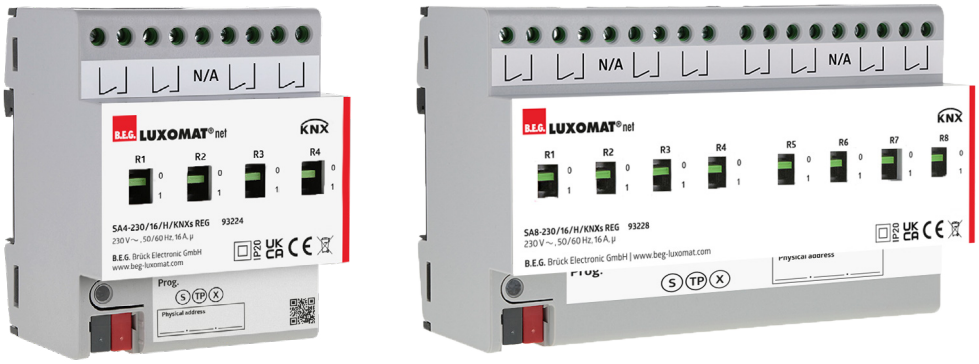
B.E.G. LUXOMAT® net



Switching actuators KNX Secure

Application description

SAx-230/16/H/KNXs REG

All device data can also be found here:

https://www.beg-luxomat.com/en-in/products/control-systems/knx/

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1 Introduction

This ETS application is intended for actuators with different numbers of channels.

The B.E.G. KNX Secure switching actuator receives and transmits KNX telegrams and switches „n“ loads independently of each other. Each output, also known as a channel, is switched via a relay. Each output can be individually programmed using the ETS. Logical links, status feedback, disabling functions, central switching functions and comprehensive time functions, such as switch-on/switch-off delays and automatic staircase functions as well as a flashing function are available. Scene functions are also available.

As the channels behave identically, the function is explained on channel 1 / K1.

1.1 General

1.1.1 Basic information about the KNX bus

A KNX commissioning or project planning course is required to understand these instructions.

In order to be able to work with the B.E.G. applications, they must first be imported into the ETS. ETS version 5 or higher is supported.

1.1.2 Symbolism

In the following application description, various symbols are used for a better overview. These symbols are explained briefly here.

	**Caution:** This symbol indicates text passages that must be read in order to avoid errors during project planning and commissioning.
	**Recommendation:** This symbol indicates parameter settings that experience has shown lead to optimum device utilisation.

1.2 KNX Data Secure

KNX Data Secure enables the secure commissioning of and communication between devices that support Data Secure. This enables encrypted transmission of group addresses between two devices that support Data Secure. With Data Secure, devices that support Data Secure can also communicate with devices that do not support Data Secure. Mixed operation in a project is therefore possible. However, if all data of a group address are to be transmitted encrypted, all devices whose objects are connected to this group address must support Data Secure.

1.2.1 Commissioning Data Secure

For each device, it can be decided whether the commissioning is to take place secured or unsecured. If the commissioning is not secured, the device is to be used as a normal device without Data Secure. By default, secure commissioning is activated in the ETS for all devices during insertion. This item can be changed by the system integrator under Device ➜ Properties ➜ Settings.

If the message to enter the FDSK for the device appears, you can skip this dialogue with the „Later“ button. Data Secure can also be activated later by activating the „secure commissioning“ and the FDSK is available.

To put Secure devices into operation, proceed as follows:

1. **Load product dacardase:**

When loading the product dacardase, you will usually be asked directly to enter the FDSK (Factory Default Setup Key, see 1.3.2) of the device.

You can enter the FDSK manually or scan the QR code via camera. If you do not want to read in the FDSK, this can also be done at a later time. To enter the FDSK later, select the respective project and select the Safety card.

Here you can now select the „Add" button and enter the FDSK or scan the QR code. The FDSK is then decoded into serial number and factory key. The assignment of which key belongs to which device is done automatically by the ETS. Thus, all FDSK used in the project can be entered one after the other.

2. **Download the application:**

Now the application can be downloaded to the device.

In order to be able to commission devices with Data Secure, at least ETS 5.7 must be used.

1.2.2 FDSK

Each Secure device is delivered with the „Factory Default Setup Key" (FDSK). Each detector of Generation 7 has an individual FDSK (Factory Default Setup Key). This key is found in the form of a QR code on each device. This key must be entered into the ETS by the system integrator. A device-specific tool key is then generated from this. The ETS sends the tool key via the KNX bus to the device that is to be configured. This transmission is encrypted and authenticated with the FDSK key. After this initial commissioning, the device only accepts the received tool key. The FDSK is no longer required for further transmission unless the device is reset via the master reset. The FDSK of all devices in a project **must** be kept on a project-specific basis.

1.2.3 Master reset

To perform the master reset, the following sequence is required:

➞ Press the programming button briefly
➞ Wait 0.5s
➞ Press the programming button briefly
➞ Wait 0.5s
➞ Press the programming button briefly
➞ Disconnect bus voltage
➞ Hold down the programming button, connect the bus voltage and hold down for a further 5 seconds.
➞ Release programming button
➞ Programming LED lights up briefly

After approx. 20s, the device is ready for communication.

1.3 General function of the switch actuator

The function of the switching actuator, switching, is realized via four consecutive blocks in which the respective event is processed:

- **Input events / filters**
  An input event is, for example, a push button action. In this block, this input event can then be filtered or inverted according to the object values parameterized for this block. The result obtained in this block is output and represents the input event in the next block. The next block is the
- **Basic functions**
  The basic functions of the switch actuator are switching, staircase automation and flashing. Parameters can also be set for these functions. The following block are the
- **Logic functions**
  The type of logic operation can be selected here. In addition, the higher-priority (high-priority) disable, forced operation and safety functions can be defined. The output / relay behavior can be defined as a further basis. In particular, the type of contact (normally closed/ normally open) can be defined and the feedback behaviour can be parameterized. The result generated here then determines the switching behavior.

2 Basic functions

The basic functions define the basic functions of the switch actuator.

2.1 Start delay

There is often a large number of actuators in a system. A start delay can be specified for the switching actuator to avoid voltage peaks on mains recovery. This is the time after bus voltage recovery that the switching actuator should wait before resuming its function.

General	
Start delay in seconds	0 – 120 **[5]**

2.2 Commissioning telegram (heartbeat)

When the switching actuator is ready for operation, it can send a commissioning telegram cyclically. This telegram is monitored by a higher-level unit.

The telegram only indicates that the switching actuator itself is ready for operation. If a channel is defective, e.g. because a relay is „stuck", this is not reported. The intervals at which this commissioning telegram is sent can also be defined.

General	
Commissioning telegram (heartbeat)	**deactivated**
	activated
Cycle time in minutes (only visible during commissioning telegram "activated")	1 – 120 **[60]**

No.	Name	Function	C	R	W	T	M
221	General output (DPT 1.001)	Commissioning telegram	X	-	-	X	-

2.3 Input objects: Switch and central object

A switching object is assigned to each channel. An input event causes a telegram, the value of which can be parameterized. The input event causes the staircase controller to switch or start, for example.

The central object is a 1-bit object. This object can affect all channels. For each channel, you can specify whether the channel should evaluate the central object or not. A telegram to this object is equivalent to telegrams to the switching object. However, the central function has its own input filters.

The input objects all have the same priority, i.e. the last telegram always prevails.

No.	Name	Function	C	R	W	T	M
217	General input (DPT 1.001)	Central switching	X	-	X	-	-

2.4 Collective feedback signals

There are two feedback options. With active feedback (active feedback object), the relay status is reported each time the bus is switched. With passive status objects, the value is not sent automatically. The value of the object is always current, but must be read out via the bus, e.g. using visualization software. It can be defined here that the feedback from the individual channels is collected. Further explanations can be found in the „Feedback" chapter.

Collective feedback	**deactivated**
	active feedback object
	passive status object

No.	Name	Function	C	R	W	T	M
219	General output (DPT 27.001)	Collective feedback (active)	X	-	-	X	-

No.	Name	Function	C	R	W	T	M
219	General output (DPT 27.001)	Collective feedback (passive)	X	X	-	-	-

2.5 Resetting the actuator to the original ETS parameters (reset)

It is possible to change some parameters during operation using bus access (objects). A taught-in value can be protected against changes (ETS download or resetting the actuator). To generally prevent the changed parameters from being reset, this function must be deactivated. If the function is activated, all parameters that are enabled for a reset are reset.

A „1" telegram to the „Parameter reset" object resets the actuator to the original ETS values. The values to be reset can be selected for each actuator function.

The parameters also have an influence on the next ETS download. A taught-in value can be protected against changes (ETS download or resetting the actuator).

The following table shows which functions can be reset by the „Parameter Reset" object („1" telegram).

Function	Parameters	Reset value
Scene function	Saved scenes by ETS download or object reset	Value input event for Scene A to H
Switch-on delay	Times changed by object through ETS download or object reset	Delay time (hours, minutes, seconds)
Switch-off delay	Times changed by object through ETS download or object reset	Delay time (hours, minutes, seconds)
Staircase timer	Times changed by object through ETS download or object reset	Follow-up time (hours, minutes, seconds)
Operating hours counter	**Limit value changed** by object via ETS download or object reset	Operating hours limit value in hours
Operating hours counter	**Current operating meter reading** by ETS download, object reset resettable	0
Switching cycle counter	**Limit value changed** by object via ETS download or object reset	Switching cycle counter limit value
Switching cycle counter	**Current switching cycle counter status** can be reset via ETS download, reset object	0

General settings	
Resetting the actuator to the original download parameters	activated
	deactivated

No.	Name	Function	C	R	W	T	M
218	General input (DPT 1.001)	Actuator reset	X	-	X	-	-

3 Channel selection

Channels 1 to n can be activated or deactivated individually under the „Channel selection“ parameter. It is also possible to use the parameters of another channel.

The activated channels can then be parameterized individually. The available functions are the same for all channels. The functions are explained below using one channel as an example.

Channel selection	
Channel 1	**activated**
	deactivated
	use parameters of another channel
...	...
Channel n	activated
	deactivated
	use parameters of another channel

Channel selection (visible if "Use parameters of another channel" is activated)	
Transfer parameters from this channel	1 – 12 **[1]**

3.1 Channel 1 - General settings

Relay status after bus voltage failure

If the bus voltage fails, it is possible to switch a switching contact to a last defined position (closed, open).

NOTE	
	The contact type parameter (normally closed / normally open contact) is not taken into account here.

In the event of a bus voltage failure, the actuator saves the last valid result of the basic function internally, although running times are not taken into account. These saved values can be reactivated when the bus voltage returns.

The behavior on bus voltage recovery can also be selected. However, the possible parameter values do not have a direct effect on the relay, but determine the result of the basic function. The logic functions are the background to this. With the logic functions, it is also possible to define a bus voltage recovery behavior. This is superordinate to the basic functions. Only if no logic functions have been parameterized do the parameters of the bus voltage recovery behaviour have a direct effect on the switching channel.

Channel 1: General settings (visible if channel 1 is activated)	
Relay status after bus voltage failure	open
	closed
	no change
Result of the basic function after bus voltage recovery	**„0“**
	„1“
	no change
	as before bus voltage failure

3.2 Operating hours counter

The operating hours counter can be used to monitor the operating time of a channel. The first step is to define the status to be monitored. How long the connected load has been switched on is the most common user case. To do this, the duration must be measured while the relay is closed.

The duration for which the relay is open can also be measured.

To determine the operating time of the switching actuator itself, you can parameterize that both relay states (closed or open) should be monitored. However, this setting only needs to be selected for one channel; the other channels can monitor the relay states as required. In this way, the number of operating hours of the switching actuator can be determined via the channel that monitors the relay states „closed or open", while the operating hours of the connected loads are determined for the remaining channels.

The operating hours counter internally counts up an hours counter, the value of which is constantly compared with the operating hours limit value. The operating hours limit value can be set in the parameters from 0 to 100,000 hours. During operation, this value can also be changed via the bus using a 2-byte object. This resets the current operating hours counter. If this limit value is reached, the channel sends a message. This can be a „1" or „0" telegram.

If the operating hours counter has reached the operating hours limit value and has reported this on the bus, the operating hours counter must be deleted manually. Only then will the process restart. The operating hours continue to be counted even after the operating hours limit has been reached.

The current operating counter reading can be sent when a change is made. The amount of the change can be selected between 1 and 24 hours.

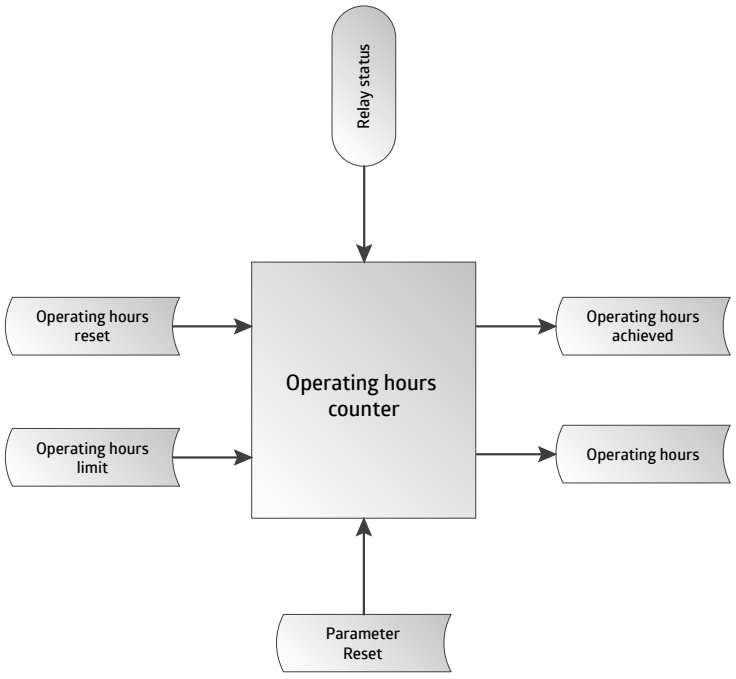
The message object (operating hours reached) can be sent cyclically. In addition, only a change can be sent here (minimization of the bus load).

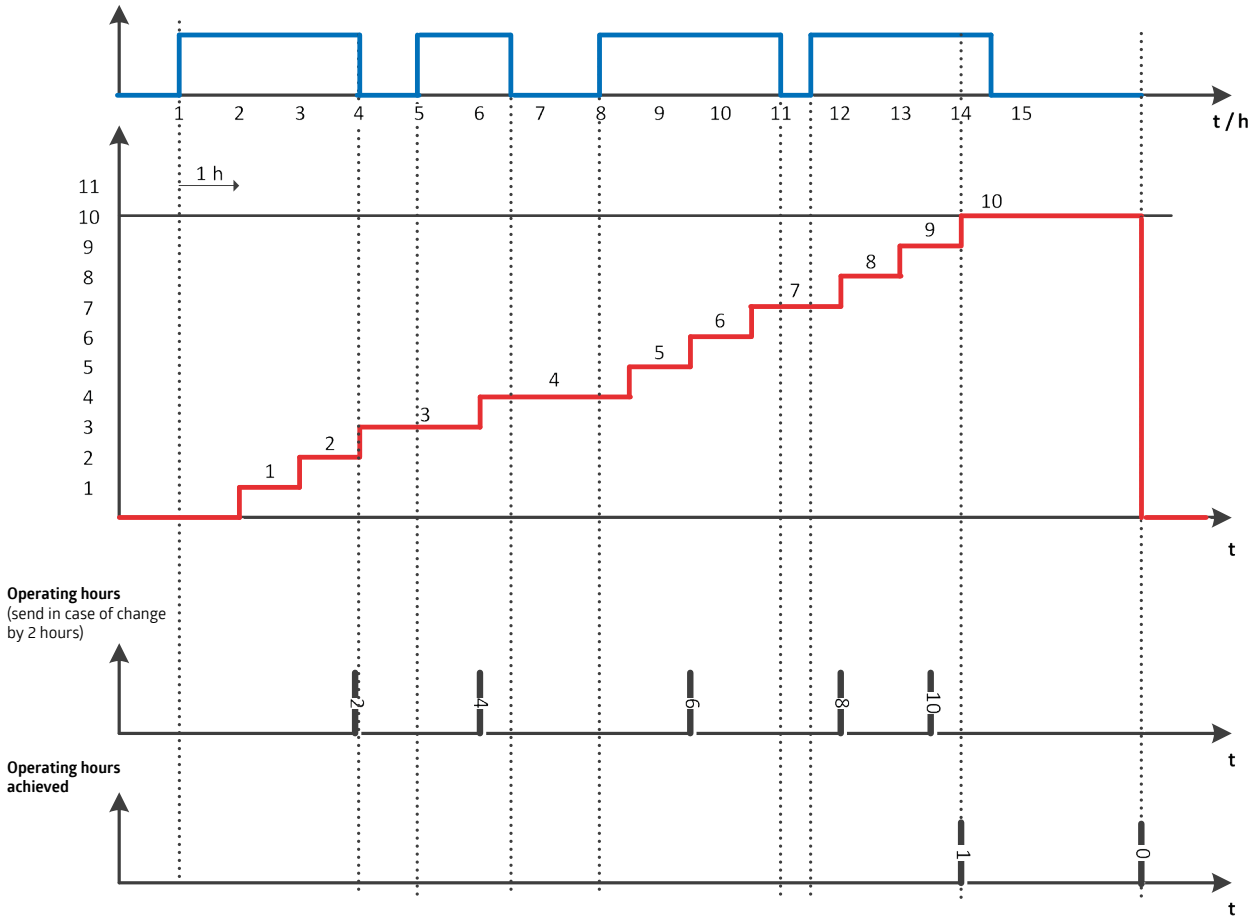
When the application is loaded for the first time, the operating hours limit value stored in the parameters is saved in the actuator and the operating hours counter is set to zero.

During operation, the operating hours counter changes and the limit value can be changed using a 2-byte telegram. When the application is reloaded, you can now decide whether the current values should be overwritten by the ETS or not.

The „Parameter reset" object (basic functions) resets the actuator to defined values. For the operating hours counter, this is the stored operating hours limit value.

In the event of a bus voltage failure, the current value of the operating hours counter is not lost. It is restored when bus voltage is restored.





Channel 1: Operating hours counter (visible if operating hours are activated)	
Relay state at which is to be counted (visible if "Detection via relay status")	**closed**
	open
	closed or open
Operating hours limit value in hours	1 - 65535 **[8760]**
Overwrite operating hours limit value	**deactivated**
	via communication object
Changed limit value by ETS download or object reset (visible if can be overwritten by object) (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	not overwritable
Current operating meter reading by ETS download or object reset resettable (Note: Reset function/object must be activated in the basic functions).	**deactivated**
	activated
Send operating hours	**deactivated**
	in case of change
Change in hours	0 – 24 **[1]**
Message operating hours send reached	deactivated
	in case of change
	in case of change and cyclically
Cycle time **hh**:mm(visible if cyclical)	0 – 24 **[24]**
Cycle time hh:**mm**(visible if cyclical)	0 – 59 **[00]**
Value of the message object (visible if message object is sent)	**„0“ = not achieved / „1“ = achieved**
	„1“ = not achieved / „0“ = achieved

No.	Name	Function	C	R	W	T	M
11	K1: Input (DPT 13.100)	Operating hours limit	X	-	X	-	-
12	K1: Input (DPT 1.001)	Reset operating hours	X	-	X	-	-
13	K1: Output (DPT 1.001)	Operating hours achieved	X	-	-	X	-
14	K1: Output (DPT 13.100)	Operating hours	X	-	-	X	-

3.3 Switching cycle counter

The function of a switching cycle counter corresponds to the function of the operating hours counter. Instead of the operating hours, the switching cycles of the relay are counted here. You can select whether only switch-on operations, only switch-off operations or both are to be counted.

The switching cycles are counted and compared with a switching cycle counter limit value. If this limit value is reached, a message (switching cycles reached) is sent. This can be a „1“ or „0“ telegram.

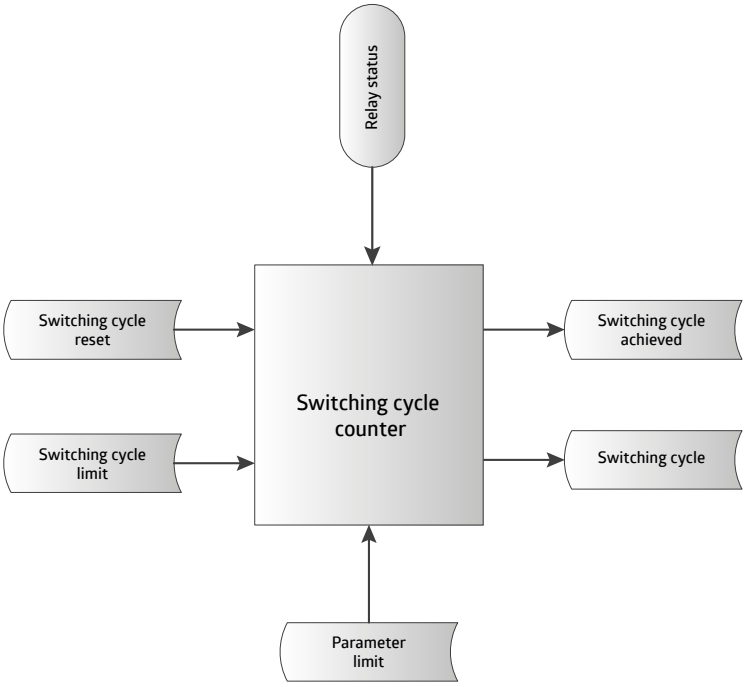
The limit value can be defined by a parameter or changed during operation by a 4-byte object (switching cycle limit). If a new value is sent via the object, the current counter reading is reset.

The current switching cycle counter status (switching cycles object) can be sent cyclically. The message object (switching cycles reached) can also be sent cyclically. In addition, only a change can be sent here (minimization of the bus load).

When the application is loaded for the first time, the switching cycle limit value stored in the parameters is saved in the actuator and the switching cycle counter is set to zero.

During operation, the switching cycle counter changes and the limit value can be changed using a 4-byte telegram. When the application is reloaded, you can now decide whether the current values should be overwritten by the ETS or not.

In the event of a bus voltage failure, the current value of the switching cycle counter is not lost. It is restored when bus voltage is restored.



Channel 1: Switching cycle counter (visible if the switching cycle counter is activated)	
The following are counted	Switch-off processes
	Switch-on processes
	Switching on and off
Switching cycle counter limit value	0 - 100000 **[10000]**
Switching cycle counter limit value	**determined by parameters**
	overwritable by object
Changed switching cycle counter limit value by ETS download or object reset (visible if can be overwritten by object) (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	not overwritable
Current switching cycle counter reading by ETS download or object can be reset (Note: Reset function/object must be activated in the basic functions).	**deactivated**
	activated
Send meter reading	deactivated
	in case of change
	cyclic
	in case of change and cyclically
Cycle time in hours (visible if cyclical)	0 – 24 **[24]**
Change in steps (visible if changed)	10 - 10000 **[1000]**
Send message if switching cycles reached	deactivated
	in case of change
	in case of change and cyclically
Cycle time **hh**:mm (visible if cyclical)	0 – 24 **[24]**
Cycle time hh:**mm** (visible if cyclical)	0 – 59 **[0]**
Value of the message object (visible if message object is sent)	**„0“ = not achieved / „1“ = achieved**
	„1“ = not achieved / „0“ = achieved

No.	Name	Function	C	R	W	T	M
15	K1: Input (DPT12.001)	Switching cycle limit	X	-	X	-	-
16	K1: Input (DPT 1.001)	Reset switching cycles	X	-	X	-	-
17	K1: Output (DPT 1.001)	Switching cycles achieved	X	-	-	X	-
18	K1: Output (DPT 12.001)	Switching cycles	X	-	-	X	-

4 Input events / filters

A basic function is assigned to each channel. There are three basic functions: Switching operation, automatic staircase control and flashing function. The basic functions are mutually exclusive, i.e. exactly one of these functions can be assigned to a channel.

The input objects of a channel are the switching object, the central object and the scene object. Depending on the parameterization, the switching object can trigger different reactions and is used, for example, to control an automatic staircase controller or to activate the flashing function. An input event is assigned to a basic function via an input filter.

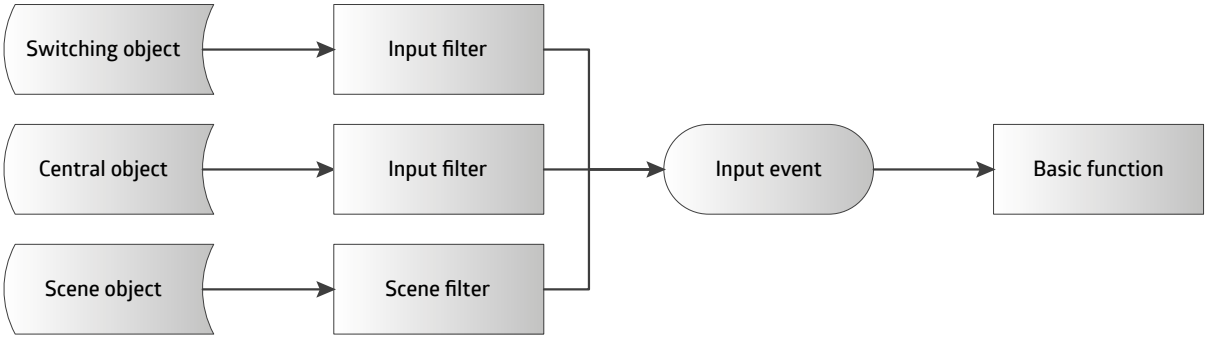
Scene objects are used to call up stored scenes. For this purpose, a scene number (1 - 64) is sent via the KNX bus. Each channel can be assigned 8 scene numbers. An input event can now be assigned to each scene number, which then acts on the basic function. With scenes, the event is defined in the function, i.e. it is not filtered.

4.1 Input objects: Switching and central object

A switching object is assigned to each channel. An input event causes a telegram, the value of which can be parameterized. The input event causes the staircase controller to switch or start, for example.

The central object is a 1-bit object. This object can affect all channels. For each channel, you can specify whether the channel should evaluate the central object or not. A telegram to this object is equivalent to telegrams to the switching object. However, the central function has its own input filters.

The input objects all have the same priority, i.e. the last telegram always prevails.



4.2 Scene function

8 independent scenes can be saved for each channel. Once the scene function has been activated for a channel, a scene object appears. If a scene number (1 to 64) is written to this object, the corresponding scene is called up.

The current channel/relay status can be saved as a new scene. This also applies if the relay status is created by a high-priority logic operation. However, the high-priority logic operation is not stored in the scene, only the relay status.

The input result affects the downstream basic function, i.e. a scene can also mean the starting of a staircase automation system.

Reprogramming the device with the ETS generally overwrites all parameter values. If scenes have been taught via the bus, overwriting can be suppressed.

A common reset object can be used to reset changed scenes to their originally parameterized values. A reset is only triggered by a „1“ telegram.

Channel 1: Scene function (visible if the scene function is activated)	
Scene A	**deactivated**
	with scene memory function
	without scene memory function
Scene number for scene A (visible if scene A is activated)	1 – 64 **[1]**
Value Input event for scene A (visible if scene A is activated)	„0“
	„1“
...	...
Scene H	**deactivated**
	with scene memory function
	without scene memory function
Scene number for scene H (visible if scene H is activated)	1 – 64 **[8]**
Value Input event for scene H (visible if scene H is activated)	„0“
	„1“
Saved scenes by ETS download or object reset (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	not overwritable
The end of the learning process is indicated by a switching cycle is signaled	**activated**
	deactivated

No.	Name	Function	C	R	W	T	M
2	K1: Input (DPT 18.001)	Scene	X	-	X	-	-

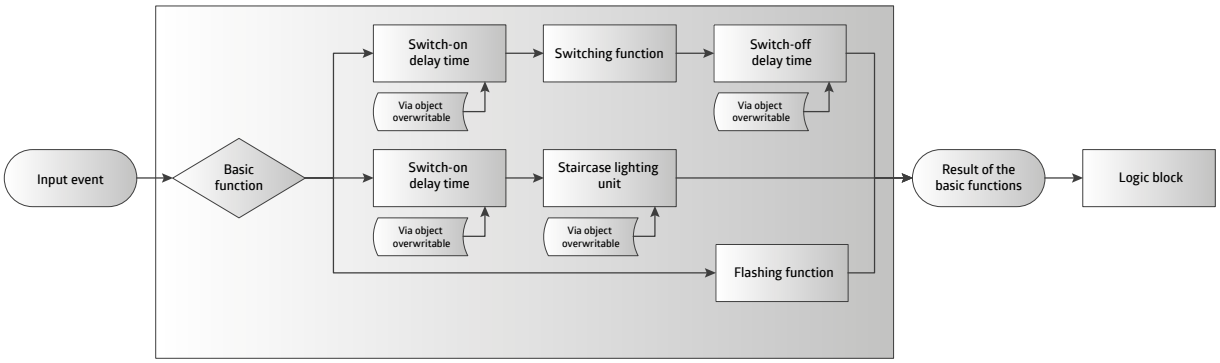
NOTES

- Scene objects have the same priority as the input objects, i.e. the last telegram always prevails.
- The defined input result is not sent directly to the relay. Only the basic function and the result from the logic block produce the switching status.
- If the scenes are to be reset using the reset object, this function/object must be enabled in the basic functions. Resetting resets all selected parameters (i.e. not just the scenes).

5 Basic functions

The basic functions of the channel are defined in the basic functions. The switching function, the automatic staircase controller and the flashing function are controlled by the switching or scene object. It can be defined whether this should take place with a time delay. A time delay is not possible for the flashing function.

Downstream logic functions prevail over the basic function.



Channel 1: Basic functions (visible if channel 1 is activated)	
Basic function	**Switching**
	Staircase timer
	Flashing function
Switch-on delay (switching, scenes, central function) (visible when switching and Staircase timer)	**deactivated**
	activated
Switch-off delay (switching, scenes, central function) (visible when switching)	**deactivated**
	activated

5.1 Switch-on and switch-off delay

Both a switch-on delay and a switch-off delay can be parameterized for the basic switching function. A switch-on delay can be parameterized for the basic function Staircase automation. The time delays mean that the basic functions are carried out with a delay, i.e., for example, that the channel only switches on or starts the staircase timer after the switch-on delay has elapsed.

NOTES

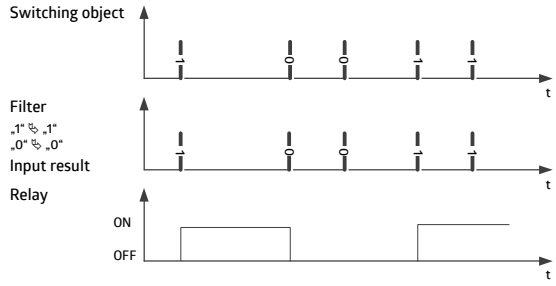
- If the hours, minutes and seconds parameters for the delays are all set to „0“, no delay time is started and the channel switches immediately.
- The common object „Parameter Reset“ deletes running times.

It can be defined individually for each object (switching, central and scene object) whether a delay should be started. For example, the switching and central object can have a delayed effect, but the scenes can be switched directly.

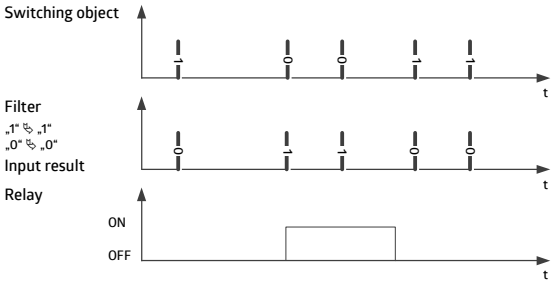
The delay times can be retriggerable, i.e. the time is restarted after the same telegram value is received.

The delay time can be changed via the KNX bus during operation between 0 and 65535 seconds (corresponds to max. 18.2 h). To do this, a telegram with a 2-byte value (0 to 65535) must be sent. As soon as such a value has been received, the duration specified by the parameters loses its validity (even after a bus reset).

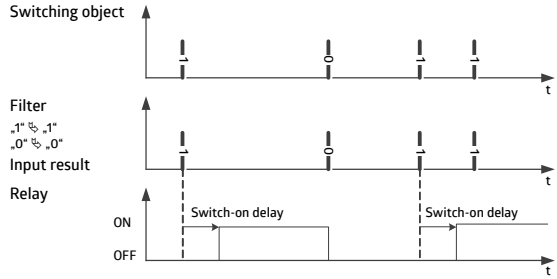
Reprogramming the device with the ETS generally overwrites all parameter values. If a delay time is changed/set via the bus, overwriting can be suppressed. A common reset object (parameter reset) can be used to reset changed delay times to their originally parameterized values.



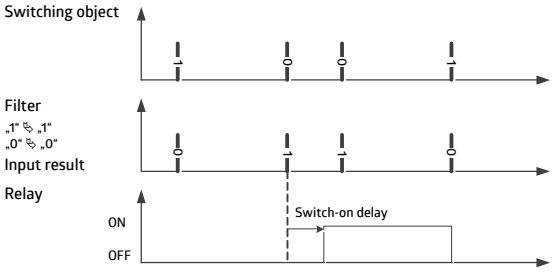
Switching function



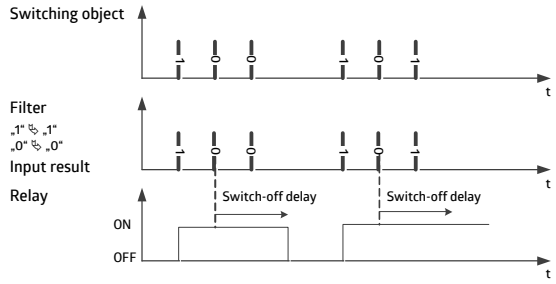
Switching function with filter



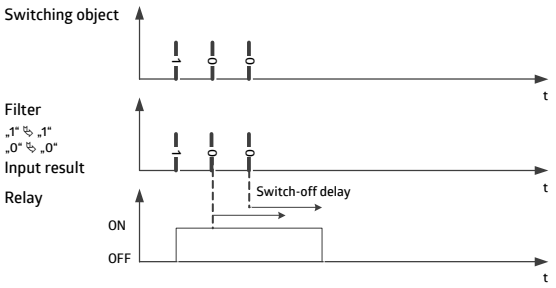
Switch-on delay



Switch-on delay with filter



Non-retriggerable switch-off delay



Retriggerable switch-off delay

Channel 1: Switch-on delay (visible if switch-on delay is activated)	
Start/retriggering of the switch-on delay by	Input event "1"
Delay time **hh**:mm:ss	0-24 **[0]**
Delay time hh:**mm**:ss	0-59 **[1]**
Delay time hh:mm:**ss**	0-59 **[0]**
Switch-on delay	**not retriggerable**
	retriggerable
Central object acts	undelayed
	delayed
Central object acts	**undelayed**
	delayed
Scene object works	**undelayed**
	delayed
Overwrite delay time	**deactivated**
	via communication object
Delay time due to ETS download or object reset (visible if "via communication object" is activated) (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	not overwritable

Channel 1: Switch-off delay (visible if switch-off delay is activated)	
Start/retriggering of the switch-off delay by	Input event "0"
Delay time **hh**:mm:ss	0-24 **[0]**
Delay time hh:**mm**:ss	0-59 **[1]**
Delay time hh:mm:**ss**	0-59 **[0]**
Switch-off delay	**not retriggerable**
	retriggerable
Central object acts	**undelayed**
	delayed
Central object acts	**undelayed**
	delayed
Scene object works	**undelayed**
	delayed
Overwrite delay time	**deactivated**
	via communication object
Delay time due to (visible if "via communication object" is activated) (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	ETS download or object reset
	not overwritable

No.	Name	Function	C	R	W	T	M
1	K1: Input (DPT 1.001)	Switching	X	-	X	-	-
8	K1: Input (DPT 7.005)	Switch-on delay time	X	-	X	-	-
9	K1: Input (DPT 7.005)	Switch-off delay time	X	-	X	-	-

NOTE

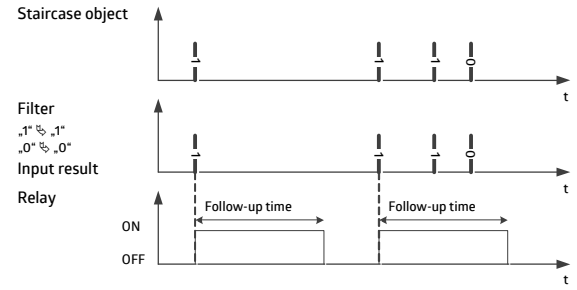
If the delay times are to be reset using the reset object, this function/object must be enabled in the basic functions. Resetting resets all selected parameters (i.e. not just the delay times).

5.2 Staircase timer

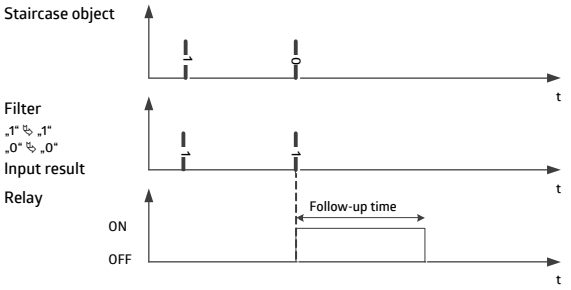
If no delay, logic operation or logic functions are switched on, the channel is switched on by an input event in the automatic staircase function. After a freely selectable time (run-on time) has elapsed, the channel switches off automatically. The input event results from the input filter and the input objects.

NOTEE

- If the hours, minutes and seconds parameters for the delays are all set to "0", the staircase timer does not start.
- The common object "Parameter Reset" deletes running times.

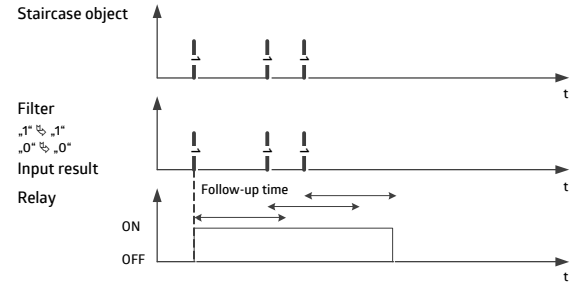


Non-retriggerable automatic staircase controller

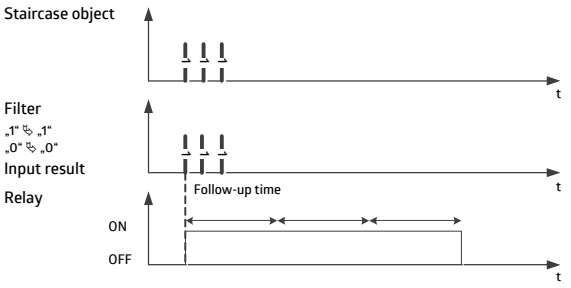


Staircase controller with filter function

The basic „Staircase timer“ function can be changed by setting parameters. For example, you can define whether the time should be started with an ON or OFF telegram (switching, scene, central object). The follow-up time can, for example, be retriggerable or non-retriggerable or can be extended in addition.



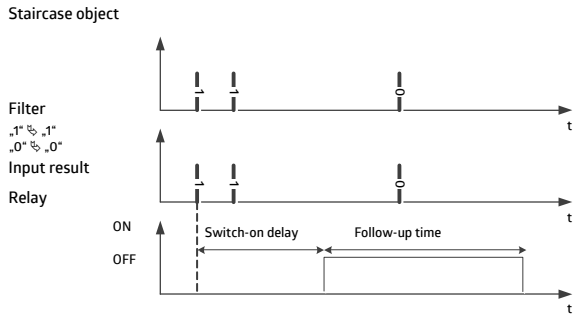
Retriggerable automatic staircase controller



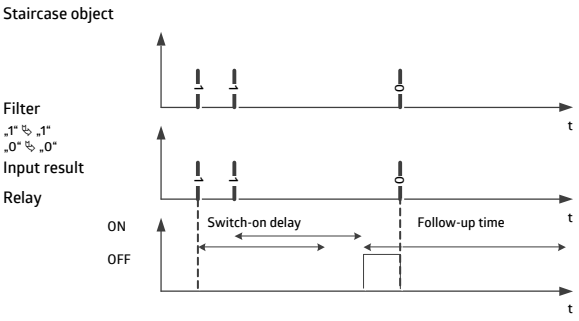
Staircase automation adding

The switch-on delay can be used to start the run-on time with a delay. The switch-off delay is not available for the automatic staircase function.

The run-on time can be switched off manually before it expires by means of an OFF telegram (manual OFF).



Automatic staircase controller without manual off function and with non-retriggerable switch-on delayand

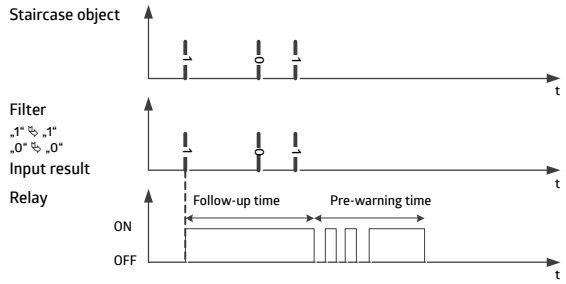


Automatic staircase controller with manual off function with retriggerable switch-on delay

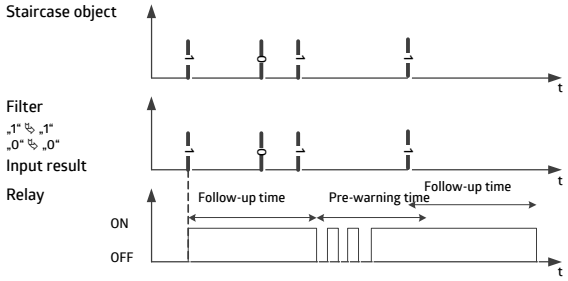
A pre-warning time can be added to the run-on time. After the run-on time has elapsed, the light switches off and on several times in quick succession (pre-warning). The light then remains on for the duration of the pre-warning time before it switches off. During this time, the run-on time can be restarted.

The pre-warning time can be defined between 1 and 255 s. The light can be switched off/on up to three times (pre-warning).

A „manual off“ also starts a pre-warning.



Non-retriggerable automatic staircase controller without manual off with two warnings



Restart of the run-on time during the pre-warning

The run-on time can be changed via the KNX bus during operation between 0 and 65535 seconds (corresponds to max. 18.2 h). To do this, a telegram with a 2-byte value (0 to 65535) must be sent. As soon as such a value has been received, the duration specified by the parameters loses its validity (even after a bus reset).

Reprogramming the device with the ETS generally overwrites all parameter values. If a run-on time is changed/set via the bus, overwriting can be suppressed. A changed run-on time can be reset to its originally parameterized value using a common reset object.

Channel 1: Staircase timer (visible if the Staircase timer is activated)	
Start/retriggering of the Staircase timers through	Input event „1“
Manual Off the Staircase timers through	Input event „0“
Follow-up time **hh**:mm:ss	0-24 **[0]**
Follow-up time hh:**mm**:ss	0-59 **[5]**
Follow-up time hh:mm:**ss**	0-59 **[0]**
Staircase timer	**without manual off**
	with manual off
Follow-up time	**not retriggerable**
	retriggerable
	retriggerable, adding
Maximum additions (visible with "retriggerable, adding")	2 - 5 **[3]**
Number of warnings	0 – 3 **[0]**
Overwrite follow-up time	**deactivated**
	via communication object
Follow-up time due to ETS download or object reset (visible if "via communication object") (Note: Reset function/object must be activated in the basic functions).	**overwritable**
	not overwritable

No.	Name	Function	C	R	W	T	M
9	K1: Input (DPT 7.005)	Follow-up time	X	-	X	-	-

NOTE	
	If the run-on time is to be reset using the reset object, this function/object must be enabled in the basic functions. The reset resets all selected parameters (i.e. not just the run-on time).

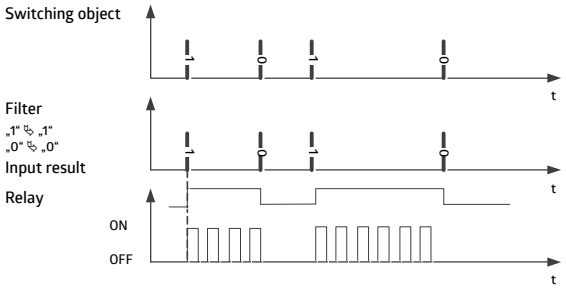
5.3 Flashing function

With the flashing function, the channel switches on and off periodically, for example to make an LED flash in a janitor's office to indicate the opening of an assigned door. If the input event is „1", the view function is started, and if it is „0", it is stopped (switching, central, scene object).

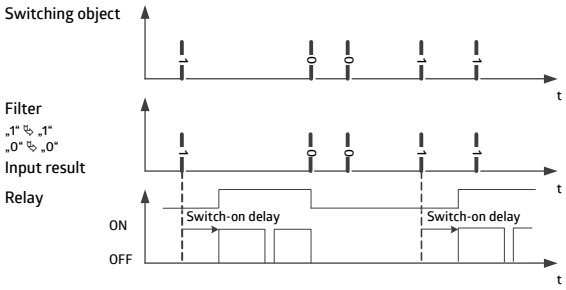
The flashing function cannot be switched on or off with a delay.

The feedback object indicates whether the flashing function is switched on or off and not whether the relay is closed or open. To keep the bus load low, the current relay value is not sent to the bus in this case.

The switch-on and switch-off times can be set from 1 to 60 s. In order to protect the relay with larger loads, no times shorter than 1 s can be parameterized. The smallest frequency is therefore 0.5 Hz (1 s switched on and 1 s switched off).



Symmetrical flashing function

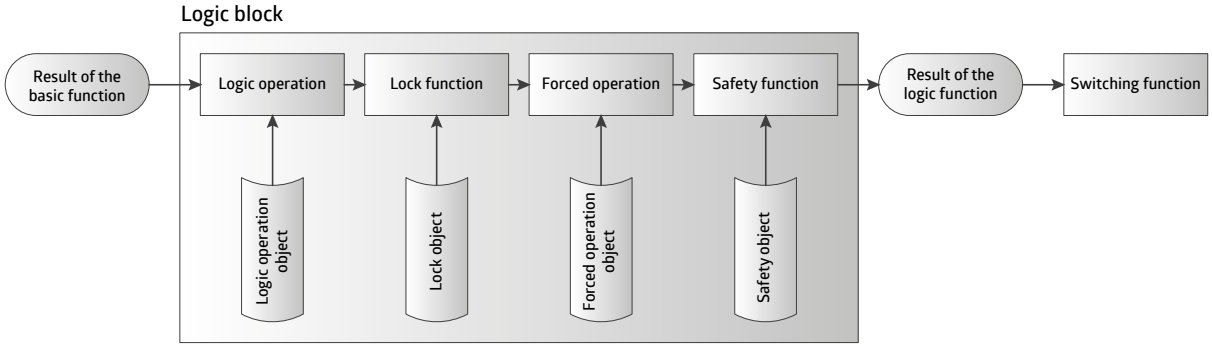


Asymmetrical flashing function

Channel 1: Flashing function (visible if the flashing function is activated)	
Flashing with	Input event „1"
Switch off at	Input event „0"
Switch-on time in seconds	1-60 **[1]**
Switch-off time in seconds	1-60 **[1]**

6 Logic functions

The actuator has four logic functions: the logic operation, the disabling function, the positive drive and the safety function. Their sequence determines their priority, i.e. the safety function has the highest priority as it is at the end of the chain. If the safety function is activated by the safety object, the results from the basic function, logic operation, disabling function and priority control blocks are not sent to the switching output.



Repercussions of logic functions on the basic functions:

The disabling function, forced operation and safety functions have an effect on the basic functions. As soon as one of these logic functions is activated, running times of the channel are ended immediately. The result of the basic function is what would have occurred if the timers had run normally (setting: follows subordinate status).

Examples:

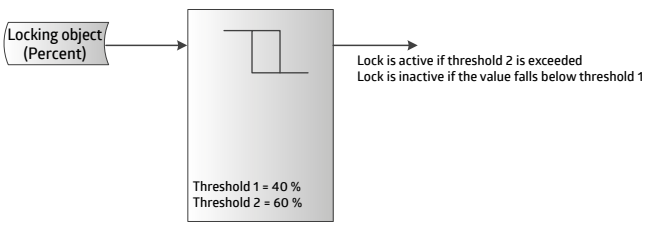
1. The disabling function is activated during a switch-on delay. The basic function provides the result „1“ in the background and the delay time is ended immediately.
2. If forced operation is activated during a switch-off delay, the time is also ended, but the result of the basic function is „0“.
3. The result is „0“ for running run-on times, as a staircase timer switches off automatically. The result is also „0“ if a switch-on delay has been activated, regardless of whether the logic function was activated during the switch-on delay or during the run-on time.

Only the link functions keep running times running in the background. The result of the basic function therefore depends on the time at which the link is deactivated again.

Inputs of the logic functions / comparators:

With the exception of forced operation, the logic functions are controlled by 1-bit objects / values, for example. For example, a channel can be blocked by a blocking object. In the logic operation, the logic object is linked logically / Boolean, e.g. with an AND operation, to the result of the basic function.

As an alternative to these 1-bit objects, the functions (with the exception of forced operation) can also be carried out using a comparator. Instead of a 1-bit blocking object, objects with a different format, e.g. percentage, 2-byte counter, floating point, etc. can be used. Two threshold values can be freely selected in the comparator. The values of the objects are compared with these two threshold values. The logic function is activated or deactivated if they are exceeded or not reached. A comparator with integrated hysteresis can be implemented by selecting the appropriate threshold values.

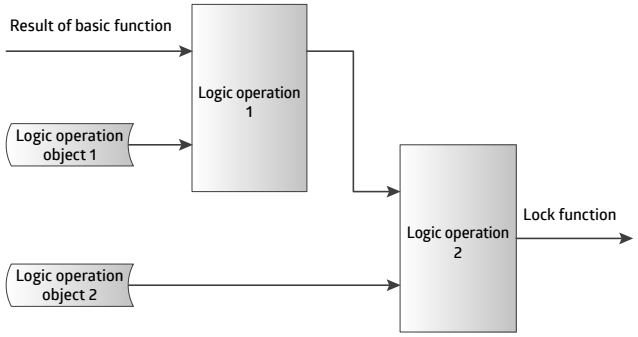


Channel 1: Logic functions (visible if channel 1 is activated)	
Logic operation 1	**deactivated**
	activated
Logic operation 2	**deactivated**
	activated
Lock	**deactivated**
	activated
Forced operation	**deactivated**
	activated
Safety	**deactivated**
	activated

6.1 Links

Logic functions are Boolean algebra. The AND, OR and XOR functions are available.

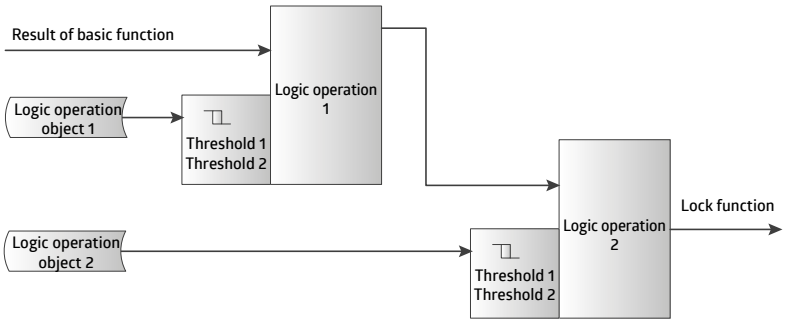
Two logic functions/gates connected in series are available. Logic 1 has logic 1 and the result of the basic function as input. Logic operation 2 has logic operation 2 and the result of logic operation 1 as input. The result of logic operation 2 is passed on to the next logic function.



The parameters can be used to specify whether the logic objects should have an inverted effect on the logic function, and the value of the logic operation after bus voltage recovery can be specified.

Running times, e.g. delay times and run-on times, are not stopped or terminated when a logic operation is activated. If, for example, a logic operation is activated during a run-on time of an automatic staircase controller, the behavior of the output when the logic operation is deactivated depends on whether the run-on time has expired during the logic operation or not.

The result of a comparator can also be used instead of a 1-bit link object.



6.1.1 Logic functions settings

The logic gate to be used to link the inputs with the output can be selected here. The result of the basic function is linked to logic object 1. If logic operation 2 is used, the result of logic operation 1 is linked to logic operation object 2. The following settings and parameters are identical for logic operation 2.

Channel 1: Logic functions > Logic operation 1	
Logic gate	**OR**
	AND
	XOR

Bei den Objekttypen stehen unterschiedliche Datenpunkttypen zur Auswahl. Jeder Eingang kann je nach Anwendung mit dem entsprechenden Datenpunkttyp versehen werden.

Channel 1: Logic functions > Logic operation 1	
Object type	**1Bit (DPT 1.001)**
	1 byte Percent DPT 5.001)
	1 byte counter DPT 5.010)
	1 byte counter with sign DPT 6.010)
	2 byte float (DPT 9.x)
	2 byte counter (DPT 7.x)
	2-byte counter with sign (DPT 8.x)
	4 byte float (DPT 14.x)
	4 byte counter (DPT 12.x)
	4-byte counter with sign (DPT 13.x)

The comparators can be used to define the conditions for the individual inputs. The values for the logical state „1“ or „0“ can be set here depending on the selected data point type.

Channel 1: Logic functions > Logic operation 1	
Logic input is "0" for	**less than or equal to**
	greater than or equal to

Channel 1: Logic functions > Logic operation 1	
Logic input is "1" for	less than or equal to
	greater than or equal to

Channel 1: Logic functions > Logic operation 1		
Values at "0"	1Bit (DPT 1.001)	0 ... 1 **(0)**
	1 byte Percent DPT 5.001)	0 ... 100 **(40)**
	1 byte counter DPT 5.010)	0 ... 255 **(0)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(-50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(400)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(400)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(400)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(400)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(400)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(400)**

Channel 1: Logic functions > Logic operation 1		
Values for "1"	1Bit (DPT 1.001)	0 ... 1 **(1)**
	1 byte Percent DPT 5.001)	0 ... 100 **(60)**
	1 byte counter DPT 5.010)	0 ... 255 **(50)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(500)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(500)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(500)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(500)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(500)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(500)**

The status of the logic input (1 or 0) after bus voltage recovery can also be defined.

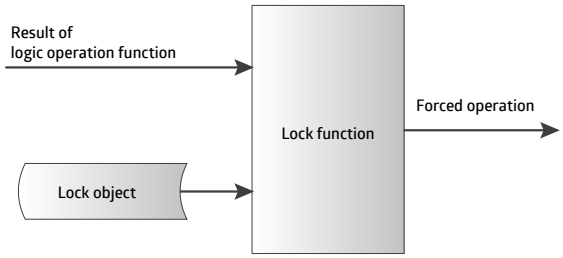
Channel 1: Logic functions > Logic operation 1	
Logic input after bus voltage recovery	1
	0

No.	Name	Function	C	R	W	T	M
3	K1: Input (DPT1.001)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT5.001)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT5.010)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT6.010)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT9.x)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT7.x)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT8.x)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT14.x)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT12.x)	Logic operation 1	X	-	X	-	-
3	K1: Input (DPT13.x)	Logic operation 1	X	-	X	-	-
4	K1: Input (DPT1.001)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT5.001)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT5.010)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT6.010)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT9.x)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT7.x)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT8.x)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT14.x)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT12.x)	Logic operation 2	X	-	X	-	-
4	K1: Input (DPT13.x)	Logic operation 2	X	-	X	-	-

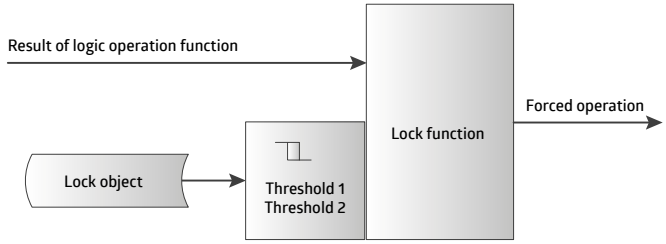
6.2 Locking function

The disabling function is controlled by the disabling object and the subordinate functions. The logic operation function is subordinate, and if this is not activated, the result of the basic function (switching, staircase, flashing). The disabling function is activated by the disabling object. The object value at which this should occur can be selected.

The result of the disabling function is either forwarded to the higher-level logic functions (priority control, safety), if these have been activated, or to the switching output. The next higher-level logic function is forced operation.



The result of a comparator can also be used instead of the 1-bit blocking object.



6.2.1 Locking function settings

The settings for the locking function can be selected here.

Different data point types are available for the object types. Each input can be assigned the corresponding data point type depending on the application.

Channel 1: Locking function	
Object type	**1Bit (DPT 1.001)**
	1 byte Percent DPT 5.001)
	1 byte counter DPT 5.010)
	1 byte counter with sign DPT 6.010)
	2 byte float (DPT 9.x)
	2 byte counter (DPT 7.x)
	2-byte counter with sign (DPT 8.x)
	4 byte float (DPT 14.x)
	4 byte counter (DPT 12.x)
	4-byte counter with sign (DPT 13.x)

The comparators can be used to define the conditions for the individual inputs. The values for the logical state „1“ or „0“ can be set here depending on the selected data point type.

Channel 1: Locking function	
Locking function is deactivated for	**less than or equal to**
	greater than or equal to

Channel 1: Locking function	
Lock function is active for	less than or equal to
	greater than or equal to

Channel 1: Locking function		
Values for deactivated	1Bit (DPT 1.001)	0 ... 1 **(0)**
	1 byte Percent DPT 5.001)	0 ... 100 **(40)**
	1 byte counter DPT 5.010)	0 ... 255 **(0)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(-50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(400)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(400)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(400)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(400)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(400)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(400)**

Channel 1: Locking function		
Values for active	1Bit (DPT 1.001)	0 ... 1 **(1)**
	1 byte Percent DPT 5.001)	0 ... 100 **(60)**
	1 byte counter DPT 5.010)	0 ... 255 **(50)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(500)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(500)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(500)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(500)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(500)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(500)**

The result of the active locking function can be selected. „No reaction“ at the start of the lock means that the current result, which was available when the lock was activated, is frozen during the lock.

Channel 1: Locking function	
Action at the start of the lockdown	"0"
	"1"
	no reaction

The result can also be defined when the lock is removed. This value is passed on to the higher-level function when it is removed. If the setting „no reaction“ is selected, the current result of the lock remains unchanged. Only an input event updates the result. With „follows subordinate status“, the disabling function determines a new result based on the subordinate functions.

If the result of the blocking function is „1“ when the block is removed, the run-on time is started for an automatic staircase controller. For staircase controllers with switch-on delay, the switch-on delay is ignored.

Channel 1: Locking function	
Value of the basic function on removal the lock (no priority active)	“0”
	“1”
	no reaction
	follows subordinate status

The locking function can be activated and limited in time, i.e. an activated lock is automatically deactivated again after a selectable time.

Channel 1: Locking function > Locking time **(visible if "Time-limited locking function" is activated)**	
Locking time **hh**:mm:ss	0-24 **[00]**
Locking time hh:**mm**:ss	0-59 **[10]**
Locking time hh:mm:**ss**	0-59 **[00]**

You can specify whether the disable function should be activated or remain **deactivated** after bus voltage recovery.

NOTE

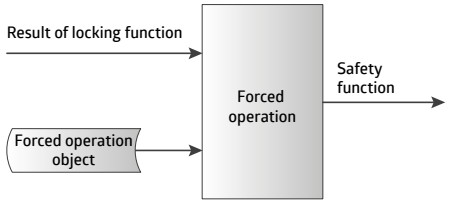
- Activation and deactivation are instantaneous, i.e. parameterized delay times are ignored.
- If the disable function is activated, current delay times and run-on times are deleted from the basic functions.

No.	Name	Function	C	R	W	T	M
5	K1: Input (DPT1.001)	Lock	X	-	X	-	-
5	K1: Input (DPT5.001)	Lock	X	-	X	-	-
5	K1: Input (DPT5.010)	Lock	X	-	X	-	-
5	K1: Input (DPT6.010)	Lock	X	-	X	-	-
5	K1: Input (DPT9.x)	Lock	X	-	X	-	-
5	K1: Input (DPT7.x)	Lock	X	-	X	-	-
5	K1: Input (DPT8.x)	Lock	X	-	X	-	-
5	K1: Input (DPT14.x)	Lock	X	-	X	-	-
5	K1: Input (DPT12.x)	Lock	X	-	X	-	-
5	K1: Input (DPT13.x)	Lock	X	-	X	-	-

6.3 Forced operation

Forced operation is controlled by the forced operation object and the subordinate functions. Subordinate functions are the disabling and logic operation functions and, if these are not activated, the result of the basic function (switching, staircase, flashing). Forced operation is activated by the forced operation object.

The result of the forced operation is either forwarded to the higher-level logic function (safety), if this is activated, or to the switching output.



The result can also be defined if the forced operation is removed. Either a specific value „0“ or „1“ can be selected. This value is passed on to the higher-level safety function when it is removed. With the „no reaction“ setting, the current result of the forced operation remains unchanged. Only an input event updates the result. With „follows subordinate status“, the priority control determines a new result based on the subordinate functions.

If the result is „1“ when the priority control is removed, the run-on time is started for an automatic staircase controller. For staircase controllers with switch-on delay, the switch-on delay is ignored.

You can specify which value the priority control object should have after bus voltage recovery.

NOTES
▪ Activation and deactivation are instantaneous, i.e. parameterized delay times are ignored. ▪ If forced operation is activated, current delay times and overrun times are deleted from the basic functions.

Channel 1: Forced operation (visible if Forced operation is activated)	
The result of the locking function is displayed depending passed on by the Forced operation.	
Value of the basic function on removal from forced operation (no priority active)	„0“
	„1“
	no reaction
	follows subordinate status
On bus voltage recovery	positively driven OFF
	positively driven ON
	not compulsorily guided

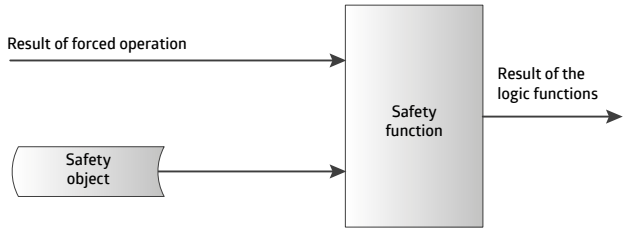
No.	Name	Function	C	R	W	T	M
6	K1: Input (DPT 2.001)	Forced operation	X	-	X	-	-

6.4 Safety function

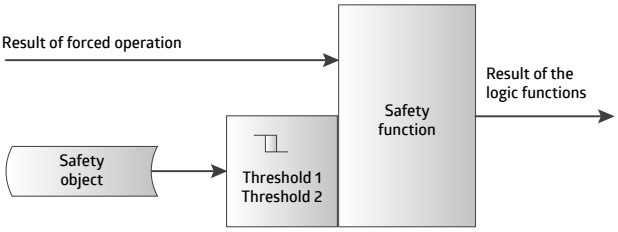
The safety function has the highest priority among the higher-level functions. The safety function is an extended disabling function. In addition, the safety object is monitored here, i.e. telegrams must be received cyclically on this object. Otherwise, the channel switches to the higher-level status defined in the parameters.

The safety function is controlled by the safety object and the subordinate functions. Subordinate functions are the logic operation, disabling and forced operation functions and, if these are not activated, the result of the basic function (switching, staircase, flashing). The safety function is activated by the safety object. The object value at which this should occur can be selected. The safety function is also activated if the object value is missing in a periodic time frame.

The result of the safety function is passed on to the switching output.



The result of a comparator can also be used instead of the 1-bit security object.



6.4.1 Safety function settings

The settings for the security function can be selected here.

Different data point types are available for the object types. Each input can be assigned the corresponding data point type depending on the application.

Channel 1: Safety function	
Object type	**1Bit (DPT 1.001)**
	1 byte Percent DPT 5.001)
	1 byte counter DPT 5.010)
	1 byte counter with sign DPT 6.010)
	2 byte float (DPT 9.x)
	2 byte counter (DPT 7.x)
	2-byte counter with sign (DPT 8.x)
	4 byte float (DPT 14.x)
	4 byte counter (DPT 12.x)
	4-byte counter with sign (DPT 13.x)

The comparators can be used to define the conditions for the individual inputs. The values for the logical state „1“ or „0“ can be set here depending on the selected data point type.

Channel 1: Safety function	
Safety function is deactivated for	**less than or equal to**
	greater than or equal to

Channel 1: Safety function	
Safety function is active for	less than or equal to
	greater than or equal to

Channel 1: Safety function		
Values for deactivated	1Bit (DPT 1.001)	0 ... 1 **(0)**
	1 byte Percent DPT 5.001)	0 ... 100 **(40)**
	1 byte counter DPT 5.010)	0 ... 255 **(0)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(-50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(400)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(400)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(400)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(400)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(400)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(400)**

Channel 1: Safety function		
Values for active	1Bit (DPT 1.001)	0 ... 1 **(1)**
	1 byte Percent DPT 5.001)	0 ... 100 **(60)**
	1 byte counter DPT 5.010)	0 ... 255 **(50)**
	1 byte counter with sign DPT 6.010)	-128 ... 127 **(50)**
	2 byte float (DPT 9.x)	-671088,64 ... 670433,28 **(500)**
	2 byte counter (DPT 7.x)	0 ... 65535 **(500)**
	2-byte counter with sign (DPT 8.x)	-32768 ... 32767 **(500)**
	4 byte float (DPT 14.x)	-9,2233720E+18 ... 9,2233720E+18 **(500)**
	4 byte counter (DPT 12.x)	0 ... 4294967295 **(500)**
	4-byte counter with sign (DPT 13.x) (without decimal place)	-2147483648 ... 2147483647 **(500)**

The result of the active safety function can be selected. „No reaction“ at the start of the safety function means that the current result, which was available when the safety function was activated, is frozen during blocking.

Channel 1: Safety function	
Action at the start of the safety function	"0"
	"1"
	no reaction

The result can also be defined when the safety function is removed. This value is passed on to the higher-level function when it is removed. In the „no reaction“ setting, the current result of the safety function remains unchanged. Only an input event updates the result. With „follows subordinate status“, the safety function determines a new result based on the subordinate functions.

If the result of the safety function is „1“ when the safety function is removed, the run-on time is started for an automatic staircase controller. For staircase controllers with switch-on delay, the switch-on delay is ignored.

Channel 1: Safety function	
Value of the basic function on removal the safety function (no priority active)	“0”
	“1”
	no reaction
	follows subordinate status

The security function can be monitored cyclically. If the device does not respond, a „no response“ fault message is entered in the event memory.

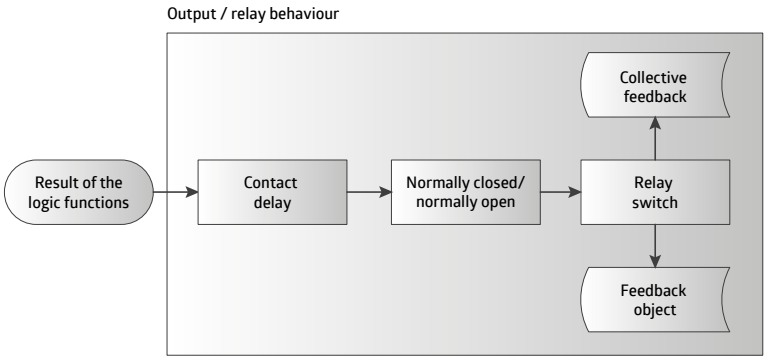
Channel 1: Safety function > Cyclical monitoring (visible if "Cyclical monitoring" is activated)	
Monitoring time in minutes	1-255 **[10]**

You can specify whether the safety function should be activated or remain **deactivated** after bus voltage recovery.

NOTE
▪ Activation and deactivation are instantaneous, i.e. parameterized delay times are ignored. ▪ If the disable function is activated, current delay times and run-on times are deleted from the basic functions.

No.	Name	Function	C	R	W	T	M
7	K1: Input (DPT1.001)	Safety	X	-	X	-	-
7	K1: Input (DPT5.001)	Safety	X	-	X	-	-
7	K1: Input (DPT5.010)	Safety	X	-	X	-	-
7	K1: Input (DPT6.010)	Safety	X	-	X	-	-
7	K1: Input (DPT9.x)	Safety	X	-	X	-	-
7	K1: Input (DPT7.x)	Safety	X	-	X	-	-
7	K1: Input (DPT8.x)	Safety	X	-	X	-	-
7	K1: Input (DPT14.x)	Safety	X	-	X	-	-
7	K1: Input (DPT12.x)	Safety	X	-	X	-	-
7	K1: Input (DPT13.x)	Safety	X	-	X	-	-

7 Output / relay behavior



7.1 Contact delay function

The contact delay function is used to protect against overloads in the power grid. Channels can be switched simultaneously using the central object. The simultaneous switching of many loads can lead to a brief overload of the power grid. The contact delay function is used to rectify this problem. The switching command is only sent to the relay after a delay time has elapsed. These delay times should not be confused with the switch-on and switch-off delays. They are significantly shorter.

With the contact delay function, it is also possible to prioritize the switching channels. If, for example, all channels are to be switched on by a central command, the shortest contact delay time determines which channel is to switch first.

Channel 1: Output / relay behavior (visible if channel 1 is activated)	
Contact delay function	**deactivated**
	activated
Contact delay when switching on (fff = milliseconds) mm:ss.fff (visible if activated)	00:00.010 – 10:00.000 **[00:00.100]**
Contact delay when switching off (fff = milliseconds) mm:ss.fff (visible if activated)	00:00.010 – 10:00.000 **[00:00.100]**

7.2 Contact type

Bistable relays are installed in the switching actuator. For each channel, the contact type parameter can be used to define whether the relay should behave like a NO contact (NO: normally open) or like a NC contact (NC: normally closed). In the case of a normally closed contact, the value determined by the basic function and the logic functions is inverted.

Channel 1: Output / relay behavior (visible if channel 1 is activated)	
Contact type	**NO contact (NO)**
	Normally closed contact (NC)

7.3 Feedback

The actuator switches the switching contact as soon as the basic and logic functions result in a switching command. The feedback object is then also generated.

The type of feedback can be defined here (active feedback object / passive status object).

Channel 1: Feedback (visible if feedback has been activated)	
Feedback, 1-bit	deactivated
	active feedback object
	passive status object

For each channel, it is possible to report back the status via a collective feedback via a 1-bit object. You can select whether a channel should be included in the collective feedback.

Channel 1: Feedback (visible if feedback has been activated)	
Channel for collective feedback	**deactivated**
	activated

The feedback value depends on the status of the switching contact. Either the original status (closed = „1“ / open = „0“) or the inverted value (closed = „0“ / open = „1“) can be sent. This applies to both individual and collective feedback.

Channel 1: Feedback (visible when detected via relay status)	
Feedback when relay is open	**„0“**
	„1“
	no reaction
Feedback for closed relays	„0“
	„1“
	no reaction

No.	Name	Function	C	R	W	T	M
10	K1: Output (DPT 1.001)	Feedback	X	-	-	X	-

8 List of data point types

Channel 1

No.	DPT	Designation	Size	C	R	W	T	M
1	K1: Input - (DPT 1.001)	Switching	1 bit	X		X		
2	K1: Input - (DPT 18.001)	Scene	1 byte	X		X		
3	K1: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
3	K1: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
3	K1: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
3	K1: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
3	K1: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
3	K1: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
3	K1: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
3	K1: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
3	K1: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
3	K1: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
4	K1: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
4	K1: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
4	K1: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
4	K1: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
4	K1: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
4	K1: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
4	K1: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
4	K1: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
4	K1: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
4	K1: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
5	K1: Input - (DPT 1.001)	Lock	1 bit	X		X		
5	K1: Input (DPT 5.001)	Lock	1 byte	X		X		
5	K1: Input (DPT 5.010)	Lock	1 byte	X		X		
5	K1: Input (DPT 6.010)	Lock	1 byte	X		X		
5	K1: Input (DPT 9.x)	Lock	2 byte	X		X		
5	K1: Input (DPT 7.x)	Lock	2 byte	X		X		
5	K1: Input (DPT 8.x)	Lock	2 byte	X		X		
5	K1: Input (DPT 14.x)	Lock	4 byte	X		X		
5	K1: Input (DPT 12.x)	Lock	4 byte	X		X		
5	K1: Input (DPT 13.x)	Lock	4 byte	X		X		
6	K1: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
7	K1: Input (DPT 1.001)	Safety	1 bit	X		X		
7	K1: Input (DPT 5.001)	Safety	1 byte	X		X		
7	K1: Input (DPT 5.010)	Safety	1 byte	X		X		
7	K1: Input (DPT 6.010)	Safety	1 byte	X		X		
7	K1: Input (DPT 9.x)	Safety	2 byte	X		X		
7	K1: Input (DPT 7.x)	Safety	2 byte	X		X		
7	K1: Input (DPT 8.x)	Safety	2 byte	X		X		
7	K1: Input (DPT 14.x)	Safety	4 byte	X		X		
7	K1: Input (DPT 12.x)	Safety	4 byte	X		X		
7	K1: Input (DPT 13.x)	Safety	4 byte	X		X		
8	K1: Input (DPT 7.005)	Switch-on delay time	2 byte	X		X		
9	K1: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
10	K1: Output (DPT 1.001)	Feedback	1 bit	X			X	
11	K1: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
12	K1: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
13	K1: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
14	K1: Output (DPT 13.100)	Operating hours	4 byte	X			X	
15	K1: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
16	K1: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
17	K1: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
18	K1: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 2

No.	DPT	Designation	Size	C	R	W	T	M
19	K2: Input - (DPT 1.001)	Switching	1 bit	X		X		
20	K2: Input - (DPT 18.001)	Scene	1 byte	X		X		
21	K2: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
21	K2: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
21	K2: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
21	K2: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
21	K2: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
21	K2: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
21	K2: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
21	K2: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
21	K2: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
21	K2: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
22	K2: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
22	K2: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
22	K2: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
22	K2: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
22	K2: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
22	K2: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
22	K2: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
22	K2: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
22	K2: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
22	K2: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
23	K2: Input (DPT 1.001)	Lock	1 bit	X		X		
23	K2: Input (DPT 5.001)	Lock	1 byte	X		X		
23	K2: Input (DPT 5.010)	Lock	1 byte	X		X		
23	K2: Input (DPT 6.010)	Lock	1 byte	X		X		
23	K2: Input (DPT 9.x)	Lock	2 byte	X		X		
23	K2: Input (DPT 7.x)	Lock	2 byte	X		X		
23	K2: Input (DPT 8.x)	Lock	2 byte	X		X		
23	K2: Input (DPT 14.x)	Lock	4 byte	X		X		
23	K2: Input (DPT 12.x)	Lock	4 byte	X		X		
23	K2: Input (DPT 13.x)	Lock	4 byte	X		X		
24	K2: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
25	K2: Input (DPT 1.001)	Safety	1 bit	X		X		
25	K2: Input (DPT 5.001)	Safety	1 byte	X		X		
25	K2: Input (DPT 5.010)	Safety	1 byte	X		X		
25	K2: Input (DPT 6.010)	Safety	1 byte	X		X		
25	K2: Input (DPT 9.x)	Safety	2 byte	X		X		
25	K2: Input (DPT 7.x)	Safety	2 byte	X		X		
25	K2: Input (DPT 8.x)	Safety	2 byte	X		X		
25	K2: Input (DPT 14.x)	Safety	4 byte	X		X		
25	K2: Input (DPT 12.x)	Safety	4 byte	X		X		
25	K2: Input (DPT 13.x)	Safety	4 byte	X		X		
26	K2: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
27	K2: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
28	K2: Output (DPT 1.001)	Feedback	1 bit	X			X	
29	K2: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
30	K2: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
31	K2: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
32	K2: Output (DPT 13.100)	Operating hours	4 byte	X			X	
33	K2: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
34	K2: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
35	K2: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
36	K2: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 3

No.	DPT	Designation	Size	C	R	W	T	M
37	K3: Input - (DPT 1.001)	Switching	1 bit	X		X		
38	K3: Input - (DPT 18.001)	Scene	1 byte	X		X		
39	K3: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
39	K3: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
39	K3: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
39	K3: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
39	K3: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
39	K3: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
39	K3: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
39	K3: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
39	K3: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
39	K3: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
40	K3: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
40	K3: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
40	K3: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
40	K3: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
40	K3: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
40	K3: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
40	K3: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
40	K3: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
40	K3: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
40	K3: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
41	K3: Input (DPT 1.001)	Lock	1 bit	X		X		
41	K3: Input (DPT 5.001)	Lock	1 byte	X		X		
41	K3: Input (DPT 5.010)	Lock	1 byte	X		X		
41	K3: Input (DPT 6.010)	Lock	1 byte	X		X		
41	K3: Input (DPT 9.x)	Lock	2 byte	X		X		
41	K3: Input (DPT 7.x)	Lock	2 byte	X		X		
41	K3: Input (DPT 8.x)	Lock	2 byte	X		X		
41	K3: Input (DPT 14.x)	Lock	4 byte	X		X		
41	K3: Input (DPT 12.x)	Lock	4 byte	X		X		
41	K3: Input (DPT 13.x)	Lock	4 byte	X		X		
42	K3: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
43	K3: Input (DPT 1.001)	Safety	1 bit	X		X		
43	K3: Input (DPT 5.001)	Safety	1 byte	X		X		
43	K3: Input (DPT 5.010)	Safety	1 byte	X		X		
43	K3: Input (DPT 6.010)	Safety	1 byte	X		X		
43	K3: Input (DPT 9.x)	Safety	2 byte	X		X		
43	K3: Input (DPT 7.x)	Safety	2 byte	X		X		
43	K3: Input (DPT 8.x)	Safety	2 byte	X		X		
43	K3: Input (DPT 14.x)	Safety	4 byte	X		X		
43	K3: Input (DPT 12.x)	Safety	4 byte	X		X		
43	K3: Input (DPT 13.x)	Safety	4 byte	X		X		
44	K3: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
45	K3: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
46	K3: Output (DPT 1.001)	Feedback	1 bit	X			X	
47	K3: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
48	K3: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
49	K3: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
50	K3: Output (DPT 13.100)	Operating hours	4 byte	X			X	
51	K3: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
52	K3: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
53	K3: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
54	K3: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 4

No.	DPT	Designation	Size	C	R	W	T	M
55	K4: Input - (DPT 1.001)	Switching	1 bit	X		X		
56	K4: Input - (DPT 18.001)	Scene	1 byte	X		X		
57	K4: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
57	K4: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
57	K4: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
57	K4: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
57	K4: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
57	K4: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
57	K4: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
57	K4: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
57	K4: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
57	K4: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
58	K4: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
58	K4: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
58	K4: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
58	K4: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
58	K4: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
58	K4: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
58	K4: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
58	K4: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
58	K4: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
58	K4: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
59	K4: Input (DPT 1.001)	Lock	1 bit	X		X		
59	K4: Input (DPT 5.001)	Lock	1 byte	X		X		
59	K4: Input (DPT 5.010)	Lock	1 byte	X		X		
59	K4: Input (DPT 6.010)	Lock	1 byte	X		X		
59	K4: Input (DPT 9.x)	Lock	2 byte	X		X		
59	K4: Input (DPT 7.x)	Lock	2 byte	X		X		
59	K4: Input (DPT 8.x)	Lock	2 byte	X		X		
59	K4: Input (DPT 14.x)	Lock	4 byte	X		X		
59	K4: Input (DPT 12.x)	Lock	4 byte	X		X		
59	K4: Input (DPT 13.x)	Lock	4 byte	X		X		
60	K4: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
61	K4: Input (DPT 1.001)	Safety	1 bit	X		X		
61	K4: Input (DPT 5.001)	Safety	1 byte	X		X		
61	K4: Input (DPT 5.010)	Safety	1 byte	X		X		
61	K4: Input (DPT 6.010)	Safety	1 byte	X		X		
61	K4: Input (DPT 9.x)	Safety	2 byte	X		X		
61	K4: Input (DPT 7.x)	Safety	2 byte	X		X		
61	K4: Input (DPT 8.x)	Safety	2 byte	X		X		
61	K4: Input (DPT 14.x)	Safety	4 byte	X		X		
61	K4: Input (DPT 12.x)	Safety	4 byte	X		X		
61	K4: Input (DPT 13.x)	Safety	4 byte	X		X		
62	K4: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
63	K4: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
64	K4: Output (DPT 1.001)	Feedback	1 bit	X			X	
65	K4: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
66	K4: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
67	K4: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
68	K4: Output (DPT 13.100)	Operating hours	4 byte	X			X	
69	K4: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
70	K4: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
71	K4: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
72	K4: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 5

No.	DPT	Designation	Size	C	R	W	T	M
73	K5: Input - (DPT 1.001)	Switching	1 bit	X		X		
74	K5: Input - (DPT 18.001)	Scene	1 byte	X		X		
75	K5: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
75	K5: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
75	K5: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
75	K5: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
75	K5: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
75	K5: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
75	K5: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
75	K5: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
75	K5: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
75	K5: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
76	K5: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
76	K5: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
76	K5: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
76	K5: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
76	K5: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
76	K5: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
76	K5: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
76	K5: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
76	K5: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
76	K5: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
77	K5: Input - (DPT 1.001)	Lock	1 bit	X		X		
77	K5: Input (DPT 5.001)	Lock	1 byte	X		X		
77	K5: Input (DPT 5.010)	Lock	1 byte	X		X		
77	K5: Input (DPT 6.010)	Lock	1 byte	X		X		
77	K5: Input (DPT 9.x)	Lock	2 byte	X		X		
77	K5: Input (DPT 7.x)	Lock	2 byte	X		X		
77	K5: Input (DPT 8.x)	Lock	2 byte	X		X		
77	K5: Input (DPT 14.x)	Lock	4 byte	X		X		
77	K5: Input (DPT 12.x)	Lock	4 byte	X		X		
77	K5: Input (DPT 13.x)	Lock	4 byte	X		X		
78	K5: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
79	K5: Input (DPT 1.001)	Safety	1 bit	X		X		
79	K5: Input (DPT 5.001)	Safety	1 byte	X		X		
79	K5: Input (DPT 5.010)	Safety	1 byte	X		X		
79	K5: Input (DPT 6.010)	Safety	1 byte	X		X		
79	K5: Input (DPT 9.x)	Safety	2 byte	X		X		
79	K5: Input (DPT 7.x)	Safety	2 byte	X		X		
79	K5: Input (DPT 8.x)	Safety	2 byte	X		X		
79	K5: Input (DPT 14.x)	Safety	4 byte	X		X		
79	K5: Input (DPT 12.x)	Safety	4 byte	X		X		
79	K5: Input (DPT 13.x)	Safety	4 byte	X		X		
80	K5: Input (DPT 7.005)	Switch-on delay time	2 byte	X		X		
81	K5: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
82	K5: Output (DPT 1.001)	Feedback	1 bit	X			X	
83	K5: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
84	K5: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
85	K5: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
86	K5: Output (DPT 13.100)	Operating hours	4 byte	X			X	
87	K5: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
88	K5: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
89	K5: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
90	K5: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 6

No.	DPT	Designation	Size	C	R	W	T	M
91	K6: Input - (DPT 1.001)	Switching	1 bit	X		X		
92	K6: Input - (DPT 18.001)	Scene	1 byte	X		X		
93	K6: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
93	K6: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
93	K6: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
93	K6: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
93	K6: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
93	K6: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
93	K6: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
93	K6: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
93	K6: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
93	K6: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
94	K6: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
94	K6: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
94	K6: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
94	K6: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
94	K6: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
94	K6: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
94	K6: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
94	K6: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
94	K6: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
94	K6: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
95	K6: Input (DPT 1.001)	Lock	1 bit	X		X		
95	K6: Input (DPT 5.001)	Lock	1 byte	X		X		
95	K6: Input (DPT 5.010)	Lock	1 byte	X		X		
95	K6: Input (DPT 6.010)	Lock	1 byte	X		X		
95	K6: Input (DPT 9.x)	Lock	2 byte	X		X		
95	K6: Input (DPT 7.x)	Lock	2 byte	X		X		
95	K6: Input (DPT 8.x)	Lock	2 byte	X		X		
95	K6: Input (DPT 14.x)	Lock	4 byte	X		X		
95	K6: Input (DPT 12.x)	Lock	4 byte	X		X		
95	K6: Input (DPT 13.x)	Lock	4 byte	X		X		
96	K6: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
97	K6: Input (DPT 1.001)	Safety	1 bit	X		X		
97	K6: Input (DPT 5.001)	Safety	1 byte	X		X		
97	K6: Input (DPT 5.010)	Safety	1 byte	X		X		
97	K6: Input (DPT 6.010)	Safety	1 byte	X		X		
97	K6: Input (DPT 9.x)	Safety	2 byte	X		X		
97	K6: Input (DPT 7.x)	Safety	2 byte	X		X		
97	K6: Input (DPT 8.x)	Safety	2 byte	X		X		
97	K6: Input (DPT 14.x)	Safety	4 byte	X		X		
97	K6: Input (DPT 12.x)	Safety	4 byte	X		X		
97	K6: Input (DPT 13.x)	Safety	4 byte	X		X		
98	K6: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
99	K6: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
100	K6: Output (DPT 1.001)	Feedback	1 bit	X			X	
101	K6: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
102	K6: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
103	K6: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
104	K6: Output (DPT 13.100)	Operating hours	4 byte	X			X	
105	K6: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
106	K6: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
107	K6: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
108	K6: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 7

No.	DPT	Designation	Size	C	R	W	T	M
109	K7: Input - (DPT 1.001)	Switching	1 bit	X		X		
110	K7: Input - (DPT 18.001)	Scene	1 byte	X		X		
111	K7: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
111	K7: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
111	K7: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
111	K7: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
111	K7: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
111	K7: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
111	K7: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
111	K7: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
111	K7: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
111	K7: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
112	K7: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
112	K7: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
112	K7: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
112	K7: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
112	K7: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
112	K7: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
112	K7: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
112	K7: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
112	K7: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
112	K7: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
113	K7: Input (DPT 1.001)	Lock	1 bit	X		X		
113	K7: Input (DPT 5.001)	Lock	1 byte	X		X		
113	K7: Input (DPT 5.010)	Lock	1 byte	X		X		
113	K7: Input (DPT 6.010)	Lock	1 byte	X		X		
113	K7: Input (DPT 9.x)	Lock	2 byte	X		X		
113	K7: Input (DPT 7.x)	Lock	2 byte	X		X		
113	K7: Input (DPT 8.x)	Lock	2 byte	X		X		
113	K7: Input (DPT 14.x)	Lock	4 byte	X		X		
113	K7: Input (DPT 12.x)	Lock	4 byte	X		X		
113	K7: Input (DPT 13.x)	Lock	4 byte	X		X		
114	K7: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
115	K7: Input (DPT 1.001)	Safety	1 bit	X		X		
115	K7: Input (DPT 5.001)	Safety	1 byte	X		X		
115	K7: Input (DPT 5.010)	Safety	1 byte	X		X		
115	K7: Input (DPT 6.010)	Safety	1 byte	X		X		
115	K7: Input (DPT 9.x)	Safety	2 byte	X		X		
115	K7: Input (DPT 7.x)	Safety	2 byte	X		X		
115	K7: Input (DPT 8.x)	Safety	2 byte	X		X		
115	K7: Input (DPT 14.x)	Safety	4 byte	X		X		
115	K7: Input (DPT 12.x)	Safety	4 byte	X		X		
115	K7: Input (DPT 13.x)	Safety	4 byte	X		X		
116	K7: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
117	K7: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
118	K7: Output (DPT 1.001)	Feedback	1 bit	X			X	
119	K7: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
120	K7: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
121	K7: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
122	K7: Output (DPT 13.100)	Operating hours	4 byte	X			X	
123	K7: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
124	K7: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
125	K7: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
126	K7: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 8

No.	DPT	Designation	Size	C	R	W	T	M
127	K8: Input - (DPT 1.001)	Switching	1 bit	X		X		
128	K8: Input - (DPT 18.001)	Scene	1 byte	X		X		
129	K8: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
129	K8: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
129	K8: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
129	K8: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
129	K8: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
129	K8: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
129	K8: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
129	K8: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
129	K8: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
129	K8: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
130	K8: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
130	K8: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
130	K8: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
130	K8: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
130	K8: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
130	K8: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
130	K8: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
130	K8: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
130	K8: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
130	K8: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
131	K8: Input (DPT 1.001)	Lock	1 bit	X		X		
131	K8: Input (DPT 5.001)	Lock	1 byte	X		X		
131	K8: Input (DPT 5.010)	Lock	1 byte	X		X		
131	K8: Input (DPT 6.010)	Lock	1 byte	X		X		
131	K8: Input (DPT 9.x)	Lock	2 byte	X		X		
131	K8: Input (DPT 7.x)	Lock	2 byte	X		X		
131	K8: Input (DPT 8.x)	Lock	2 byte	X		X		
131	K8: Input (DPT 14.x)	Lock	4 byte	X		X		
131	K8: Input (DPT 12.x)	Lock	4 byte	X		X		
131	K8: Input (DPT 13.x)	Lock	4 byte	X		X		
132	K8: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
133	K8: Input (DPT 1.001)	Safety	1 bit	X		X		
133	K8: Input (DPT 5.001)	Safety	1 byte	X		X		
133	K8: Input (DPT 5.010)	Safety	1 byte	X		X		
133	K8: Input (DPT 6.010)	Safety	1 byte	X		X		
133	K8: Input (DPT 9.x)	Safety	2 byte	X		X		
133	K8: Input (DPT 7.x)	Safety	2 byte	X		X		
133	K8: Input (DPT 8.x)	Safety	2 byte	X		X		
133	K8: Input (DPT 14.x)	Safety	4 byte	X		X		
133	K8: Input (DPT 12.x)	Safety	4 byte	X		X		
133	K8: Input (DPT 13.x)	Safety	4 byte	X		X		
134	K8: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
135	K8: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
136	K8: Output (DPT 1.001)	Feedback	1 bit	X			X	
137	K8: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
138	K8: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
139	K8: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
140	K8: Output (DPT 13.100)	Operating hours	4 byte	X			X	
141	K8: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
142	K8: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
143	K8: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
144	K8: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 9

No.	DPT	Designation	Size	C	R	W	T	M
145	K9: Input - (DPT 1.001)	Switching	1 bit	X		X		
146	K9: Input - (DPT 18.001)	Scene	1 byte	X		X		
147	K9: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
147	K9: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
147	K9: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
147	K9: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
147	K9: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
147	K9: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
147	K9: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
147	K9: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
147	K9: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
147	K9: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
148	K9: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
148	K9: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
148	K9: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
148	K9: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
148	K9: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
148	K9: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
148	K9: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
148	K9: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
148	K9: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
148	K9: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
149	K9: Input - (DPT 1.001)	Lock	1 bit	X		X		
149	K9: Input (DPT 5.001)	Lock	1 byte	X		X		
149	K9: Input (DPT 5.010)	Lock	1 byte	X		X		
149	K9: Input (DPT 6.010)	Lock	1 byte	X		X		
149	K9: Input (DPT 9.x)	Lock	2 byte	X		X		
149	K9: Input (DPT 7.x)	Lock	2 byte	X		X		
149	K9: Input (DPT 8.x)	Lock	2 byte	X		X		
149	K9: Input (DPT 14.x)	Lock	4 byte	X		X		
149	K9: Input (DPT 12.x)	Lock	4 byte	X		X		
149	K9: Input (DPT 13.x)	Lock	4 byte	X		X		
150	K9: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
151	K9: Input (DPT 1.001)	Safety	1 bit	X		X		
151	K9: Input (DPT 5.001)	Safety	1 byte	X		X		
151	K9: Input (DPT 5.010)	Safety	1 byte	X		X		
151	K9: Input (DPT 6.010)	Safety	1 byte	X		X		
151	K9: Input (DPT 9.x)	Safety	2 byte	X		X		
151	K9: Input (DPT 7.x)	Safety	2 byte	X		X		
151	K9: Input (DPT 8.x)	Safety	2 byte	X		X		
151	K9: Input (DPT 14.x)	Safety	4 byte	X		X		
151	K9: Input (DPT 12.x)	Safety	4 byte	X		X		
151	K9: Input (DPT 13.x)	Safety	4 byte	X		X		
152	K9: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
153	K9: Input (DPT 7.005)	Switch-off delay	2 byte	X		X		
153	K9: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
154	K9: Output (DPT 1.001)	Feedback	1 bit	X			X	
155	K9: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
156	K9: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
157	K9: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
158	K9: Output (DPT 13.100)	Operating hours	4 byte	X			X	
159	K9: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
160	K9: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
161	K9: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
162	K9: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 10

No.	DPT	Designation	Size	C	R	W	T	M
163	K10: Input - (DPT 1.001)	Switching	1 bit	X		X		
164	K10: Input - (DPT 18.001)	Scene	1 byte	X		X		
165	K10: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
165	K10: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
165	K10: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
165	K10: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
165	K10: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
165	K10: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
165	K10: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
165	K10: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
165	K10: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
165	K10: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
166	K10: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
166	K10: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
166	K10: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
166	K10: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
166	K10: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
166	K10: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
166	K10: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
166	K10: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
166	K10: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
166	K10: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
167	K10: Input - (DPT 1.001)	Lock	1 bit	X		X		
167	K10: Input (DPT 5.001)	Lock	1 byte	X		X		
167	K10: Input (DPT 5.010)	Lock	1 byte	X		X		
167	K10: Input (DPT 6.010)	Lock	1 byte	X		X		
167	K10: Input (DPT 9.x)	Lock	2 byte	X		X		
167	K10: Input (DPT 7.x)	Lock	2 byte	X		X		
167	K10: Input (DPT 8.x)	Lock	2 byte	X		X		
167	K10: Input (DPT 14.x)	Lock	4 byte	X		X		
167	K10: Input (DPT 12.x)	Lock	4 byte	X		X		
167	K10: Input (DPT 13.x)	Lock	4 byte	X		X		
168	K10: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
169	K10: Input (DPT 1.001)	Safety	1 bit	X		X		
169	K10: Input (DPT 5.001)	Safety	1 byte	X		X		
169	K10: Input (DPT 5.010)	Safety	1 byte	X		X		
169	K10: Input (DPT 6.010)	Safety	1 byte	X		X		
169	K10: Input (DPT 9.x)	Safety	2 byte	X		X		
169	K10: Input (DPT 7.x)	Safety	2 byte	X		X		
169	K10: Input (DPT 8.x)	Safety	2 byte	X		X		
169	K10: Input (DPT 14.x)	Safety	4 byte	X		X		
169	K10: Input (DPT 12.x)	Safety	4 byte	X		X		
169	K10: Input (DPT 13.x)	Safety	4 byte	X		X		
170	K10: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
171	K10: Input (DPT 7.005)	Switch-off delay	2 byte	X		X		
171	K10: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
172	K10: Output (DPT 1.001)	Feedback	1 bit	X			X	
173	K10: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
174	K10: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
175	K10: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
176	K10: Output (DPT 13.100)	Operating hours	4 byte	X			X	
177	K10: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
178	K10: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
179	K10: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
180	K10: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 11

No.	DPT	Designation	Size	C	R	W	T	M
181	K11: Input - (DPT 1.001)	Switching	1 bit	X		X		
182	K11: Input - (DPT 18.001)	Scene	1 byte	X		X		
183	K11: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
183	K11: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
183	K11: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
183	K11: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
183	K11: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
183	K11: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
183	K11: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
183	K11: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
183	K11: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
183	K11: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
184	K11: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
184	K11: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
184	K11: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
184	K11: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
184	K11: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
184	K11: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
184	K11: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
184	K11: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
184	K11: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
184	K11: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
185	K11: Input - (DPT 1.001)	Lock	1 bit	X		X		
185	K11: Input (DPT 5.001)	Lock	1 byte	X		X		
185	K11: Input (DPT 5.010)	Lock	1 byte	X		X		
185	K11: Input (DPT 6.010)	Lock	1 byte	X		X		
185	K11: Input (DPT 9.x)	Lock	2 byte	X		X		
185	K11: Input (DPT 7.x)	Lock	2 byte	X		X		
185	K11: Input (DPT 8.x)	Lock	2 byte	X		X		
185	K11: Input (DPT 14.x)	Lock	4 byte	X		X		
185	K11: Input (DPT 12.x)	Lock	4 byte	X		X		
185	K11: Input (DPT 13.x)	Lock	4 byte	X		X		
186	K11: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
187	K11: Input (DPT 1.001)	Safety	1 bit	X		X		
187	K11: Input (DPT 5.001)	Safety	1 byte	X		X		
187	K11: Input (DPT 5.010)	Safety	1 byte	X		X		
187	K11: Input (DPT 6.010)	Safety	1 byte	X		X		
187	K11: Input (DPT 9.x)	Safety	2 byte	X		X		
187	K11: Input (DPT 7.x)	Safety	2 byte	X		X		
187	K11: Input (DPT 8.x)	Safety	2 byte	X		X		
187	K11: Input (DPT 14.x)	Safety	4 byte	X		X		
187	K11: Input (DPT 12.x)	Safety	4 byte	X		X		
187	K11: Input (DPT 13.x)	Safety	4 byte	X		X		
188	K11: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
189	K11: Input (DPT 7.005)	Switch-off delay	2 byte	X		X		
189	K11: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
190	K11: Output (DPT 1.001)	Feedback	1 bit	X			X	
191	K11: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
192	K11: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
193	K11: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
194	K11: Output (DPT 13.100)	Operating hours	4 byte	X			X	
195	K11: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
196	K11: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
197	K11: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
198	K11: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

Channel 12

No.	DPT	Designation	Size	C	R	W	T	M
199	K12: Input - (DPT 1.001)	Switching	1 bit	X		X		
200	K12: Input - (DPT 18.001)	Scene	1 byte	X		X		
201	K12: Input (DPT 1.001)	Logic operation 1	1 bit	X		X		
201	K12: Input (DPT 5.001)	Logic operation 1	1 byte	X		X		
201	K12: Input (DPT 5.010)	Logic operation 1	1 byte	X		X		
201	K12: Input (DPT 6.010)	Logic operation 1	1 byte	X		X		
201	K12: Input (DPT 9.x)	Logic operation 1	2 byte	X		X		
201	K12: Input (DPT 7.x)	Logic operation 1	2 byte	X		X		
201	K12: Input (DPT 8.x)	Logic operation 1	2 byte	X		X		
201	K12: Input (DPT 14.x)	Logic operation 1	4 byte	X		X		
201	K12: Input (DPT 12.x)	Logic operation 1	4 byte	X		X		
201	K12: Input (DPT 13.x)	Logic operation 1	4 byte	X		X		
202	K12: Input (DPT 1.001)	Logic operation 2	1 bit	X		X		
202	K12: Input (DPT 5.001)	Logic operation 2	1 byte	X		X		
202	K12: Input (DPT 5.010)	Logic operation 2	1 byte	X		X		
202	K12: Input (DPT 6.010)	Logic operation 2	1 byte	X		X		
202	K12: Input (DPT 9.x)	Logic operation 2	2 byte	X		X		
202	K12: Input (DPT 7.x)	Logic operation 2	2 byte	X		X		
202	K12: Input (DPT 8.x)	Logic operation 2	2 byte	X		X		
202	K12: Input (DPT 14.x)	Logic operation 2	4 byte	X		X		
202	K12: Input (DPT 12.x)	Logic operation 2	4 byte	X		X		
202	K12: Input (DPT 13.x)	Logic operation 2	4 byte	X		X		
203	K12: Input - (DPT 1.001)	Lock	1 bit	X		X		
203	K12: Input (DPT 5.001)	Lock	1 byte	X		X		
203	K12: Input (DPT 5.010)	Lock	1 byte	X		X		
203	K12: Input (DPT 6.010)	Lock	1 byte	X		X		
203	K12: Input (DPT 9.x)	Lock	2 byte	X		X		
203	K12: Input (DPT 7.x)	Lock	2 byte	X		X		
203	K12: Input (DPT 8.x)	Lock	2 byte	X		X		
203	K12: Input (DPT 14.x)	Lock	4 byte	X		X		
203	K12: Input (DPT 12.x)	Lock	4 byte	X		X		
203	K12: Input (DPT 13.x)	Lock	4 byte	X		X		
204	K12: Input (DPT 2.001)	Forced operation	2 Bit	X		X		
205	K12: Input (DPT 1.001)	Safety	1 bit	X		X		
205	K12: Input (DPT 5.001)	Safety	1 byte	X		X		
205	K12: Input (DPT 5.010)	Safety	1 byte	X		X		
205	K12: Input (DPT 6.010)	Safety	1 byte	X		X		
205	K12: Input (DPT 9.x)	Safety	2 byte	X		X		
205	K12: Input (DPT 7.x)	Safety	2 byte	X		X		
205	K12: Input (DPT 8.x)	Safety	2 byte	X		X		
205	K12: Input (DPT 14.x)	Safety	4 byte	X		X		
205	K12: Input (DPT 12.x)	Safety	4 byte	X		X		
205	K12: Input (DPT 13.x)	Safety	4 byte	X		X		
206	K12: Input (DPT 7.005)	Switch-on delay	2 byte	X		X		
207	K12: Input (DPT 7.005)	Switch-off delay	2 byte	X		X		
207	K12: Input (DPT 7.005)	Follow-up time	2 byte	X		X		
208	K12: Output (DPT 1.001)	Feedback	1 bit	X			X	
209	K12: Input (DPT 13.100)	Operating hours limit	4 byte	X		X		
210	K12: Input (DPT 1.001)	Reset operating hours	1 bit	X		X		
211	K12: Output (DPT 1.001)	Operating hours achieved	1 bit	X			X	
212	K12: Output (DPT 13.100)	Operating hours	4 byte	X			X	
213	K12: Input (DPT 12.001)	Switching cycles Limit	4 byte	X			X	
214	K12: Input (DPT 1.001)	Reset switching cycles	1 bit	X		X		
215	K12: Output (DPT 1.001)	Switching cycles achieved	1 bit	X			X	
216	K12: Output (DPT 12.001)	Switching cycles	4 byte	X			X	

General

No.	DPT	Designation	Size	C	R	W	T	M
217	General: Input	Central switching	1 bit	X		X		
218	General: Input	Actuator reset	1 bit	X		X		
219	General: Output	Collective feedback (active)	4 bytes	X			X	
219	General: Output	Collective feedback (passive)	4 bytes	X	X			
221	General: Output	Commissioning telegram	1 bit	X			X	

9 Care, maintenance and disposal

9.1 Cleaning

If necessary, clean the surface of the device with a soft, lint-free cloth.

NOTE	
	**Do not use aggressive cleaners!** ➞ Do not use aggressive cleaning agents such as thinner or acetone to clean the device. ➞ Only use a fibre-free cloth for cleaning. ➞ Pointed and hard objects can destroy the device.

9.2 Maintenance

The device does not normally require maintenance by the operator. Repairs to the devices may only be carried out by the manufacturer.

For repairs, contact your responsible B.E.G. Brück Electronic branch or directly B.E.G. Brück Electronic GmbH, Germany.

9.3 Disposal

Observe the nationally applicable regulations for electrotechnical components when disposing of them.

10 Diagnosis / Troubleshooting

	NOTE
	**Diagnosis / troubleshooting via the ETS!** ➜ For diagnosis / troubleshooting, use the corresponding functions of the ETS, e.g. ▪ Group monitor ▪ Bus monitor ▪ Line scan

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11 Service / Support

11.1 Manufacturer's warranty

The company B.E.G. Brück Electronic GmbH grants a warranty in accordance with the warranty conditions, which you can download from the website at https://www.B.E.G.-luxomat.com/service/downloads/.

11.1.1 Product code

The product is provided with a product code which enables the product to be traced in the event of a guarantee/complaint.

The product code is lasered on the housing. For the exact placement, please refer to the enclosed manual.

11.2 Contact details

Service hotline:

+49 (0)2266 90121-0

Monday to Thursday 8.00 to 16.00 (UTC+1)

Friday 8.00 to 15.00 (UTC+1)

E-mail:

support@beg.de

Return address for repairs:

Contact your B.E.G. branch or agency.

You can find the contact details at https://www.beg-luxomat.com/en-in/service/service-points/.

Or contact directly

B.E.G. Brück Electronic GmbH

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