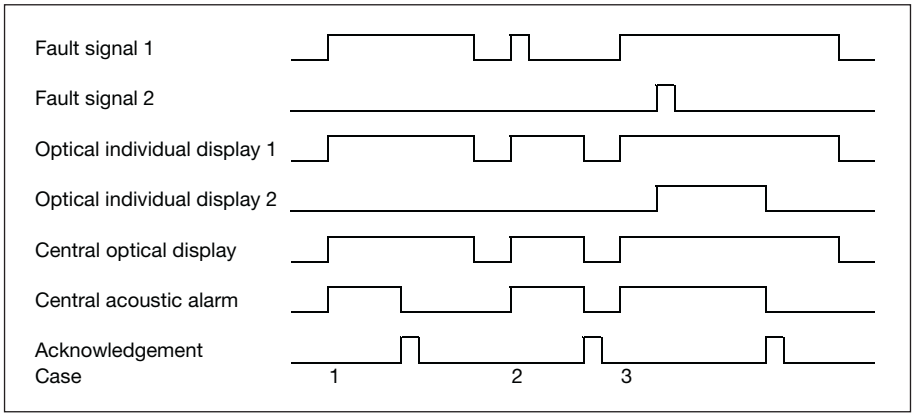

Fig. 6: Extended function diagram *Fault signal with permanent light*

Case 1: Fault signal 2 inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 as well as the central optical display and the central acoustic alarm.

At the time of acknowledgement fault signal 1 is still active. The acknowledgement only resets the central acoustic alarm.

Case 2: Fault signal 2 inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 as well as the central optical display and the central acoustic alarm.

At the time of acknowledgement fault signal 1 is no longer active. Acknowledgement resets the visual individual display 1, the central optical display and the central acoustic alarm.

Case 3: Fault signal 1 is active and simultaneously activates the optical individual display 1 as well as the central optical display and the central acoustic alarm. Fault signal 2 occurs and activates optical individual display 2.

At the time of acknowledgement fault signal 2 is no longer active. The acknowledgement only resets the visual individual display 2 and the central acoustic alarm.

Only one central acoustic alarm is required according to DIN 19235 of March 1985. Generally, a central visual indication is used in the fault signal tableau. The functionality of the central visual indicator in the figure represented above corresponds with the functionality generally implemented.

New value signal (DIN 19235 4.1.2.1)

With the new value signal every new operating state to be signalled is indicated by a flashing signal, and remains until the visual indicator is acknowledged. At the same time one or more signals of the assigned central acoustic and visual indicator are switched on. The visual indicator and the central acoustic indicator are switched off together with the acknowledge signal.

The central audible signal is switched off immediately when acknowledged. If the operating state to be signalled is still available, the flashing indicator switches to a permanently on indication. This switches off only after the operating state transfers to the non-signalled state. In other cases the flashing indicator switches off immediately after acknowledgement.

The following function diagram for the new value signal with flashing light corresponds with the representation in the DIN 19235 from March 1985.

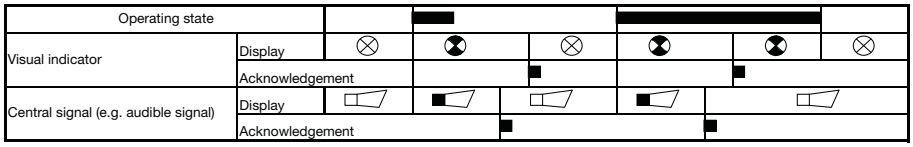

Fig. 7: Function diagram *New value signal with simple flashing light*

The central visual indicator not represented in the above diagram is activated until at least one visual indicator is activated permanently or flashed, i.e. it establishes the OR logic of the individual visual indicators. The central visual indicator flashes as long as at least one optical individual display flashes.

In the application software ***Fault signal/1***, a common acknowledgement is intended for all the individual visual indicators as well as for central acoustic and visual indicators.

In the following illustration, the functionality of the new value signal with flashing light with two fault signals and an additional central visual indicator for four different cases is represented.

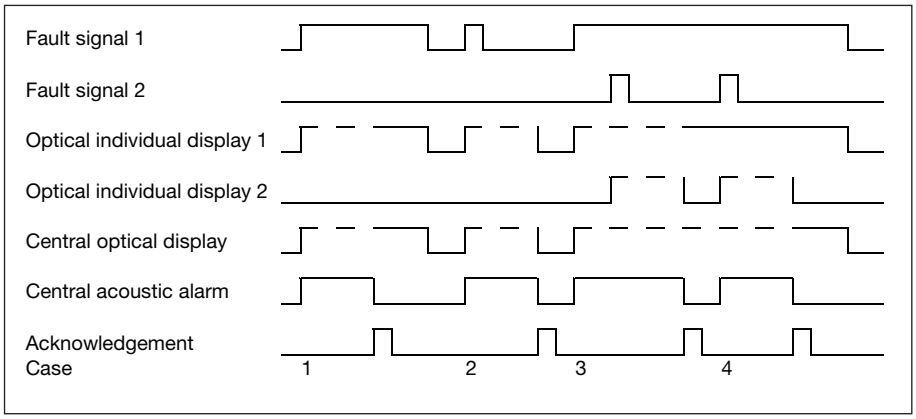

Fig. 8: Extended function diagram *New value signal with flashing light*

Case 1: Fault signal 2 inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm.

At the time of acknowledgement, fault signal 1 is still active. The acknowledgement only resets the central acoustic alarm and the flashing light of the optical individual display 1 switches to permanently on.

Case 2: Fault signal 2 inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm.

At the time of acknowledgement, fault signal 1 is no longer active. Acknowledgement resets the visual individual display 1, the central optical display and the central acoustic alarm.

Case 3: Fault signal 1 is active and activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm. Fault signal 2 occurs and activates the optical individual display 2 (flashing light).

At the time of acknowledgement fault signal 2 is no longer active. The acknowledgement resets the visual individual display 2 and the central acoustic alarm. Optical individual display 1 changes from a flashing to a permanent light.

Case 4: Fault signal 1 is still active. The optical individual display 1 is displayed with a permanent light

The central optical display flashes.

Fault signal 2 occurs and activates the visual individual display 2 (flashing light) as well as the central acoustic alarm.

At the time of acknowledgement fault signal 2 is no longer active. The acknowledgement resets the visual individual display 2 and the central acoustic alarm. Central visual individual display 1 remains permanently on. The central visual individual display changes from a flashing light to permanently on.

Only one central acoustic alarm is required according to DIN 19235 of March 1985. Generally, a central visual indication is used in the fault signal tableau. The functionality of the central visual indicator in the figure represented above corresponds with the functionality generally implemented.

Initial value signal (DIN 19235 4.1.3.1)

The initial value signal represents a function expansion of the new value signal.

Only the first operating state to signal will flash, all subsequent signals will be assigned to the permanent light. At the same time one or more signals of the assigned central acoustic and visual indicator are switched on.

The following function diagram for the initial value signal with simple acknowledgement corresponds with the representation in the DIN 19235 from March 1985.

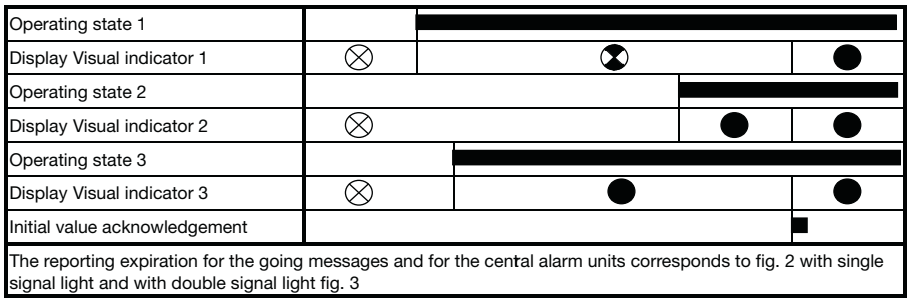

Fig. 9: Function diagram *initial value signal with simple acknowledgement*

The central visual indicator not represented in the above diagram is activated until at least one visual indicator is activated permanently or flashed, i.e. it establishes the OR logic of the individual visual indicators. The central visual indicator flashes as long as at least one optical individual display flashes.

In the illustration above, the non represented central acoustic indicator is switched off immediately when acknowledged.

Flashing remains active until the acknowledge signal is acknowledged. This acknowledge signal causes the flashing light to switch to a permanent light. At the same time, the acoustic alarm is reset.

If the operating state to be signalled is still available during acknowledgement, the visual indicator remains activated as a “permanent light”. It switches off only after the operating state transfers to the non-signalled state.

In the following illustration, the functionality of the initial value signal with simple acknowledgement with two fault signals and an additional central visual indicator is represented.

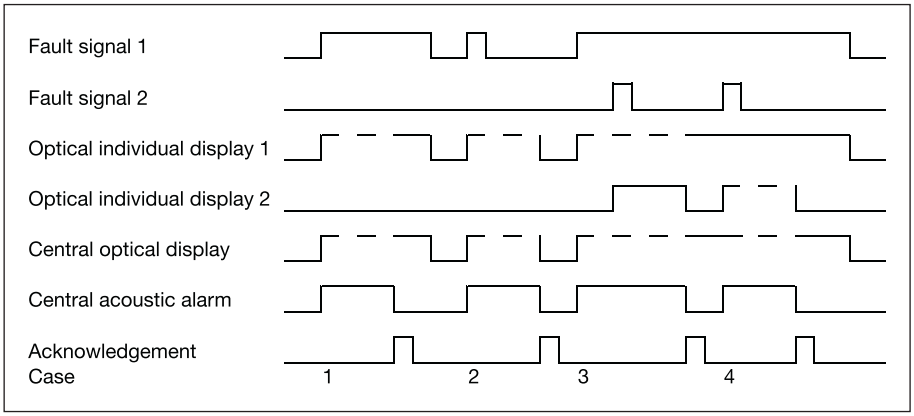

Fig. 10: Extended function diagram *initial value signal with simple acknowledgement*

Case 1: Fault signal 2 is inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm.

At the time of acknowledgement fault signal 1 is still active. The acknowledgement only resets the central acoustic alarm. The flashing light for the optical individual display 1 and the central optical display transfer to a permanent light.

Case 2: Fault signal 2 is inactive. Fault signal 1 occurs and simultaneously activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm.

At the point of acknowledgement fault signal 1 is no longer active. Acknowledgement resets the visual individual display 1, the central optical display and the central acoustic alarm.

Case 3: Fault signal 1 is active and activates the optical individual display 1 (flashing light) as well as the central optical display (flashing light) and the central acoustic alarm. Fault signal 2 occurs and activates the optical individual display 2 (permanent light).

At the time of acknowledgement fault signal 2 is no longer active. The acknowledgement resets the visual individual display 2 and the central acoustic alarm. Optical individual display 1 changes from a flashing to a permanent light. The central optical display changes from a flashing to a permanent light.

Case 4: Fault signal 1 is still active. Visual individual display 1 remains permanently on.

The central optical display is on.

Fault signal 2 occurs and activates the visual individual display 2 (flashing light) as well as the central acoustic alarm.

At the time of acknowledgement fault signal 2 is no longer active. The acknowledgement resets the visual individual display 2 and the central acoustic alarm. Central visual individual display 1 remains permanently on. The central visual individual display changes from a flashing light to permanently on.

Only one central acoustic alarm is required according to DIN 19235 of March 1985. Generally, a central visual indication is used in the fault signal tableau. The functionality of the central visual indicator in the figure represented above corresponds with the functionality generally implemented.

Motor signal (DIN 19235 4.1.4.1)

The so-called motor signal indicates with a flashing light and acoustic signal, if a setpoint state e.g. actuation of a switch actuator does not correspond with the actual state, e.g. feedback contact of equipment. This means that a direct comparison of the input and output states is undertaken.

The visual indicator assigned to equipment indicates by a permanent light that the equipment should be switched on and is switched on. The visual indicator assigned to equipment flashes if the equipment should switch on but, e.g. has switched itself off due to an overload. It also flashes if the equipment e.g. has switched itself on independently but should not be switched on.

At the same time one or more signals of the assigned central acoustic and visual indicator are switched on. The central acoustic indicator is acknowledged with the individual visual indicators, i.e. only a common acknowledgement is used.

The flashing light assigned to equipment continues after acknowledgement indicating how the equipment should be actuated, but is not yet activated.

The following function diagram for the motor signal corresponds with the representation in the DIN 19235 from March 1985.

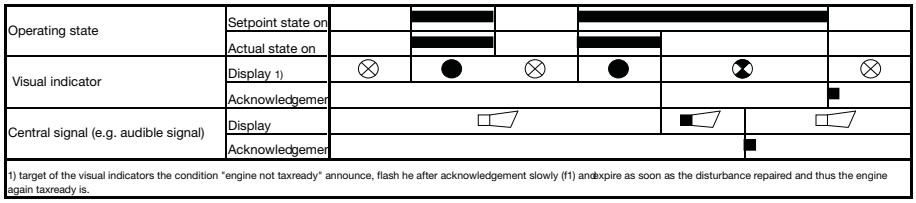

Fig. 11: Function diagram *Motor signal with a visual indicator*

The application software ***Fault signal/1*** also supports a central visual indicator, which is not shown in this function diagram.

The display of the listed state in the footnote [1] “Motor not ready” indicated by slow flashing, is not supported by the application software ***Fault signal/1*****.**

In the function diagram, the state where equipment is switched on but that it should not be switched on is not listed .

This state is indicated as follows:
The visual indicator is switched on and indicates the current state of the motor by flashing. The central acoustic indicator is activated.

The display thus corresponds to the operating case:

Actual value = OFF,

Setpoint value = ON

I.e. this operating state is acoustically signalled as a fault.
Thus the so-called motor signal indicates every case where the actual value and setpoint value do not correspond by a flashing signal.

In the following illustration, the functionality of the motor signal with a visual indicator, setpoint state, actual state and an additional central visual indicator for four different cases is represented.

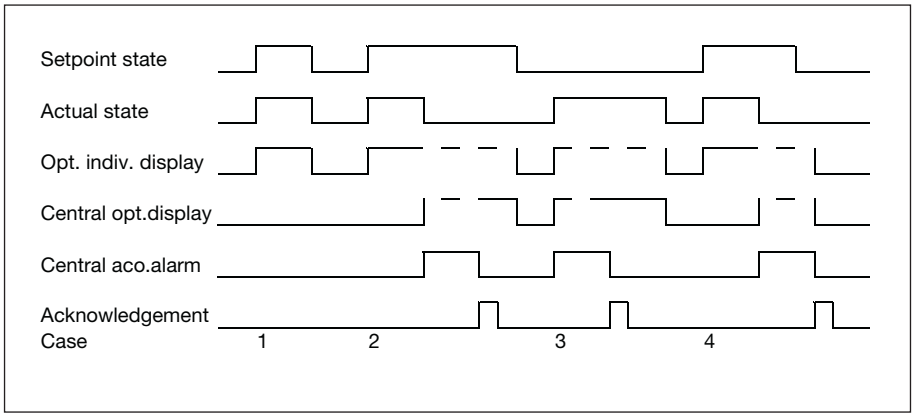

Fig. 12: Extended function diagram *Motor signal with a visual indicator*

Case 1: The setpoint state corresponds with the actual state. The optical individual display is activated. This means that everything is as it should be.

Case 2: The setpoint state and the actual state correspond. The optical individual display is activated.

After the actual state is no longer active (setpoint state is still active), the optical individual display switches over to a flashing light. The central acoustic alarm is activated and the central optical display flashes.

The acknowledgement resets the central acoustic alarm. The central optical display switches over to a permanent light.

As soon as the setpoint state changes to inactive, the optical individual display and the central optical display switch off.

Case 3: The setpoint state is not active. The actual state is active. The optical individual display and the central optical display flash, the central acoustic alarm is activated.

The acknowledgement only resets the central acoustic alarm. The central optical display switches over to a permanent light.

As soon as the setpoint state changes to inactive, the optical individual display and the central optical display switch off.

Case 4: The setpoint state and the actual state correspond. The optical individual display is activated.

After the actual state is no longer active (setpoint state is still active), the optical individual display switches over to a flashing light. The central acoustic alarm is activated and the central optical display flashes.

Even if the setpoint state becomes inactive, the optical display which has not yet been acknowledged continues to flash.

At the time of acknowledgement the setpoint state is no longer active, as a result the optical individual display, the central optical display and the central acoustic alarm are reset.

In the DIN 19235 from March 1985 it is not clearly set out how the optical displays and the acoustic collective alarm react, if a state to be signalled by a flashing light no longer continues to exist without having been acknowledged. This state is treated by the application software ***Fault signal/1*** as a non acknowledged fault signal to DIN 19235, section 4.1.1, 4.1.2 and 4.1.3, i.e. flashing continues until acknowledgement.

The motor signal can be described in a simplified manner as follows:

Opt. individual display **OFF**:	Equipment should be switched off and is switched off
Opt. individual display **ON**:	Equipment should be switched on and is switched on
Opt. individual display **flashes**:	Setpoint and actual state do not correspond and the signal has not been acknowledged.
Acoustic alarm **ON**:	At least one setpoint and actual state do not correspond and the signal has not been acknowledged.
Central opt. display **flashes**:	At least one setpoint and actual state do not correspond and the signal has not been acknowledged.
Central opt. display **ON**:	At least one setpoint and actual state do not correspond and the signal has been acknowledged.
Central opt. display **OFF**:	All setpoints and actual states correspond.

The central optical and acoustic displays behave like the central displays of a new value signal, whereby the state to be reported is not the corresponding values of setpoint and actual value.

What happens if an actual value is received without a setpoint value?
It is an error if the actual value is received without a setpoint value.
If an incorrect actual value is received in the set time after a setpoint value, the correct actual value may be received within the following second.
If it is not received this applies as an error.
If the correct actual value is received later, it still applies as an error.
In order to acknowledge the error message the setpoint value must be received first followed subsequently by the actual value.

Arrangement of the fault signal groups
This parameter is a dependent parameter. The possible options are dependent on the selected signal type.

“Fault signal with permanent light (DIN 19235.4.1.1)”

Options: 1 group with 100 fault signals
2 groups with 50 fault signals each
5 groups with 20 fault signals each
10 groups with 10 fault signals each

“New value signal (DIN 19235 4.1.2.1) and initial value signal (DIN 19235 4.1.3.1)”

Options: 1 group with 80 fault signals
2 groups with 40 fault signals each
5 groups with 10 fault signals each

“Motor signal (DIN 19235 4.1.4.1)”

Options: 1 group with 60 fault signals
2 groups with 30 fault signals each
5 groups with 10 fault signals each

If multiple operating states to be signalled (referred to as fault messages in the following) are assigned to a central acoustic indicator or visual indicator, this functional unit will be designated as a fault message group.

The Fault Monitoring Unit SMB/S 1.1 can process up to 100 fault signals. The fault signals can be combined to a single fault message group or distributed to multiple fault signal groups that are independent of each other.

Inactive wait time after bus voltage recovery
(Received telegrams will not be evaluated and no telegrams are sent)

Options: none/1 s/2 s/5 s/10 s/20 s/40 s/1 min/2 min/5 min/10 min/ 20 min/ 40 min/1 h/2 h/5 h/10 h/1 d

For setting the inactive time after bus voltage recovery. During this time no telegrams will be sent and received telegrams will not be evaluated. It may be necessary, particularly in larger EIB / KNX systems that longer times are set. Generally, a lot of telegram traffic on the bus is normally the case directly after bus voltage recovery. The selection of a longer time usually avoids an additional loading of the bus with telegrams, particularly with those sent by the current signalling unit.

Object value status after inactive wait time

Options: do not poll/
poll once via bus/
poll cyclically via bus

In order to activate the cyclic polling of assigned objects after the inactive time has timed out. The EIB / KNX system is an event controlled bus system. Generally, only telegrams are sent from inputs if the object value has changed. It is thus not assured that after bus voltage recovery, that the values of the input objects in the Fault Monitoring Unit correspond with the values in the assigned objects. Therefore, after the inactive time has timed out it is essential that the status of the object values are polled via the bus. This poll can be repeated cyclically at defined intervals. If a poll does not report back on the assigned object within a defined time, the object *Data loss* can send a telegram with the value 1. Cyclical polling ensures that the malfunction of a polled device or the failure of the transmission path are recognised for a polled device.

If the option *poll once via bus* or *poll cyclically via bus* in the parameter *Object value status after inactive wait time* is selected, the following parameter appears.

Interval between two poll telegrams

Options: 1 s/2 s/5 s/10 s/20 s/40 s/1 min/2 min/5 min/10 min/
20 min/40 min/1 h

In order to keep the bus load as low possible, an interval can be programmed between two polling telegrams. The interval can be set between 1 s and 1 h.

Wait after poll for ... for response

Options: 1 s/2 s/3 s/4 s/5 s/6 s/7 s/8 s/9 s/10 s/11 s/12 s/13 s/14 s/
15 s/16 s/17 s/18 s/19 s/20 s

As the EIB / KNX system is an event controlled bus system, an undefined time lies between polling of an object and from the response received from this object. In the best case, it is only a few milliseconds, in large systems with a high level of bus traffic it may take up to a few seconds. The maximum permitted wait interval before the answer is received can be set. If a poll does not report back on the assigned object within this time, the object *Data loss* can send a telegram with the value 1.

Cyclically sent telegrams to the optical and acoustic displays

Options: no/yes

Cyclical telegrams can be sent to the control units for the optical and acoustic signal transducers.

If option yes has been selected in parameter *Cyclically sent telegrams to the optical and acoustic displays* the following parameters appears.

Interval between two telegrams
Options: 1 s/2 s/5 s/10 s/20 s/40 s/1 min/2 min/5 min/10 min/ 20 min/40 min/1 h

For setting the interval between two telegrams.

Interval between two poll telegrams during update
Options: 0.1 s/0.2 s/0.3 s/0.4 s/0.5 s/0.6 s/0.7 s/0.8 s/0.9 s/1 s/2 s/ 3 s/4 s/5 s/6 s/7 s/8 s/9 s/10 s

For setting the interval between two polling telegrams during updating.

3.2.2 Parameter window “Telegram limitation”

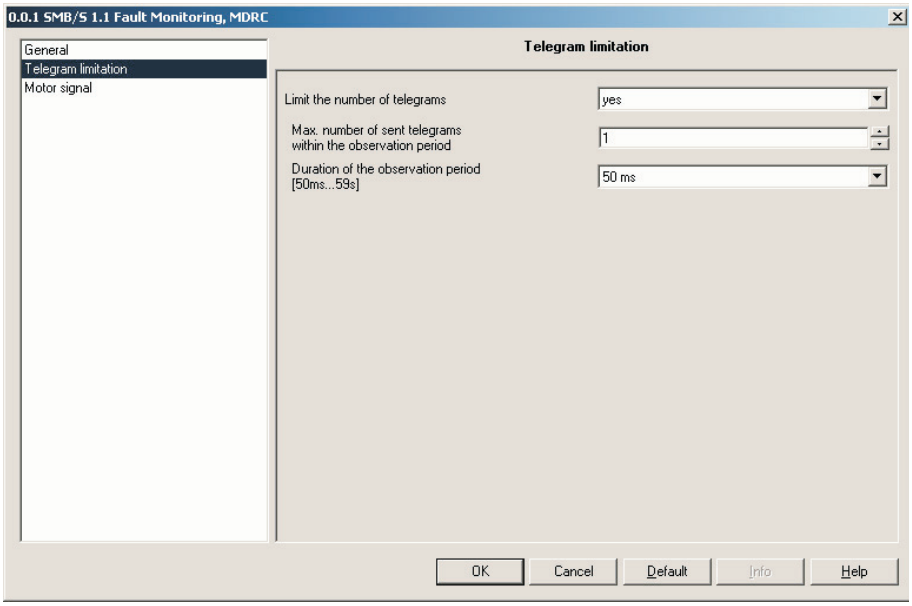

Fig. 13: Parameter window “Telegram limitation”

Limit the number of telegrams
Options: yes/<u>no</u>

To limit the telegrams sent by the Fault Monitoring Unit SMB/S 1.1 during a defined period (observation period).

If the option yes has been selected in the parameter *Limit the number of telegrams*, the following two parameters appear.

Max. number of sent telegrams within the observation period
Options: <u>1</u>...255

The max. number of sent telegrams within the so-called observation period can be set in the range from 1...255.

Duration of the observation period [50 ms...59 s]
Options: <u>50 ms</u>/100 ms/200 ms/500 ms/1 s/2 s/5 s/10 s/30 s/1 min

A new observation period starts after the end of the previous observation period or – in the event of a bus voltage recovery – after the end of the send delay time. The sent telegrams are counted. As soon as the “Max. number of transmitted telegrams…” has been reached, no further telegrams are sent on the bus until the end of the observation period. With the start of a new observation period, the telegram counter is reset to zero and the sending of telegrams is permitted again.

3.2.3 Parameter window “Motor signal”

The parameter window Motor signal only becomes active if the option *Motor signal (DIN 19235 4.1.4.1.)* in the parameter *Signalling of the operating states* has been selected in the parameter window *General*.

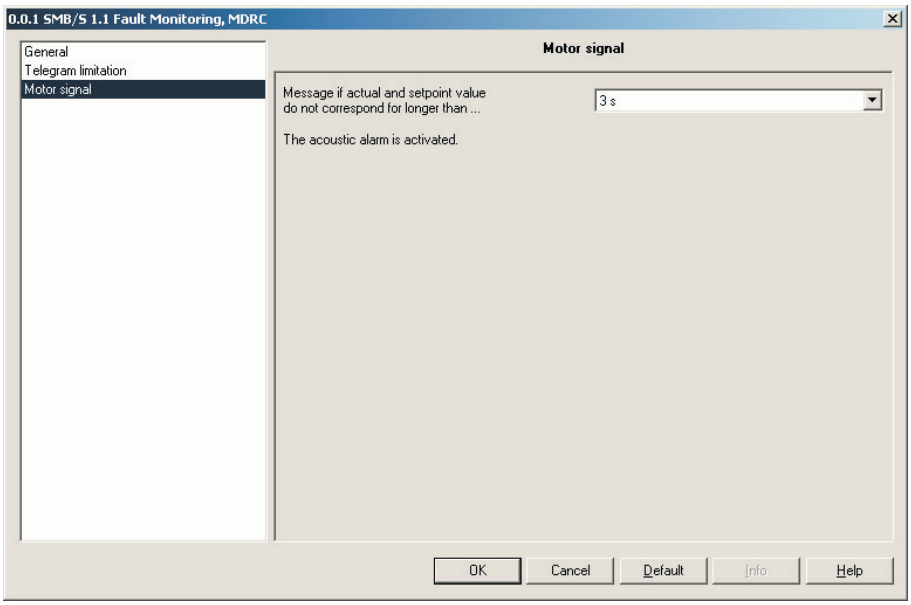

Fig. 14: Parameter window “Motor signal”

Message if actual and setpoint value do not correspond for longer than ...
Options: 1 s…3 s…20 s

For setting the maximum permissible time between the receipt of the setpoint value and the receipt of the actual value. Dependent on the process to be controlled and if necessary on the bus loading, it is possible that there is an interval between the receipt of a setpoint value and the respective actual value. To ensure that not every small delay leads to a fault signal, a maximum permissible time interval of between 1 s and 20 s can be set.

3.3 Communication objects

3.3.1 Operating mode “Fault signal with permanent light”

The object numbers represented in the following illustrations apply for the fault signals 1 with the selection of 10 fault signal groups with 10 fault messages each. With another arrangement, e.g. 1 fault signal group with 100 fault messages, the object numbers can partly change. The functionality of the objects described does not change.

Individual “Input” communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
1	Grp.1 - fault message 01	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	T	U

Fig. 15: Communications object “Group 1 – fault message 01”

No.	Function	Object name	Data type	Flags
1 ... 10	**Grp. 1 – fault message**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, R, T, Upd**
Input object for fault messages. An independent object is intended for every 10 fault messages. Telegram value 0 : No fault Telegram value 1: Fault				

Table 3: Communication objects 1 to 10 “Group 1 – fault message 01”

Individual “output” - communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
101	Grp.1 - Opt. display 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 16: Communications object “Group 1 – optical display 01”

No.	Function	Object name	Data type	Flags
101 ... 110	**Grp. 1 – optical Display 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input objects. Indicates that the assigned fault messages have not yet been acknowledged or the acknowledged fault message is still present. An independent object is intended for every 10 optical displays. Telegram value 0 : No fault signal Telegram value 1 : Fault message not yet acknowledged or acknowledged fault message present				

Table 4: Communication objects 101 to 110 “Group 1 – optical display 01”

Communication objects assigned to group 1

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
201	Grp.1 - Centr.opt.display	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
202	Grp.1 - Centr.acoust.display	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
203	Grp.1 - acknowledgement	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-
204	Grp.1 - data loss	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
205	Grp.1 - update	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-

Fig. 17: Communication objects 201 to 205 “Group 1”

No.	Function	Object name	Data type	Flags
201	**Grp. 1 – Centr. opt. Display**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that either at least one fault message has not been acknowledged or an acknowledged fault message is still present. Telegram value 0 : No fault signal Telegram value 1 : Fault message not yet acknowledged or acknowledged fault message present				
202	**Grp. 1 – Centr. acoust. Display**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault message has not yet been acknowledged. Telegram value 0 : No new non-acknowledged fault message Telegram value 1 : Fault message not yet acknowledged				
203	**Grp. 1 – acknowledgement**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1 for acknowledgement of the fault messages. Telegram value 0 : Without function Telegram value 1 : Acknowledge fault message				
204	**Grp. 1 – Data loss**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates, that after bus voltage recovery either at least one “fault message” input object has not yet received a telegram or that a response telegram has not been received after polling. Message being saved. If a telegram is received after acknowledgement of all assigned objects, the object value changes to “0”. Telegram value 0 : No data loss Telegram value 1 : Data loss				
205	**Grp. 1 – update**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1. Activates the polling of all fault signal objects, which are assigned to group 1. Telegram value 0 : Without function Telegram value 1 : Start polling cycle				

Table 5: Communication objects 201 to 205 “Group 1”

3.3.2 Mode “New value signal with simple flashing light”

The object numbers represented in the following illustrations apply for the fault message group 1 with the selection of 5 fault message groups with 10 fault messages each. With a different arrangement, e.g. 1 fault message group with 80 fault messages, the object numbers partly change.
The functionality of the objects described does not change.

Individual “Input” communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
1	Grp.1 - fault message 01	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	T	U

Fig. 18: Communications object “Group 1 – fault message 01”

No.	Function	Object name	Data type	Flags
1 ... 10	**Grp. 1 – fault message**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, R, T, Upd**
Input object for fault messages. An independent object is intended for every 10 fault messages. Telegram value 0 : No fault Telegram value 1 : Fault				

Table 6: Communication objects 1 to 10 “Group 1 – fault message”

Individual “output” - communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
51	Grp.1 - Opt. disp. Duration 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
52	Grp.1 - Opt. disp. Flashing 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 19: Communication objects 51 and 52 “Group 1”

No.	Function	Object name	Data type	Flags
51 ... 69	**Grp. 1 – Opt. display Duration 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input objects. Indicates that the message has been acknowledged and is still present. An independent object is intended for every 10 optical displays. Telegram value 0 : No fault message or fault message not acknowledged Telegram value 1 : Fault message is acknowledged and is still present				
52 ... 70	**Grp. 1 – Opt. display Flashing 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input objects. Indicates that the message has not yet been acknowledged. An independent object is intended for every 10 optical displays. Telegram value 0 : No fault message or fault message acknowledged Telegram value 1 : Fault message not acknowledged				

Table 7: Communication objects 51 to 70 “Group 1”

Communication objects assigned to group 1

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
200	Grp.1 - Centr.opt.display Dura	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
201	Grp.1 - Centr.opt.display Flas	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
202	Grp.1 - Centr.acoust.display	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
203	Grp.1 - acknowledgement	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-
204	Grp.1 - data loss	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
205	Grp.1 - update	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-

Fig. 20: Communication objects 200 and 205 “Group 1”

No.	Function	Object name	Data type	Flags
200	**Grp. 1 – Centr. opt. Display duration**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that all fault messages have been acknowledged and at least one fault message is still present. Telegram value 0 : No fault message or fault message not acknowledged Telegram value 1 : At least one acknowledged fault messages is still present				
201	**Grp. 1 – Centr. opt. Display flashing**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault message has not been acknowledged. Telegram value 0 : No fault message or fault message acknowledged Telegram value 1 : At least one fault message has not been acknowledged				
202	**Grp. 1 – Centr. acoust. Store**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault message has not yet been acknowledged. Telegram value 0 : No new non-acknowledged fault message Telegram value 1 : Fault message not yet acknowledged				
203	**Grp. 1 – acknowledgement**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1 for acknowledgement of the fault messages. Telegram value 0 : Without function Telegram value 1 : Acknowledge fault message				
204	**Grp. 1 – Data loss**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates, that after bus voltage recovery either at least one “fault message” input object has not yet received a telegram or that a response telegram has not been received after polling. Message being saved. If a telegram is received after acknowledgement of all assigned objects, the object value changes to “0”. Telegram value 0 : No data loss Telegram value 1 : Data loss				
205	**Grp. 1 – update**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1. Activates the polling of all fault signal objects, which are assigned to group 1. Telegram value 0 : Without function Telegram value 1 : Start polling cycle				

Table 8: Communication objects 205 to 205 “Group 1”

3.3.3 Mode “Initial value signal with simple acknowledgement”

The object numbers represented in the following illustrations apply for the fault message group 1 with the selection of 5 fault messages with 10 fault messages each. With a different arrangement, e.g. 1 fault message group with 80 fault messages, the object numbers partly change. The functionality of the objects described does not change.

Individual “Input” – communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
1	Grp.1 - fault message 01	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	T	U

Fig. 21: Communications object “Group 1 – fault message 01”

No.	Function	Object name	Data type	Flags
1 ... 10	**Grp. 1 – fault message**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, R, T, Upd**
Input object for fault messages. An independent object is intended for every 10 fault messages. Telegram value 0 : No fault Telegram value 1 : Fault				

Table 9: Communication objects 1 to 10 “Group 1 – fault message 01”

Individual “output” – communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
51	Grp.1 - Opt. display Duration	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
52	Grp.1 - Opt. display Flashing	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 22: Communication objects 51 and 52 “Group 1”

No.	Function	Object name	Data type	Flags
51 ... 69	**Grp. 1 – Opt. display Duration 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input objects. Indicates that the message has been received as the first message and has been acknowledged, and is still present or has been received as a further message. An independent object is intended for every 10 optical displays. Telegram value 0 : No fault message or fault messages received as first message and not yet acknowledged Telegram value 1 : Fault message has been received as first message and acknowledged and is still present or fault message has been received as a further message				
52 ... 70	**Grp. 1 – Opt. display Flashing 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input onjects. Indicates that the message has not yet been acknowledged. An independent object is intended for every 10 optical displays. Telegram value 0 : No fault message or fault message acknowledged Telegram value 1 : Fault message received as first message and not acknowledged				

Table 10: Communication objects 51 to 70 “Group 1”

Communication objects assigned to group 1

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
200	Grp.1 - Centr.opt.display Dura	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
201	Grp.1 - Centr.opt.display Flas	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
202	Grp.1 - Centr.acoust.display	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
203	Grp.1 - acknowledgement	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-
204	Grp.1 - data loss	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
205	Grp.1 - update	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-

Fig. 23: Communication objects 200 to 205 “Group 1”

No.	Function	Object name	Data type	Flags
200	**Grp. 1 – Centr. opt. display Duration**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that all fault messages have been acknowledged and at least one fault message is still present. Telegram value 0 : No fault message or fault message not acknowledged Telegram value 1 : At least one acknowledged fault messages is still present				
201	**Grp. 1 – Centr. opt. display Flashing**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault messagehas not been acknowledged. Telegram value 0 : No fault message or fault message acknowledged Telegram value 1 : At least one fault message has not been acknowledged				
202	**Grp. 1 – Centr. acoust. Store**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault message has not yet been acknowledged. Telegram value 0 : No new non-acknowledged fault message Telegram value 1 : Fault message not yet acknowledged				
203	**Grp. 1 – acknowledgement**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1 for acknowledgement of the fault messages. Telegram value 0 : Without function Telegram value 1 : Acknowledge fault message				
204	**Grp. 1 – Data loss**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates, that after bus voltage recovery either at least one “fault message” input object has not yet received, and that a telegram or a response telegram has not been received after polling. Message being saved. If a telegram is received after acknowledgement of all assigned objects, the object value changes to “0”. Telegram value 0 : No data loss Telegram value 1 : Data loss				
205	**Grp. 1 – update**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1. Activates the polling of all fault signal objects, which are assigned to group 1. Telegram value 0 : Without function Telegram value 1 : Start polling cycle				

Table 11: Communication objects 200 to 205 “Group 1”

3.3.4 Mode “Motor signal”

The object numbers represented in the following illustrations apply for the fault message group 1 with the selection of 5 fault message groups with 10 fault messages each. With a different arrangement, e.g. 1 fault message group with 60 fault messages, the object numbers partly change.
The functionality of the objects described does not change.

Individual “Input” communication objects

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
1	Grp.1 - setpoint value 01	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	T	U
2	Grp.1 - actual value 01	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	T	U

Fig. 24: Communication objects 1 and 2 “Group 1”

No.	Function	Object name	Data type	Flags
1 ... 19	**Grp. 1 – setpoint value**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, R, T, Upd**
Input object for the setpoint values. An independent object is intended for every one of the 10 setpoint values. Telegram value 0 : Setpoint value = 0 Telegram value 1 : Setpoint value = 1				
2 ... 20	**Grp. 1 – actual value**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, R, T, Upd**
Input object for the actual values. An independent object is intended for every one of the 10 actual values. Telegram value 0 : Actual value = 0 Telegram value 1 : Actual value = 1				

Table 12: Communication objects 1 to 20 “Group 1”

Individuelle „Ausgangs“-Kommunikationsobjekte

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
101	Grp.1 - Opt. disp. Duration 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
102	Grp.1 - Opt. disp. Flashing 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 25: Communication objects 101 and 102 “Group 1”

No.	Function	Object name	Data type	Flags
101 ... 119	**Grp. 1 – Opt. display Duration 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input objects. Indicates that setpoint and actual value have the value “1”. An independent object is intended for every 10 optical displays. Telegram value 0 : Setpoint and actual value have the value “0” or setpoint and actual value does not corresponde with one another or setpoint and actual value do not correspond and were not acknowledged Telegram value 1 : Setpoint and actual value have the value “1”				
102 ... 120	**Grp. 1 – Opt. display Flashing 01**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Output object for the control of the optical displays assigned to the input displays. Indicates that the setpoint and actual value do not correspond or do not correspond and has not been acknowledged. An independent object is intended for every 10 optical displays. Telegram value 0 : Setpoint and actual value have the value “0” or setpoint and actual value have the value “1” Telegram value 1 : Setpoint and actual value do not correspond with one another and have not yet been acknowledged				

Table 13: Communication objects 101 to 120 “Group 1”

Communication objects assigned to group 1

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
201	Grp.1 - Centr.opt.display Dura	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
202	Grp.1 - Centr.opt.display Flas	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
203	Grp.1 - Centr.acoust.display	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
204	Grp.1 - acknowledgement	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-
205	Grp.1 - data loss	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
206	Grp.1 - update	Input Telegr.	1 bit	1 bit DPT_Switch	C	-	W	-	-

Fig. 26: Communication objects 201 and 206 “Group 1”

No.	Function	Object name	Data type	Flags
201	**Grp. 1 – Centr. opt. display Duration**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that in at least one case setpoint and actual state do not correspond and the signal has not been acknowledged. Telegram value 0 : No fault message or fault message not acknowledged Telegram value 1 : At least one acknowledged fault messages is still present				
202	**Grp. 1 – Centr. opt. display Flashing**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that in at least one case setpoint and actual state do not correspond and have not been acknowledged. Telegram value 0 : No fault message or fault message acknowledged Telegram value 1 : At least one fault message has not been acknowledged				
203	**Grp. 1 – Centr. acoust. Display**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates that at least one fault message has not yet been acknowledged. Telegram value 0 : No new non-acknowledged fault message Telegram value 1 : Fault message not yet acknowledged				
204	**Grp. 1 – acknowledgement**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1 for acknowledgement of the fault messages. Telegram value 0 : Without function Telegram value 1 : Acknowledge fault message				
205	**Grp. 1 – Data loss**	**Output Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, T**
Common output object of group 1. Indicates, that after bus voltage recovery either at least one “fault message” input object has not yet received a telegram or that a response telegram has not been received after polling. Message being saved. If a telegram is received after acknowledgement of all assigned objects, the object value changes to “0”. Telegram value 0 : No data loss Telegram value 1 : Data loss				
206	**Grp. 1 – update**	**Input Telegr.**	**1 Bit EIS1 DTP 1.001**	**C, W**
Common input object of group 1. Activates the polling of all fault signal objects, which are assigned to group 1. Telegram value 0 : Without function Telegram value 1 : Start polling cycle				

Table 14: Communication objects 201 to 206 “Group 1”

3.4 Special operation states

3.4.1 Behaviour on bus voltage failure

The current object values are lost with a bus voltage failure.

3.4.2 Behaviour on bus voltage recovery

At bus voltage recovery all the objects initially have the value 0. Otherwise the behaviour can be set in the parameters.

Adjustable are:

– Inactive time after bus voltage recovery

– Poll assigned objects once after inactive time status

– Poll assigned objects cyclically after inactive time status

3.4.3 Behaviour during/after the programming

The current object values are lost when programmed. After programming the Fault Monitoring Unit SMB/S behaves as after bus voltage recovery.

3.4.4 Behaviour with reset via the ETS

After reset the Fault Monitoring Unit SMB/S behaves as after bus voltage recovery

4 Planning and application

In this section you will find some tips and application examples for practical use of the device.

4.1 Design of the fault signal tableau

The Fault Monitoring Unit SMB/S 1.1 provides the logical functionality for the fault signal to DIN 19235.

The data which is to be evaluated and which can lead to display of a fault signal, is sent in the EIB / KNX system e.g. by binary entries or also e.g. by the feedback objects of the switch actuators via bus telegrams to the Fault Monitoring Unit SMB/S 1.1.

The Fault Monitoring Unit processes this data and uses it to produce the control signals for EIB / KNX actuators, which then control optical displays or acoustic signal transducers.

If the optical displays are to flash, then the control of the optical signal transducers, e.g. LEDs, can be applied to great advantage with the universal interface US/U4.2.

The parameters should be set as follows:

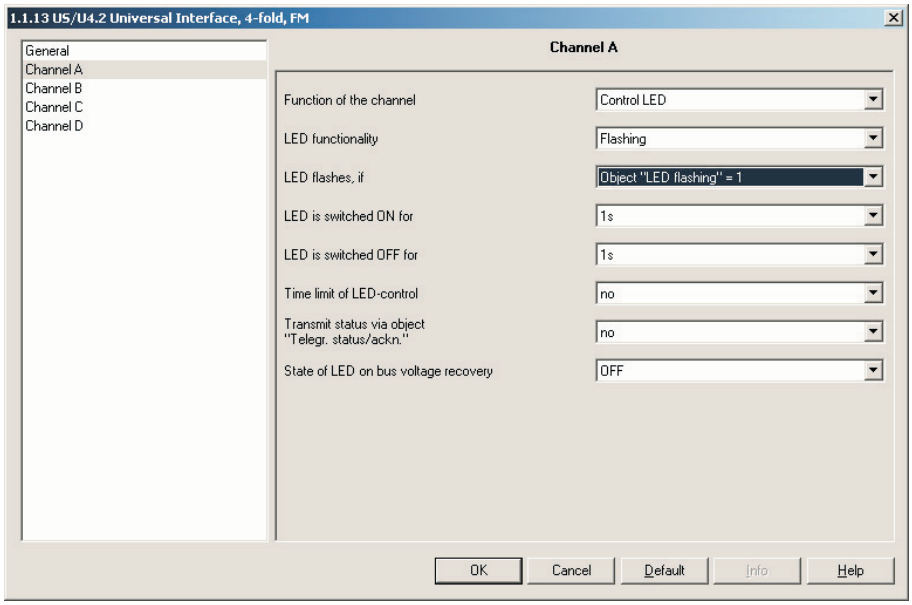

Fig. 27: Parameter window “Channel A of the US/U 4.2”

The objects *LED flash* and *LED permanently* on of the universal interface US/U4.2 are to be connected to the respective objects, e.g. Grp.1 – Opt. Display Duration 01 and Grp. 1 – Opt. Display Flashing 01.

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
2	LED, flashing	Output A	1 bit		C	-	W	-	-
3	LED permanent ON	Output A	1 bit		C	-	W	-	-

Fig. 28: Communication objects 2 and 3 of the US/U

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
101	Grp.1 - Opt. disp. Duration 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
102	Grp.1 - Opt. disp. Flashing 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 29: Communication objects 101 and 102 “Group 1“

In cases with many fault messages, the Universal Concentrator UK/S 32.1 can be used for the control of optical signal transducers, e.g. indicator lamps up to 80 mA current consumption can be used. As this does not feature the possibility for ecvry channel of either switching permanently or flashing by indicator lamp. it is necessary to electrically connect two outputs of the universal concentrator in parallel which have to be programmed as follows.

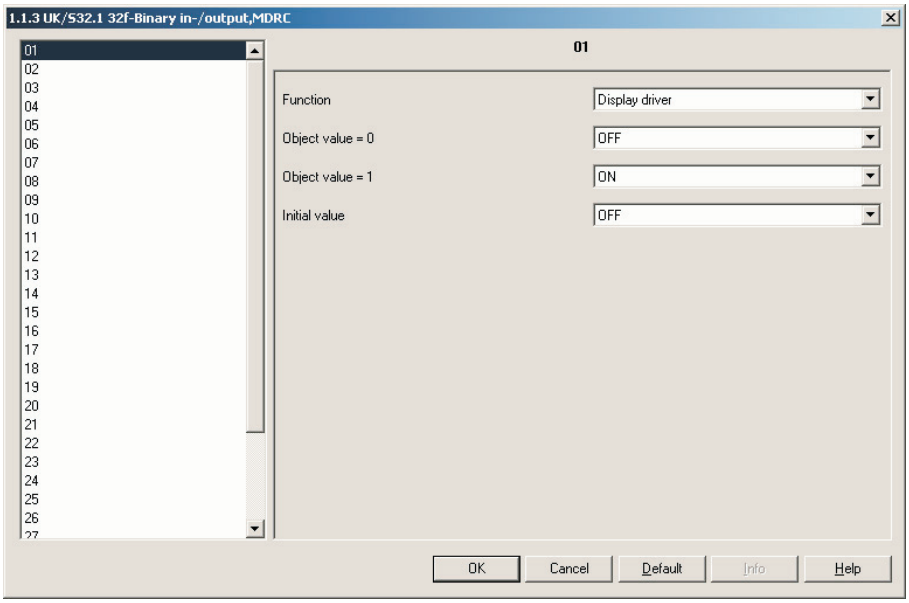

Fig. 30: Parameter window “01 of UK/S 32.1”

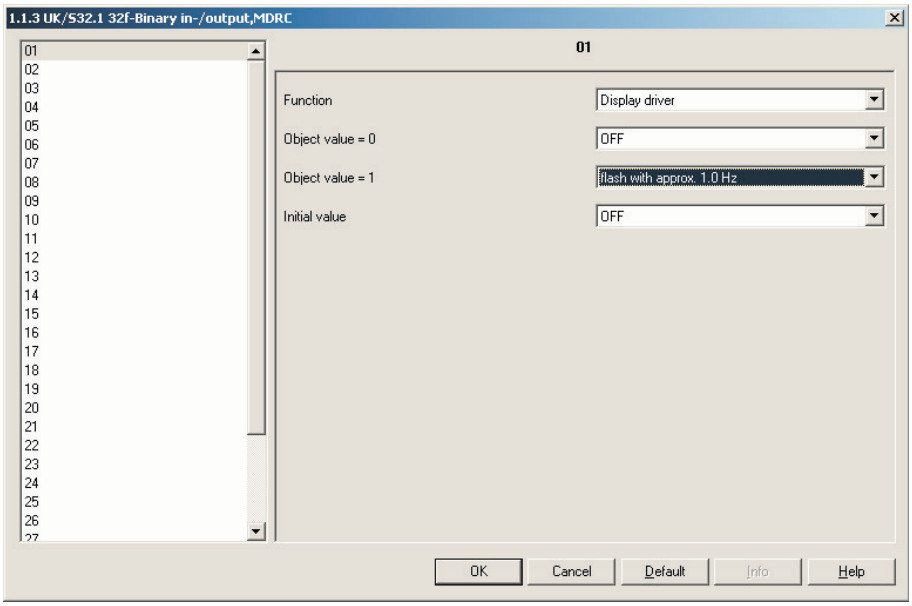

Fig. 31: Parameter window “02 of UK/S 32.1”

The object 0 (channel 1) of the UK/S 32.1 must be linked to the respective object of the Fault Monitoring Unit, such as e.g. Grp.1 – Opt. Display Duration 01, and the object 1 (channel 2) of the UK/S32.1 must also linked with the respective object of the Fault Monitoring Unit, such as e.g. Grp. 1 – Opt. Display Flashing 01.

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
101	Grp.1 - Opt. disp. Duration 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-
102	Grp.1 - Opt. disp. Flashing 01	Output Telegr.	1 bit	1 bit DPT_Switch	C	-	-	T	-

Fig. 32: Communication objects 101 and 102 “SMB/S 11.1 Display”

Nummer	Funktion	Name	Länge	Datentyp	K	L	S	Ü	A
0	Display driver	01: Display driver	1 bit		C	R	W	T	U
1	Display driver	02: Display driver	1 bit		C	R	W	T	U

Fig. 33: Communication objects 0 and 1 “UK/S 32.1 Display”

The logic of the Fault Monitoring Unit ensures that both output objects of the Fault Monitoring Unit for continuous or flashing control of optical signal transducers cannot simultaneously have the value “1” – with the exception of state transition during signal change. Either the object for *flashing* or the object for *continuous control* has the value “1”. This ensures that the states *ON*, *OFF* and *flashing* states are correctly represented by the Fault Monitoring Unit via one or two channels of the Universal Concentrator UK/S 32.1 controlled optical signals.

A Appendix

A.1 Scope of delivery

The Fault Monitoring Unit SMB/S 1.1 is supplied with following parts. Please check the items received using the following list.

– 1 pc. SMB/S 1.1, Fault Monitoring Unit, 1-fold, MDRC
– 1 pc. Installation and operating instructions
– 1 pc. Bus connection terminal (red/black)

A.2 Directory of drawings

A.3 Directory of tables

A.4 Index

A.5 Ordering details

Designation	**Ordering information**		**bbn 40 16779**	Price group	Weight 1 pc. in kg	Pack unit [Pc.]
	Short description	Order No.	**EAN**			
Fault Monitoring Unit, REG	**SMB/S 1.1**	GHQ 631 0085 R0111	**58092 2**	26	0.1	1

Table 15: Ordering details Fault Monitoring Unit SMB/S 1.1

A.6 Notes

The information in this leaflet is subject to change without further notice.

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replace 2CDC 513 021 D0201

Your EIB-Partner