

## GAMMA instabus

## Application program description

Application program	"07 B0 A4 switching actuator	4-fold 9A0103"
Application program	"07 B0 A4 switching actuator	4-fold 9A0803"
Application program	"07 B0 A8 switching actuator	8-fold 9A0203"
Application program	"07 B0 A8 switching actuator	8-fold 9A0903"
Application program	"07 B0 A12 switching actuator	12-fold 9A0303"
Application program	"07 B0 A12 switching actuator	12-fold 9A0A03"



**Switching Actuators N 530, 4 / 8 / 12 x 6 AX**

**Switching Actuators N 532, 4 / 8 / 12 x 10 AX**

**Switching Actuators N 534, 4 / 8 / 12 x 16/20 AX**

**Switching Actuators N 535, 4 / 8 / 12 x 16/20 AX**

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

## Using the application programs

### Application program "07 B0 A4 Switching Actuator 4-fold 9A0103"

Product family: Output  
Product type: Binary output, 4-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 530D31, 4 x 6 AX  
Description: Switching Actuator 4 x AC 230 V, 6 AX, C-load  
Order no.: 5WG1530-1DB31

Name: Switching Actuator N 532D31, 4 x 10 AX  
Description: Switching Actuator 4 x AC 230 V, 10 AX, C-load  
Order no.: 5WG1532-1DB31

Name: Switching Actuator N 534D31, 4 x 16/20 AX  
Description: Switching Actuator 4 x AC 230 V, 16/20 AX, C-load  
Order no.: 5WG1534-1DB31

### Application program "07 B0 A4 Switching Actuator 4-fold 9A0803"

Product family: Output  
Product type: Binary output, 4-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 535D31, 4 x 16/20 AX  
Description: Switching Actuator 4 x AC 230 V, 16/20 AX, C-load, Load Check  
Order no.: 5WG1535-1DB31

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

#### Application program "07 B0 A8 Switching Actuator 8-fold 9A0203"

Product family: Output  
Product type: Binary output, 8-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 530D51, 8 x 6 AX  
Description: Switching Actuator 8 x AC 230 V, 6 AX, C-load  
Order no.: 5WG1530-1DB51

Name: Switching Actuator N 532D51, 8 x 10 AX  
Description: Switching Actuator 8 x AC 230 V, 10 AX, C-load  
Order no.: 5WG1532-1DB51

Name: Switching Actuator N 534D51, 8 x 16/20 AX  
Description: Switching Actuator 8 x AC 230 V, 16/20 AX, C-load  
Order no.: 5WG1534-1DB51

#### Application program "07 B0 A8 Switching Actuator 8-fold 9A0903"

Product family: Output  
Product type: Binary output, 8-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 535D51, 8 x 16/20 AX  
Description: Switching Actuator 8 x AC 230 V, 16/20 AX, C-load, Load Check  
Order no.: 5WG1535-1DB51

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

#### Application program "07 B0 A12 Switching Actuator 12-fold 9A0303"

Product family: Output  
Product type: Binary output, 12-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 530D61, 12 x 6 AX  
Description: Switching Actuator 12 x AC 230 V, 6 AX, C-load  
Order no.: 5WG1530-1DB61

Name: Switching Actuator N 532D61, 12 x 10 AX  
Description: Switching Actuator 12 x AC 230 V, 10 AX, C-load  
Order no.: 5WG1532-1DB61

Name: Switching Actuator N 534D61, 12 x 16/20 AX  
Description: Switching Actuator 12 x AC 230 V, 16/20 AX, C-load  
Order no.: 5WG1534-1DB61

#### Application program "07 B0 A12 Switching Actuator 12-fold 9A0A03"

Product family: Output  
Product type: Binary output, 12-fold  
Manufacturer: Siemens  
Name: Switching Actuator N 535D61, 12 x 16/20 AX  
Description: Switching Actuator 12 x AC 230 V, 16/20 AX, C-load, Load Check  
Order no.: 5WG1535-1DB61

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 1 Function description

Application programs "07 B0 A4 Switching Actuator 4-fold 9A0103," "07 B0 A4 Switching Actuator 4-fold 9A0803," "07 B0 A8 Switching Actuator 8-fold 9A0203," "07 B0 A8 Switching Actuator 8-fold 9A0903," "07 B0 A12 Switching Actuator 12-fold 9A0303" and "07 B0 A12 Switching Actuator 12-fold 9A0A03" can be used for the corresponding KNX devices described in the "Using the application program" section. These are briefly described below.

Switching actuators N 530D31, N 532D31, N 534D31 and N 535D31 are KNX devices with four switching outputs. The bus is connected using a bus terminal block; the power supply for the actuator electronics uses the bus voltage.

Switching actuators N 530D51, N 532D51, N 534D51 and N 535D51 are KNX devices with eight switching outputs. The bus is connected using a bus terminal block; the power supply for the actuator electronics uses the bus voltage.

Switching actuators N 530D61, N 532D61, N 534D61 and N 535D61 are KNX devices with twelve switching outputs. The bus is connected using a bus terminal block; the power supply for the actuator electronics uses the bus voltage.

For switching actuators N 535D31, N 535D51 and N 535D61, each channel has an additional load detection with threshold monitoring as a diagnostic function.

The switching actuators are rail-mounted devices for installation in distributions.

These devices have the properties described below.

The device can switch resistive loads (e.g. electric heater, incandescent lamps) or inductive loads (e.g. motor, low-voltage halogen lamps with upstream wound transformer) or capacitive loads (e.g. low-voltage halogen lamps with upstream electronic transformer).

Depending on the configuration, the functions switching, logic operation, central switching, 8-bit scene control, timer functions and status request are available for each switching output.

As an alternative to the switching input, a control value input with configurable threshold value for switching on and off can be selected.

### Operating modes:

Each output (channel) of the switching actuator may be set to one of the following operating modes:

- Normal mode
- Timer mode
- Flashing

### Timer functions:

In the "normal mode" operating mode, the timer functions for delayed switching on and off and timer night mode operation are available. For night mode, an additional warning can be set before switching off.

In the "timer mode" operating mode, the functions "on period 1 in day mode" and "on period in night mode" are available. Moreover, for both functions a warning before switching off can be set separately.

In the "flashing" operating mode, the output is switched on and off cyclically with the selectable on and off period. It is also possible to set up delayed switching on and off.

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

**Overrides:**

Up to seven different override function blocks can be activated to override the automation functions. For each of the override function blocks, one of the following functions can be selected:

- Manual override (ON)
- Permanent OFF
- Lock
- Central override
- User-defined override function
- Forced control

This enables flexible configuration of a different priority-dependent override for each output. For the override functions a control value input can be selected instead of a switching control input.

**Load check monitoring (only type N 535)**

For switching actuators of type N 535, the load check can optionally be measured and the status can be sent via the bus. The load check can also be monitored with regard to exceedance and/or falling short of load check limit values. An adjustment factor and offset value can be specified.

**Switching cycle and operating hours count:**

If configured accordingly, it is possible to count and display the switching cycles and operating hours of the device to monitor the use. For switching actuators of type N 535, the counting of operating hours can additionally be configured so that operating hours are only counted when there is an active current flow.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

**Schematic design of a switching actuator channel:**

The following schema shows the named functions in a logical overview.

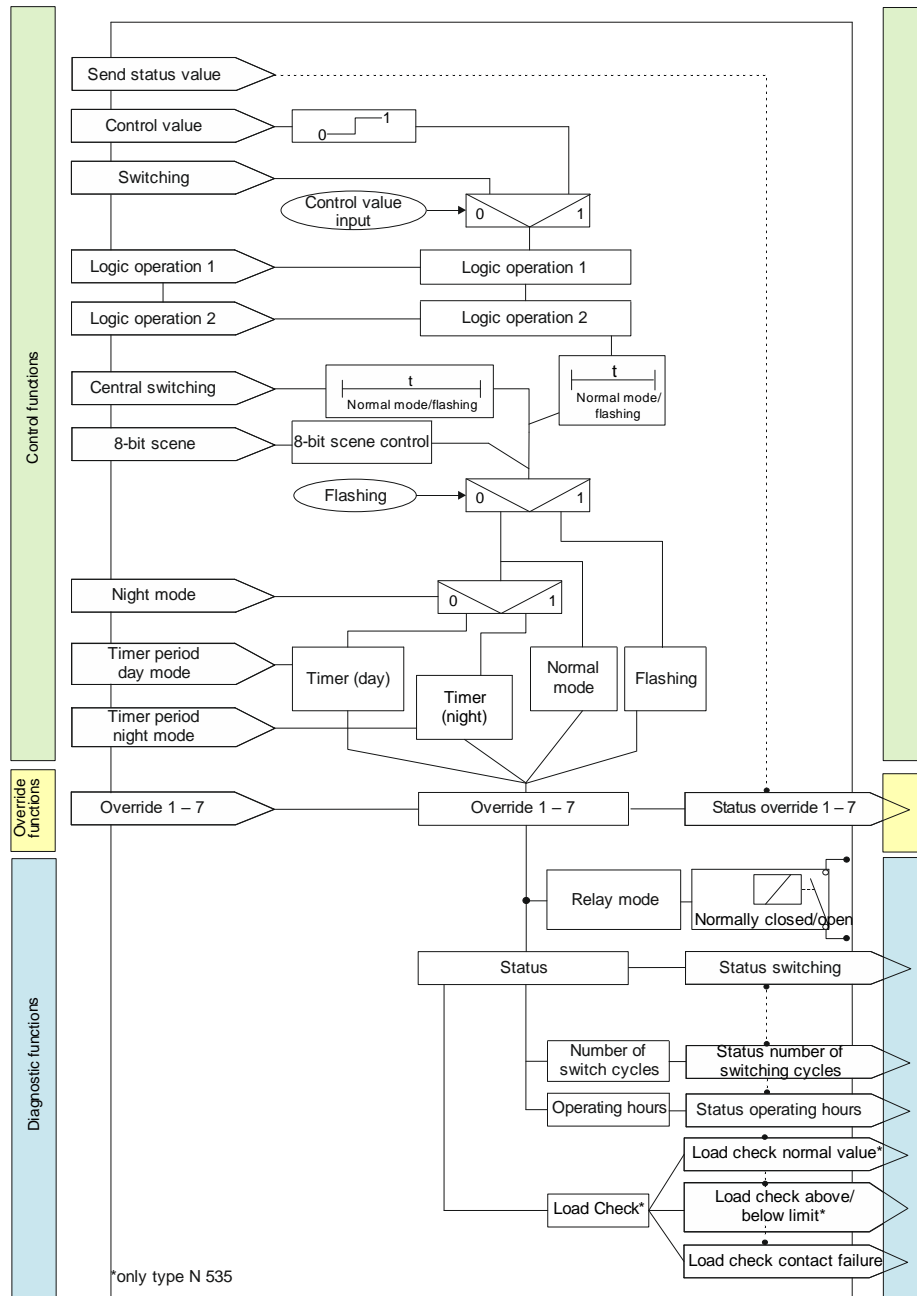


Fig. 1 Schematic design of a switching actuator channel (not all communication objects are shown)

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

## 1.1 Behavior on voltage failure/recovery

As the electronics of the device are bus-powered, a loss of voltage only results in a loss of function for the switching actuator if the voltage failure also causes the bus voltage to fail as well.

Each output can be independently configured with parameters to define what status it is to assume in case of bus voltage failure (off, on or no change).

In case of bus voltage failure, the current status and other values for each output are permanently saved so that they can be restored when the bus voltage is recovered.

When bus voltage is recovered, one of the following functions can be selected for the starting value: Off, on, last status of the switching value, last received switching value.

On bus voltage recovery, the configured actions are executed and, if applicable, new status values are reported.

## 1.2 Building site function

The building site function provided ex-factory enables switching the building site lighting on and off via bus wall switches and actuators, even if these devices have not yet been commissioned with the Engineering Tool Software (ETS).

## 1.3 Delivery state

In the delivery state, all channels (outputs) have the "switching," function assigned for the building site function.

## 1.4 Behavior on unloading the application program

After "unloading" the application program with the ETS, the unloaded device has no functions.

A very long push of the programming button of more than 20 seconds resets the device to its factory settings.

## 1.5 Resetting the device to factory settings

A very long push of the programming button of more than 20 seconds resets the device to its factory settings. This is indicated by an even flashing of the programming LED with a duration of 8 seconds.

All configuration settings are deleted. The building site function of the delivery state is re-activated.

## 1.6 Address mode



**On bus voltage recovery, wait several seconds before pushing the learning button (not before booting is complete).**

**Briefly pressing the programming button (< 2 s) activates address mode. This is indicated through constant illumination of the programming LED.**

**Pressing it again deactivates address mode.**

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 2 Communication objects

Maximum number of group addresses: 2000

Maximum number of group assignments: 2000

### Note

The number and designation of the communication objects displayed in the ETS menu can vary as it depends on the parameter settings. Numbers missing in this table are not assigned.

The application program is loaded in the device ex works.

The device is configured and commissioned with Engineering Tool Software (ETS) version ETS 4.2 or higher.

Using the ETS, the specific parameters and addresses can be assigned and transferred to the bus device.

Which objects are visible and linkable with group addresses is determined by the functions assigned to the inputs.

The objects and corresponding parameter settings are described with the functions.

The following list shows all communication objects of the device. The communication objects are identical for every channel with the only difference being the number.

### 2.1 Cross-channel communication objects

Number/channel	Object name	Function	Datapoint type	Flags
1	Status device function	OK/defect	1.005 alarm	CRT
2	Send status values	request	1.017 trigger	CW

### 2.2 Communication objects of the individual channels

Number/channel												Object name	Function	Datapoint type	Flags
A	B	C	D	E	F	G	H	I	J	K	L				
3	62	121	180	239	298	357	416	475	534	593	652	Switching	On/Off	1.001 switching	CW
4	63	122	181	240	299	358	417	476	535	594	653	Control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
5	64	123	182	241	300	359	418	477	536	595	654	Status switching	On/off	1.001 switching	CRT

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Number/channel												Object name	Function	Datapoint type	Flags
A	B	C	D	E	F	G	H	I	J	K	L				
6	65											Logic operation 1	On/off	1.001 switching	CW
7	66											Logic operation 2	On/off	1.001 switching	CW
8	67											Central switching	On/off	1.001 switching	CW
9	68											8-bit scene	Recall/ store	18.001 scene control	CW
10	69											Night mode	On/off	1.003 enable	CW
11	70											Timer night mode	ON time (seconds)	7.005 time (s)	CRW
12	71											Timer day mode	ON time 1 (seconds)	7.005 time (s)	CRW
14	73											Pre-warning expiration of timer period	On/off	1.001 switching	CRT
15	74											Lock timer	On/off	1.003 enable	CW
16	75											Override 1, [type of over- ride]	On/off	1.003 enable	CW
17	76											Override 1, [type of over- ride], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
18	77											Override 1, forced control	On/off	2.001 prio. Switching	CW
19	78											Override 1, [type of over- ride], status	On/off	1.002 Boolean	CRT
20	79											Override 2, [type of over- ride]	On/off	1.003 enable	CW

07 B0 A4 Switching Actuator 4-fold 9A0103  
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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Number/channel												Object name	Function	Datapoint type	Flags
A	B	C	D	E	F	G	H	I	J	K	L				
21	80	139	198	257	316	375	434	493	552	611	670	A override 2, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
22	81	140	199	258	317	376	435	494	553	612	671	Override 2, forced control	On/off	2.001 prio. Switching	CW
23	82	141	200	259	318	377	436	495	554	613	672	Override 2, [type of override], status	On/off	1.002 Boolean	CRT
24	83	142	201	260	319	378	437	496	555	614	673	Override 3, [type of override]	On/off	1.003 enable	CW
25	84	143	202	261	320	379	438	497	556	615	674	Override 3, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
26	85	144	203	262	321	380	439	498	557	616	675	Override 3, forced control	On/off	2.001 prio. Switching	CW
27	86	145	204	263	322	381	440	499	558	617	676	Override 3, [type of override], status	On/off	1.002 Boolean	CRT
28	87	146	205	264	323	382	441	500	559	618	677	Override 4, [type of override]	On/off	1.003 enable	CW
29	88	147	206	265	324	383	442	501	560	619	678	Override 4, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Number/channel												Object name	Function	Datapoint type	Flags	
A	B	C	D	E	F	G	H	I	J	K	L					
30	89												Override 4, forced control	On/off	2.001 prio. Switching	CW
31	90												Override 4, [type of override], status	On/off	1.002 Boolean	CRT
32	91												Override 5, [type of override]	On/off	1.003 enable	CW
33	92												Override 5, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
34	93												Override 5, forced control	On/off	2.001 prio. Switching	CW
35	94												Override 5, [type of override], status	On/off	1.002 Boolean	CRT
36	95												Override 6, [type of override]	On/off	1.003 enable	CW
37	96												Override 6, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
38	97												Override 6, forced control	On/off	2.001 prio. Switching	CW
39	98												Override 6, [type of override], status	On/off	1.002 Boolean	CRT
40	99												Override 7, [type of override]	On/off	1.003 enable	CW



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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Number/channel												Object name	Function	Datapoint type	Flags
A	B	C	D	E	F	G	H	I	J	K	L				
41	100	159	218	277	336	395	454	513	572	631	690	Override 7, [type of override], control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
42	101	160	219	278	337	396	455	514	573	632	691	Override 7, forced control	On/off	2.001 prio. Switching	CW
43	102	161	220	279	338	397	456	515	574	633	692	Override 7, [type of override], status	On/off	1.002 Boolean	CRT
44	103	162	221	280	339	398	457	516	575	634	693	Overrides status	1 = Active	1.002 Boolean	CRT
45	104	163	222	281	340	399	458	517	576	635	694	Number of switching cycles	Value (switch cycles)	12.001 counting impulses (without prefix)	CRT
46	105	164	223	282	341	400	459	518	577	636	695	Number of switching cycles	Set value (in cycles)	12.001 counting impulses (without prefix)	CW
47	106	165	224	283	342	401	460	519	578	637	696	Threshold for switching cycles	Set / request value (in cycles)	12.001 counting impulses (without prefix)	CRW
48	107	166	225	284	343	402	461	520	579	638	697	Exceedance of threshold for switching cycles	On/Off	1.002 Boolean	CRT
49	108	167	226	285	344	403	462	521	580	639	698	Operating hours	Value (in hours)	12.001 counting impulses (without prefix)	CRT
50	109	168	227	286	345	404	463	522	581	640	699	Operating hours	Value (in seconds)	13.100 time difference (s)	CRT
51	110	169	228	287	346	405	464	523	582	641	700	Operating hours	Set value	12.001 counting impulses (without prefix)	CW
52	111	170	229	288	347	406	465	524	583	642	701	Threshold for operating hours	Set / request value	12.001 counting impulses (without prefix)	CRW
53	112	171	230	289	348	407	466	525	584	643	702	Exceedance of threshold for operating hours	On/Off	1.002 Boolean	CRT

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Additional communication objects for switching actuators with load current detection (type N 535)

Number/channel												Object name	Function	Datapoint type	Flags
A	B	C	D	E	F	G	H	I	J	K	L				
54	113	172	231	290	349	408	467	526	585	644	703	Load Check measured value	Current (mA)	7.012 current (mA)	CRT
55	114	173	232	291	350	409	468	527	586	645	704	Load Check measured value	Current (A)	14.019 elect. current (A)	CRT
56	115	174	233	292	351	410	469	528	587	646	705	Store Load Check normal value	On	1.003 enable	CW
57	116	175	234	293	352	411	470	529	588	647	706	Load check normal value recall	Current (mA)	7.012 current (mA)	CRT
58	117	176	235	294	353	412	471	530	589	648	707	Load check normal value recall	Current (A)	14.019 elect. current (A)	CRT
59	118	177	236	295	354	413	472	531	590	649	708	Exceedance of load check limit value	On/Off	1.002 Boolean	CRT
60	119	178	237	296	355	414	473	532	591	650	709	Shortfall of load check limit value	On/Off	1.002 Boolean	CRT
61	120	179	238	297	356	415	474	533	592	651	710	Load check contact failure	On/Off	1.002 Boolean	CRT

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 3 Structure of configuration options

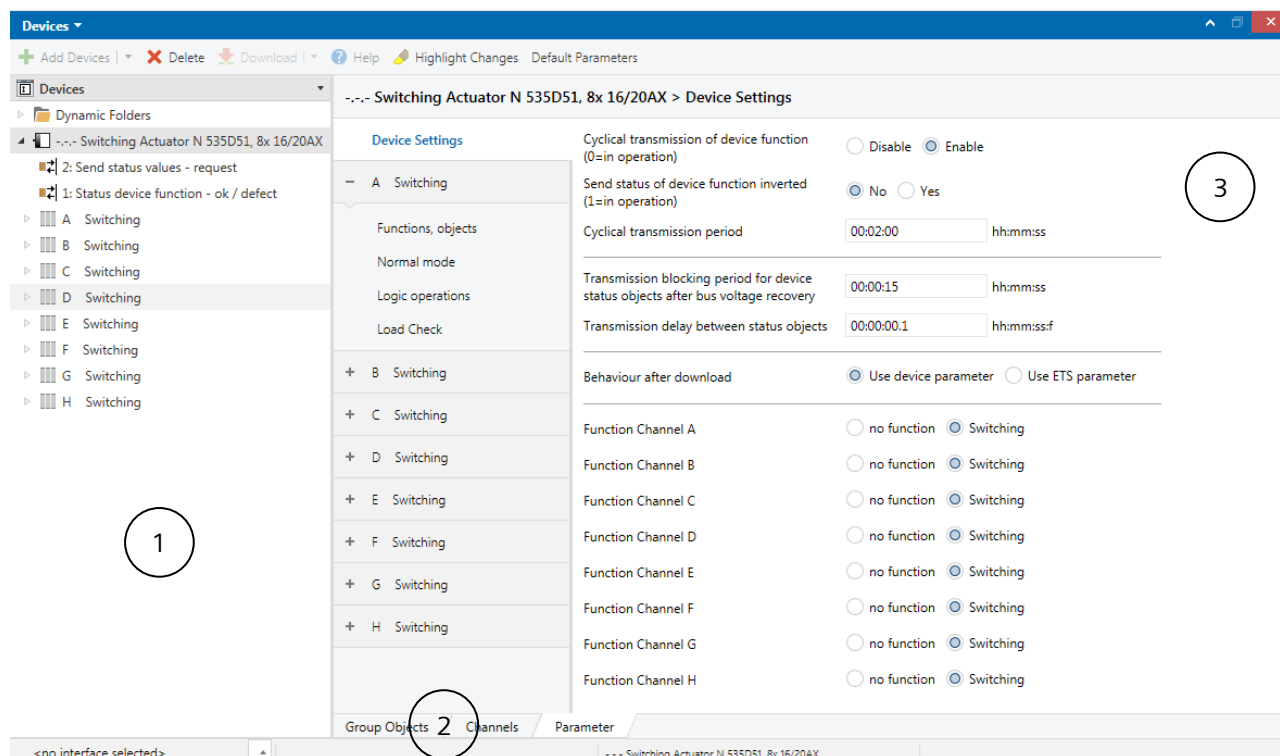


Fig. 2 Structure of configuration options

- (1) Tree view of devices and channels
- (2) Listing of parameter card Depending on which parameters have been set to “enabled” in the parameter area (3), additional parameter cards are displayed here.
- (3) Parameter area. Parameters (value input, “enabled” checkbox or “disabled” checkbox) are set in this area. The enabling of some parameters has the effect that additional rows or additional parameter cards are displayed.

The default settings for the parameter are highlighted in the description of the parameters in this document in bold print.

A list of the currently active communication objects is separately displayed on the “communication objects” tab.

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 4 Device settings

In this parameter window, the cross-function and cross-channel definitions are made.

### 4.1 Communication objects

No.	Object name	Function	Datapoint type	Flags
1	Status device function	OK/defect	1.005 alarm	CRT
<p><b>Function:</b>            This object regularly transmits the value "0" when the device is functioning. If the device no longer transmits cyclically, this indicates a device failure.            A higher-level system can monitor the cyclical transmission and trigger a warning or alarm message if the status message is not transmitted.            The parameter "send inverted status for device function" can be used to set that this value is inverted. In this case the value "1" is transmitted cyclically when the device is functioning properly.</p> <p><b>Note:</b>            Transmission first takes place after the time configured in the "cyclical transmission period" parameter.</p> <p><b>Availability:</b>            The "status device function" communication object is only displayed if the parameter "cyclical transmission of device function (0 = in operation)" has been enabled.</p>				
2	Send status values	request	1.017 trigger	CW
<p><b>Function:</b>            This object is used in the event of the reception of a telegram with any value ("1" or "0") to trigger the transmission of the current status values for all status objects for which the transmission of set to "on request" in the configuration.</p>				

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 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 4.2 "Device settings" parameter

Parameter	Settings
Cyclical transmission of device function (0 = in operation)	Disable Enable
<b>Function:</b> With this parameter, the cyclical transmission of the device function can be disabled or enabled. If the device is functioning properly, the value "0" is transmitted cyclically.	
Send status of device function inverted (1 = in operation)	No Yes
<b>Function:</b> A parameter can be used to transmit the status of the device function in inverted form. In this case the value "1" is transmitted cyclically when the device is functioning properly.	
<b>Availability:</b> This parameter is only visible if the parameter "cyclical transmission of device function" is set to "enabled."	
Cyclical transmission period (hh:mm:ss)	00:02:00; [12:00:01 AM...18:12:15]
<b>Function:</b> This parameter can be used to select the time interval for cyclical transmission of device function.	
<b>Note:</b> The device status is also transmitted for the first time after bus voltage failure/recovery after the time set here.	
<b>Availability:</b> This parameter is only visible if the parameter "cyclical transmission of device function" is set to "enabled."	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Specific transmission time for status objects after bus voltage recovery</b>	<b>00:00:15</b> [00:00:00...18:12:15]
<p><b>Function:</b>            This parameter is used to ensure that no unnecessary bus load is generated by status telegrams immediately after bus voltage recovery and after a re-start of the device.            The time of transmission after bus voltage recovery must be set high enough that other KNX devices that have to receive and process the status have also already completed their initialization.            The time of transmission applies for the stored status values after bus voltage recovery. If the state changes during bus voltage failure or after bus voltage recovery (e.g. due to switching), the respective status is transmitted immediately and once again after the elapse of the time set here.</p> <p><b>Note:</b>            The transmission time does not apply if a status request of all status objects is initiated via the "send status values" communication object.            If a status request is initiated after following bus voltage recovery and before this time (e.g. via the communication object "Send status values"), then this request is discarded. A separate transmission of the status objects is possible only after the regular transmission of the status.</p>	
<b>Transmission delay between status objects (hh:mm:ss:f)</b>	<b>00:00:00.1</b> [00:00:00.1...00:01:00.0]
<p><b>Function:</b>            This parameter is used to set with which minimal wait time must be maintained between two successive status telegrams to ensure that no excessive bus load is generated by status telegrams sent in too quick a succession.</p> <p><b>Note:</b>            This transmission delay only applies after bus voltage recovery and with the "send status" function.</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Behavior after download</b>	<b>Use device parameters</b> Use ETS parameter
<p><b>Function:</b>            This parameter is used to set whether the parameters of the switching actuator or the parameters of the ETS software are to be used after downloading the ETS software to the switching actuator.            The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Use device parameters:</b>                With this setting, parameter values that the switching actuator has received from other sources via the communication objects are retained and are not overwritten by the parameter values set in the ETS software. The settings of the channels are not re-initialized and the current switching state is retained.</li> <li>• <b>Use ETS parameters:</b>                With this setting, the parameter values stored in the device are overwritten and the parameter values set in the ETS software are used. The behavior for bus voltage recovery configured in the ETS software is also executed.</li> </ul> <p><b>Note:</b>            If the parameter has been changed since the ETS software was last downloaded, the parameter value is always overwritten during a download.</p> <p><b>Recommendation:</b>            If the switching actuator does not behave as expected, set this parameter to "Use ETS parameters."</p>	
<b>Channel function</b>	<b>Switching</b> No function
<p><b>Function:</b>            You can use this parameter to activate or deactivate individual channels.</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 5 Channel settings (switching)

The communication objects and parameters are configured in the same way for all channels and are therefore just described once for channel A.

Except for the parameter cards for the settings that depend on the operating mode and the logic operations, all other parameter cards are only displayed with a corresponding parameter selection on the "functions, objects" parameter card.

### 5.1 "Functions, objects" parameter card

#### 5.1.1 Communication objects of the "functions, objects" parameter card.

No.	Object name	Function	Datapoint type	Flags
3	A Switching	On/Off	1.001 switching	CW
<p><b>Function:</b>            With this object, switch telegrams are received which are then sent to the associated output via the time function. If a logic operation is configured, the result of the time function forms the first value of the operation for the respective output.</p> <p><b>Availability/alternative:</b>            Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" is enabled, this communication object is hidden and the parameter "control value" is shown instead.</p>				
4	A Control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b>            With this object, control value telegrams for the channel are received. A received control value is converted into a switching signal via a threshold evaluation.</p> <p><b>Availability/alternative:</b>            Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" is disabled, this communication object is hidden and the parameter "switching" is shown.</p> <p><b>More information:</b>            ➔ 6.1 Control value input</p>				



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
5	A Status switching	On/Off	1.001 switching	CRT
<p><b>Function:</b>            In the "status switching" communication object, the current switching state of the respective output is stored and can be requested via a read request or, if so configured, transmitted automatically after every object value change.</p> <p><b>Availability:</b>            The communication object "status switching" is only displayed if the parameter "status switching" is set to "enabled."</p> <p><b>More information:</b>            ↪ 6.6 Status</p>				
8	A Central switching	On/Off	1.001 switching	CW
<p><b>Function:</b>            With this object, switch telegrams are received which are then sent to the associated output using a different time function than the one for the communication object "switching."</p> <p><b>Availability:</b>            The communication object "central switching" is only displayed if the parameter "central switching" is set to "enabled."</p> <p><b>More information:</b>            ↪ 6.2 Central switching            ↪ 7.4 Central switching with time delay</p>				
9	A 8-bit scene	Recall/ store	18.001 scene control	CW
<p><b>Function:</b>            This communication object is used to recall (restore) or save the 8-bit scene with the number <math>x</math> (<math>x = 1 \dots 64</math>). Bits 0...5 contain (binary coded) the number of the desired scene as a decimal number in the range 1 to 64 (where the decimal number 1 corresponds to the binary number 0, decimal number 3 the binary number 1, etc.). If bit 7 = log. 1, the scene is saved; if bit 7 = log. 0, it is recalled. Bit 6 currently has no meaning and must be set to log. 0.</p> <p><b>Availability:</b>            The communication object "8-bit scene" is only displayed if the parameter "8-bit scene control" is set to "enabled."</p> <p><b>More information:</b>            ↪ 6.3 8-bit scene control</p>				

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
16/43	A Override 1 – 7			
<p><b>Function:</b>            The different overrides can be used to influence the output of the channel so that the regular switching actions and time functions are temporarily overridden.            The priority of the override function blocks is determined by the position in the processing chain. Override block 7 has the highest priority, while override block 1 has the lowest priority.</p> <p><b>More information:</b>            The communication objects for overriding (16 – 43) are described in the "Override" chapter.</p> <ul style="list-style-type: none"> <li>➔ 6.5 Overrides</li> <li>➔ 7.3 Switching behavior in case of activated overrides</li> </ul>				
44	A Overrides status	1 = Active	1.002 Boolean	CRT
<p><b>Function:</b>            This status object is used to report that at least one of the overrides is active.</p> <p><b>Availability:</b>            The communication object "overrides status" is only displayed if the parameter "overrides status" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.5 Overrides</li> <li>➔ 6.6 Status</li> </ul>				
45	A Number of switching cycles	Value (switch cycles)	12.001 counting impulses (with-out prefix)	CRT
<p><b>Function:</b>            This communication object can be used to request the number of switch cycles of this channel via the bus at any time. The value is increased internally by 1 as soon as the channel has been switched off and back on again.            Depending on the setting of the parameter "value change since last sent," the increased value is sent and can then be retrieved via this communication object.            If the parameter "threshold monitoring" ("counting of switching cycles" parameter card) is set to "enable," a telegram is sent to the bus if the threshold is exceeded.</p> <p><b>Availability:</b>            The communication object "number of switching cycles" is only displayed if the parameter "counting of switching cycles" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.8 Counting of switching cycles</li> </ul>				

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
46	A Number of switching cycles	Set value (switch cycle)	12.001 counting impulses (with- out prefix)	CW
<p><b>Function:</b>            This communication object can be used to set the value for switching cycle counting for the output to an integer value in the range from 0 to 4294967295 via the bus.            The counter can be reset by setting the value to "0."            If the parameter "send status on change of status" is set to "enable," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "number of switching cycles" is only displayed if the parameter "counting of switching cycles" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b>            ↪ 6.8 Counting of switching cycles</p>				
47	A Threshold for switching cycles	Set/request value (in cycles)	12.001 counting impulses (with- out prefix)	CRW
<p><b>Function:</b>            This object can be used to read and set the threshold value for switching cycle counting for the output to an integer value in the range from 1 to 4 294 967 295 via the bus.</p> <p><b>Note:</b>            In doing so, the value set using ETS is overwritten. Depending on the setting of the "behavior after download" parameter, the value stored in the device or the value configured in ETS is used after the data has been downloaded from ETS to the device.</p> <p><b>Availability:</b>            The communication object "threshold for switching cycles" is only displayed if the parameter "counting of switching cycles" (on the functions, objects parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the counting of switching cycles parameter card) is set to "enabled."</p> <p><b>More information:</b>            ↪ 6.8 Counting of switching cycles</p>				

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
48	A Exceedance of threshold for switching cycles	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for switching cycle counting or to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "switching cycle (set value)" the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for switching cycles" is only displayed if the parameter "counting of switching cycles" (on the "functions, objects" parameter card) is set to "enabled" and the parameter "threshold monitoring" (on the "counting of switching cycles" parameter card) is also set to "enabled."</p> <p><b>More information:</b>            ↪ 6.8 Counting of switching cycles</p>				
49	A Operating hours	Value (in hours)	12.001 counting impulses (with-out prefix)	CRT
<p><b>Function:</b>            This object can be used to query the current operating duration of the output via the bus in hours at any time. That is, it is possible to query how many hours the output was switched on, or, depending on the setting (only for switching actuators with load current detection, N 535), how many hours the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" is set to "enabled" (on the "functions, objects" parameter card) and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "hours."</p> <p><b>More information:</b>            ↪ 6.9 Counting of operating hours</p>				

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
50	A Operating hours	Value (in seconds)	13.100 time difference (s)	CRT
<p><b>Function:</b>            This object can be used to query the current operating duration of the output via the bus in seconds at any time. That is, it is possible to query how many seconds the output was switched on, or, depending on the setting (only switching actuators with load current detection, type N 535), how many seconds the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "seconds."</p> <p><b>More information:</b>            ↻ 6.9 Counting of operating hours</p>				
51	A Operating hours	Set value	12.001 counting impulses (with-out prefix)	CW
<p><b>Function:</b>            This object can be used to set the value for counting of operating hours for the output to an integer value in the range from 0 to 4294967295 via the bus.            This value is always set in hours, irrespective of the configured operating hours setting for the output in seconds or hours.</p> <p><b>Note:</b>            When a new value is set, the current value of the counting of operating hours is overwritten; that is, currently recorded minutes and seconds are deleted.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b>            ↻ 6.9 Counting of operating hours</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
52	A Threshold for operating hours	Set/query value	12.001 counting impulses (with-out prefix)	CRW
<p><b>Function:</b>            This object can be used to send to the switching actuator and read the threshold value for counting of operating hours for the output to an integer value in the range from 1 to 4 294 967 295 via the bus.            The threshold is transmitted in whole hours.</p> <p><b>Availability:</b>            The communication object "threshold for operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the "operating hours" parameter card) is set to "enabled."</p> <p><b>More information:</b>            ➔ 6.9 Counting of operating hours</p>				
53	A Exceedance of threshold for operating hours	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for counting of operating hours or to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "operating hours," the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the "operating hours" parameter card) is set to "enabled."</p> <p><b>More information:</b>            ➔ 6.9 Counting of operating hours</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
54	A Load Check measured value	Current (mA)	7.012 current (mA)	CRT
55	A Load Check measured value	Current (A)	14.019 elect. current (A)	CRT

**Information:**

Only for switching actuators with load current detection (type N 535)

**Function:**

This communication object can be used to query the current measured value of the load check in mA (datapoint type 7.012, 2 bytes without prefix) or A (datapoint type 14.019, 4 bytes floating point value).

**Availability:**

The communication object "Load Check measured value" is only displayed if the following parameters are set as follows:

- Parameter card "Functions, objects"
  - Parameter "Load Check," setting "enabled"
- Parameter card "Load Check"
  - Parameter "Current unit," setting "mA" or setting "A"
  - Parameter "Load Check measured value," setting "enabled"

**More information:**

- ➔ 6.7 Load check
- ➔ 6.7.1 Load detection

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
56	A Load Check normal value store	On	1.003 enable	CW
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object can be used to set the current measured value as the normal value of the load check. The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.</p> <p><b>Note:</b>            Load Check monitoring is reset here (no excess and no shortfall).            If the current measured value is "0," or the channel is deactivated, the measured value cannot be set as the normal value and the command is ignored. The currently stored normal value is retained and not deleted.            After successful transfer of the currently measured load check as the normal value, the new normal value is transferred to the communication object "Load Check-Normal value recall" and sent depending on the configuration.</p> <p><b>Availability:</b>            The communication object "Load Check-Normal value store" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Exceedance of load check limit value," "Shortfall of load check limit value" or "Both."</li> <li>○ Parameter "Normal value recall, " setting "enable"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring</p>				



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
57	A Load Check-Normal value recall	Current (mA)	7.012 current (mA)	CRT
58	A Load Check-Normal value recall	Current (A)	14.019 elect. current (A)	CRT

**Information:**

Only for switching actuators with load current detection (type N 535)

**Function:**

This communication object can be used to query the normal value of the load check in mA or A.

The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.

**Note:**

If the load check normal value was previously stored successfully, the new load check normal value is sent.

**Availability:**

The communication object "Load Check-Normal value recall" is only displayed if the following parameters are set as follows:

- "Functions, objects" parameter card
  - Parameter "Load Check," setting "enabled"
- Parameter card "Load Check"
  - Parameter "Current unit," setting "mA" or setting "A"
  - Parameter "Load Check monitoring," setting "Exceedance of load check limit value," "Shortfall of load check limit value" or "Both."
  - Parameter "Normal value recall," setting "enable"

**More information:**

➔ 6.7 Load check

➔ 6.7.2 Load Check monitoring

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
59	A Exceedance of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or exceeding of the respective threshold value for the load check or request via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            The status of this communication object is stored even after the channel is switched off.</p> <p><b>Availability:</b>            The communication object "Exceedance of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Exceedance of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.7 Load check</li> <li>➔ 6.7.2 Load Check monitoring</li> <li>➔ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➔ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
60	A Shortfall of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or shortfall of the respective threshold value for the load check, or query via the bus whether the value falls below the threshold.</p> <p><b>Note:</b>            The status of this communication object is stored even after the channel is switched off.</p> <p><b>Availability:</b>            The communication object "Shortfall of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Shortfall of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
61	A Load check contact failure	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report a contact failure, or can be used to query via the bus whether there is a contact failure. A contact failure is detected if there is an active flow of current while the channel is switched off.</p> <p><b>Note:</b>            The status of this communication object is retained when the channel is subsequently switched on again and only receives a new value when it is switched off again.</p> <p><b>Availability:</b>            The communication object "Load Check Contact Failure" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Contact Failure," setting "enable"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.4 Contact Failure</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.1.2 Parameters of the “functions, objects” parameter card

Parameter	Settings
Operating mode	<b>Normal mode</b> Timer mode Flashing
<b>Function:</b> This parameter can be used to set the desired mode. Detailed settings for the selected mode can be made on the parameter card of the same name. The following operating modes can be set: <ul style="list-style-type: none"> <li>• <b>Normal mode</b></li> <li>• <b>Timer mode</b></li> <li>• <b>Flashing</b></li> </ul> <b>Other parameters/parameter cards:</b> The parameter card for the selected operating mode is displayed. <b>More information:</b> ↪ 5.2 Parameter cards of the operating modes (normal mode, timer mode, flashing)	
Relay mode	<b>Normally Open</b> Normally Closed
<b>Function:</b> The “Relay mode” parameter can be used to determine the behavior of the output (relay contact). The following settings are possible here: <ul style="list-style-type: none"> <li>• <b>Normally Open</b>                When the switch off telegram is received, the contact is opened.                When the switch on telegram is received, the contact is closed.</li> <li>• <b>Normally Closed</b>                When the switch off telegram is received, the contact is closed.                When the switch on telegram is received, the contact is opened.</li> </ul> <b>Note (only for switching actuators with load current detection, type N 535):</b> The functionalities for load check measurement, load check exceedance of load check limit value and contact failure are adapted automatically, depending on how this parameter has been set.	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Control Value Input</b>	<b>Disable</b> Enable
<p><b>Function:</b>            As an alternative to the switching input, there is also a control value input for each channel. This can be used to implement analog values in switching on/off commands. To this end, the datapoint type of the analogous values and the threshold values for "On" and "Off" can be set.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "control value input" is in the status "enabled," the parameter card "control value input" is displayed.</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "switching" is hidden and the parameter "control value" is shown.</p> <p><b>More information:</b>            ➔ <i>6.1 Control value input</i></p>	
<b>Central switching</b>	<b>Disable</b> Enable
<p><b>Function:</b>            This parameter is used to activate and deactivate the communication object "central switching."</p> <p><b>Communication object:</b>            If the parameter "central switching" is set to "enabled," the communication object "central switching" is displayed.</p> <p><b>More information:</b>            ➔ <i>6.2 Central switching</i></p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>8-bit scene control</b>	<b>Disable</b> Enable
<p><b>Function:</b> This parameter is used to activate or deactivate 8-bit scene control.</p> <p><b>Other parameters/parameter cards:</b> If the parameter "8-bit scene control" is set to "enabled," the parameter card "scene assignment" is displayed. There, up to 8 scene numbers can be assigned to each output channel.</p> <p><b>Communication object:</b> If the parameter "8-bit scene control" is set to "enabled," the communication object "8-bit scene" is displayed.</p> <p><b>More information:</b> ➔ 6.3 8-bit scene control</p>	
<b>Override 1 – 7</b>	<b>Deactivated</b> Manual override (ON) Permanent OFF Lock Central override User-defined Forced control
<p><b>Function:</b> This parameter can be used to set 7 overrides. The priority of the override function blocks is determined by the position in the processing chain. Override block 7 has the highest priority, while override block 1 has the lowest priority.</p> <p><b>Other parameters/parameter cards:</b> If an override is activated, the parameter card "override [number], [type of override]" is displayed.</p> <p><b>Communication object:</b> Depending on which override was activated and which settings were made, different communication objects are displayed.</p> <p><b>More information:</b> ➔ 6.5 Overrides ➔ 7.3 Switching behavior in case of activated overrides</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Overrides status</b>	Disable Enable
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of the overrides. This communication object is used to report whether at least one override is active or whether all overrides have been deactivated.</p> <p><b>Availability:</b>            The parameter "overrides status" is displayed as soon as an override is activated.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "overrides status" is set to "enabled," additional parameters are displayed with which it is possible to set when a status is sent ➔ 6.6 Status.</p> <p><b>Communication object:</b>            If the parameter "overrides status" is set to "enabled," the communication object "overrides status" is displayed.</p> <p><b>More information:</b>            ➔ 6.5 Overrides</p>	
<b>Status object</b>	Disable Enable
<p><b>Function:</b>            This parameter is used to define whether the communication object "status switching" is available. This status object can be used, for example, to display the current switching state of the output.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "status object" is set to "enabled," parameters are displayed with which it is possible to set when a status is sent ➔ 6.6 Status.</p> <p><b>Communication object:</b>            If the parameter "status object" is set to "enable," the communication object "status switching" is displayed.</p> <p><b>More information:</b>            ➔ 6.6 Status</p>	



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Switching state on bus voltage failure	Off On <b>No change</b>
<b>Function:</b> This parameter can be used to set the desired switching state of the output in case of bus voltage failure. In case of bus voltage failure, the current switching state (according to the configured switching action, if any) is also stored securely.	
Initial value after bus voltage recovery	Off On <b>Last status of the switching value</b> Last received switch command
<b>Function:</b> This parameter is used to set the start value of the "switching" communication object. The following settings are possible: <ul style="list-style-type: none"> <li>• <b>Off:</b> The communication object "switching" is in the status "off" after bus voltage recovery. The starting value affects the input "switching" (Fig. 1).</li> <li>• <b>On:</b> The communication object "switching" is in the status "on" after bus voltage recovery. The starting value affects the input "switching" (Fig. 1).</li> <li>• <b>Last status of the switching value:</b> The starting value of the communication object "switching" is the same as the value for the communication object "status switching" in the case of bus voltage failure. The starting value affects the input "switching" (Fig. 1).</li> <li>• <b>Last received switch command:</b> The starting value of the communication object "switching" is the same as the value for the communication object "switching" in the case of bus voltage failure. The starting value affects the input "switching" (Fig. 1).</li> </ul> <p>The switching state of the output can change depending on the parameters for the switching state in the event of bus voltage failure.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to activate the monitoring of the load check. The currently measured value can be output and processed for threshold analysis. In addition, faults on the relay contact can be monitored.</p> <p><b>Other parameter cards:</b>            If the parameter "Load Check" is set to "enabled," the parameter card "Load Check" is displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Counting of switching cycles	Disable Enable
<p><b>Function:</b>            This parameter is used to activate the counting of switching cycles for the respective output (i.e. how frequently an output was switched on and off). The counting of switching cycles is used to monitor the connected load.</p> <p><b>Other parameter cards:</b>            If the parameter "counting of switching cycles" is set to "enabled," the parameter card "counting of switching cycles" is displayed.</p> <p><b>Communication object:</b>            If the parameter "counting of switching cycles" is set to "enabled," the communication objects "number of switching cycles – value (in cycles)" and "number of switching cycles – set value (in cycles)" are displayed.</p> <p><b>More information:</b>            ➔ <i>6.8 Counting of switching cycles</i></p>	
Counting of operating hours	Disable Enable
<p><b>Function:</b>            The operating hours counter is used to record the operating hours of the channel, i.e. how many hours (or seconds) the channel has been on. With the corresponding setting (only for switching actuators with load current detection, type N 535), it can alternatively be recorded how long the channel was switched on while a current flow was present at the same time.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "counting of operating hours" is set to "enabled," the parameter card "counting of operating hours" is displayed.</p> <p><b>Communication object:</b>            If the parameter "counting of operating hours" is set to "enabled," the communication objects "operating hours – value (in hours)" and "operating hours — set value" are displayed.</p> <p><b>More information:</b>            ➔ <i>6.9 Counting of operating hours</i></p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 5.2 Parameter cards of the operating modes (normal mode, timer mode, flashing)

The mode is selected on the "functions, objects" parameter card (➔ 5.1.2 Parameters of the "functions, objects" parameter card). Depending on the operating mode, the corresponding parameter card is displayed. Aside from a few exceptions, the same parameters can be set for each operating mode, so the communication objects and parameters for all operating modes are gathered and described in this chapter.

### 5.2.1 Process diagram normal mode

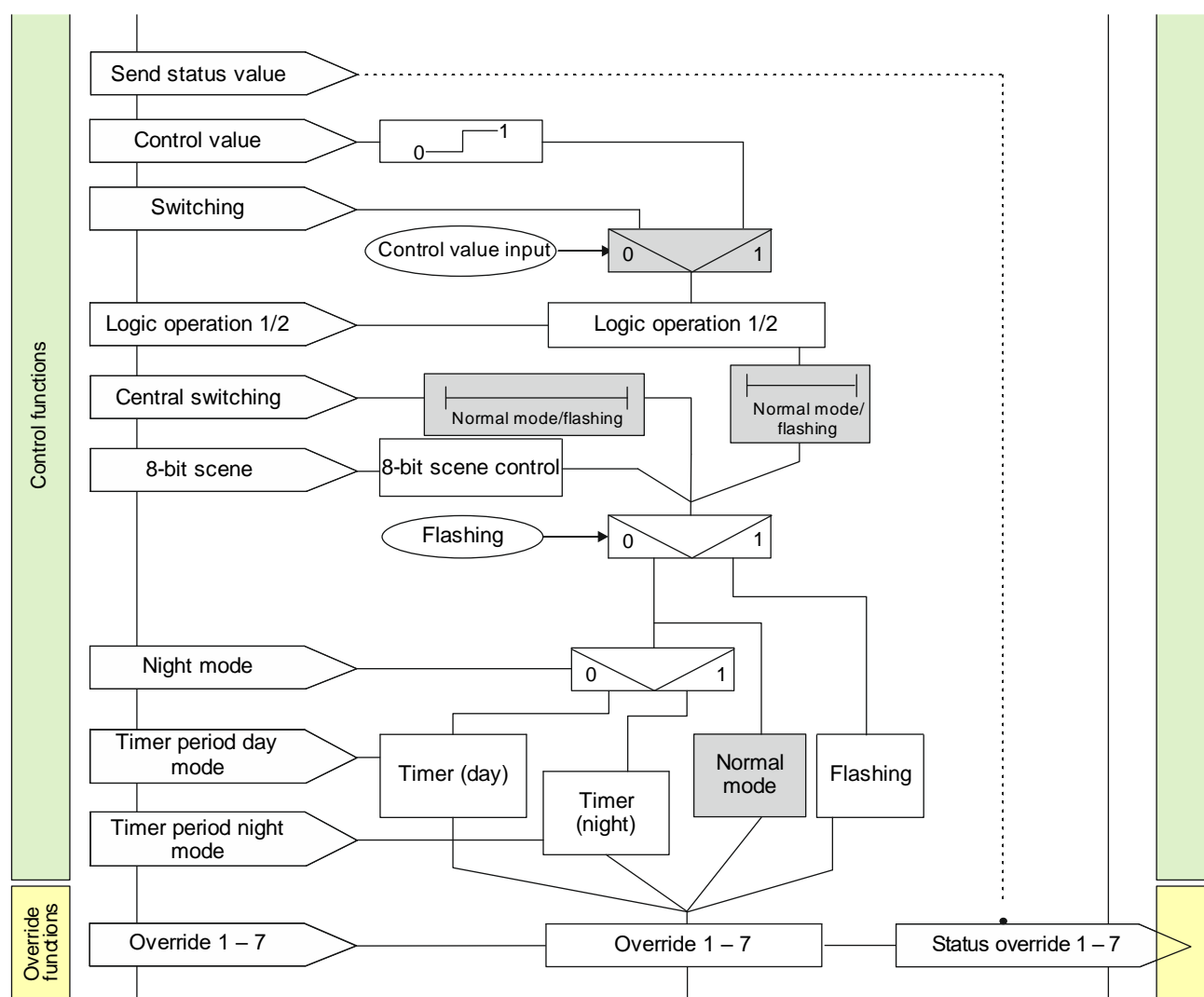


Fig. 3 Normal mode

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.2.2 Process diagram for timer mode

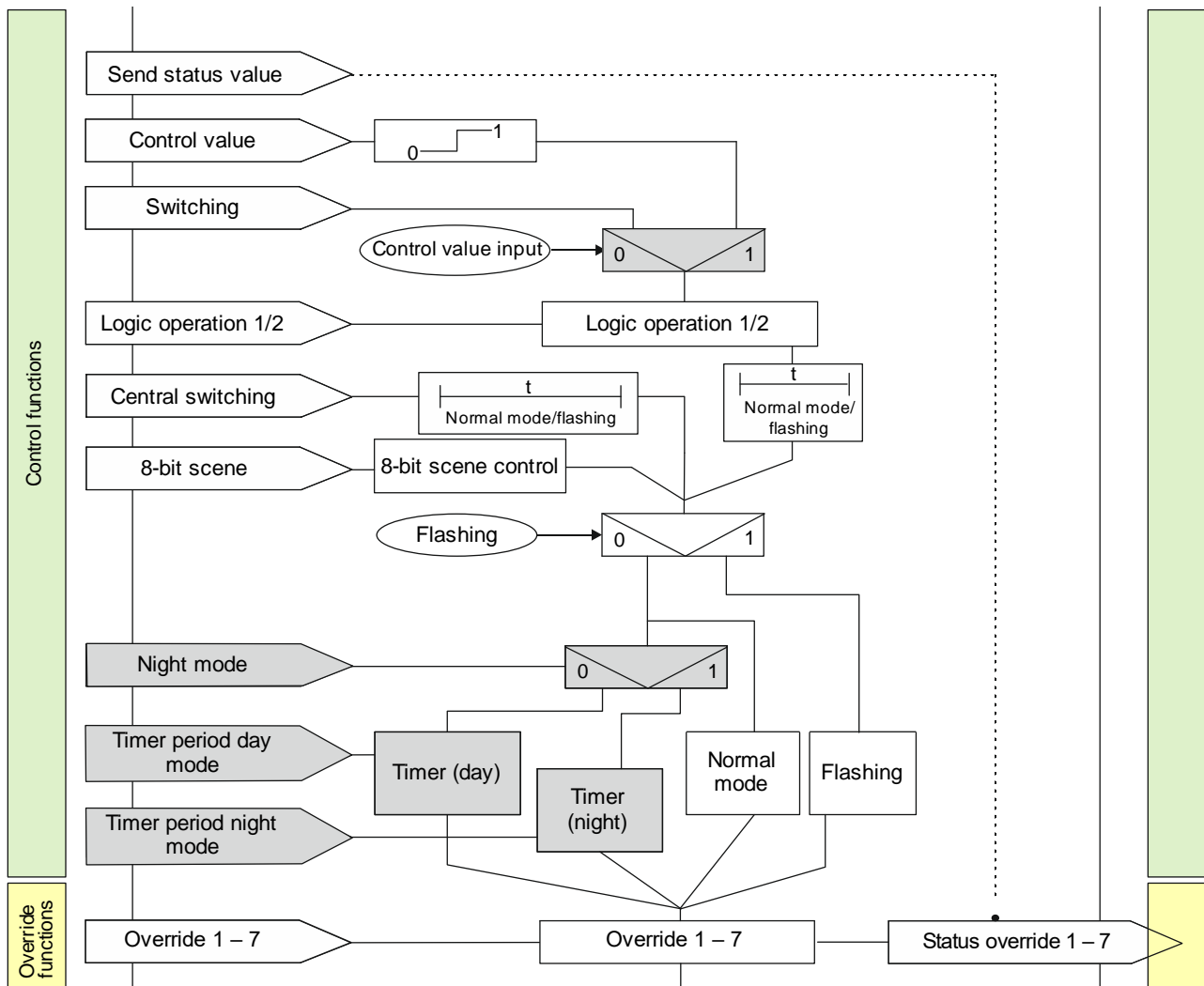


Fig. 4 Timer mode

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

5.2.3 Process diagram flashing

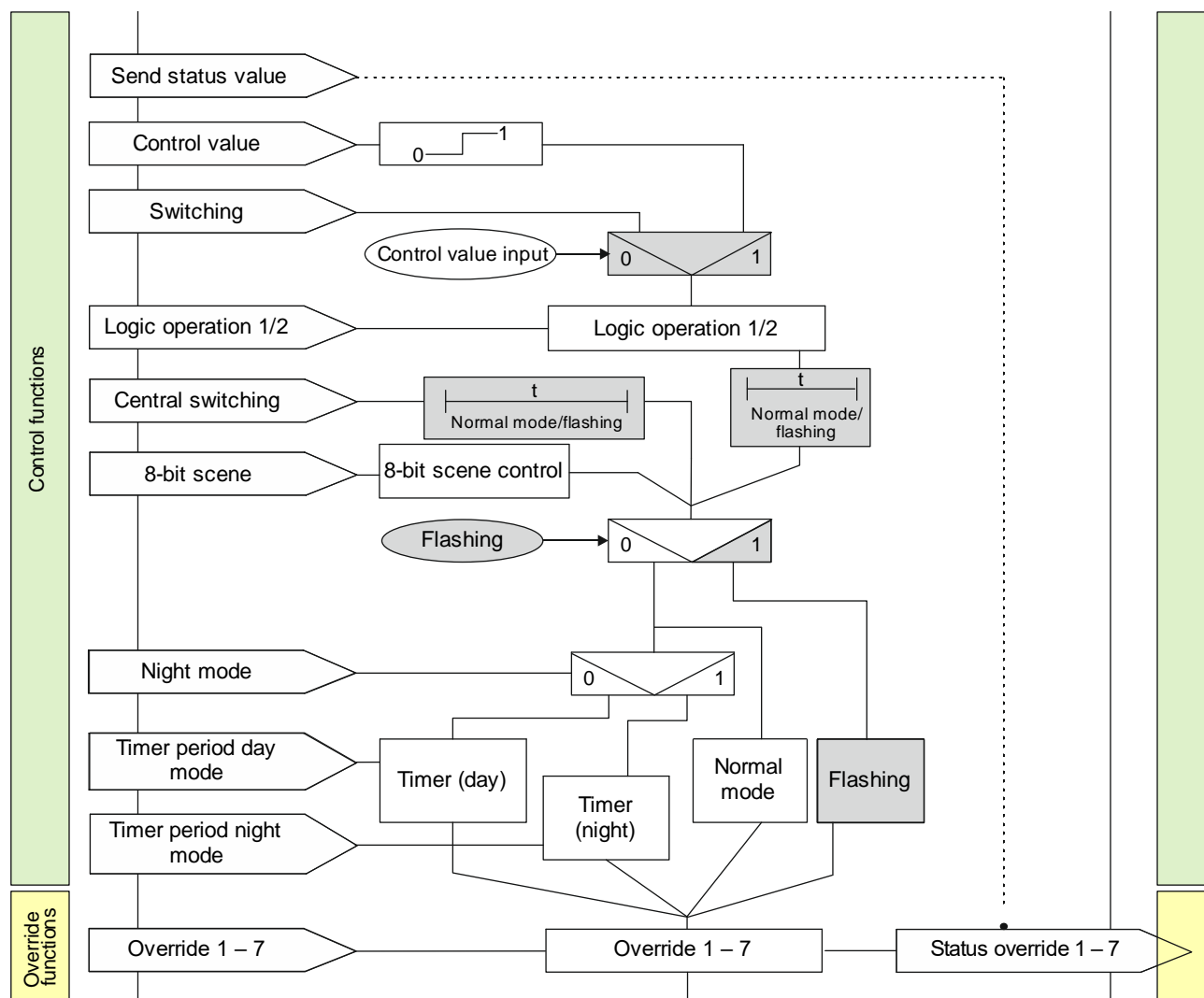


Fig. 5 Flashing

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 5.2.4 Communication objects on the parameter cards of the operating mode

Under the "operating modes" section, it is shown for each communication object which operating mode must be active in order for this communication object to be displayed. The parameter for displaying the communication object is on the parameter card of the respective operating mode.

Obj	Object name	Function	Datapoint type	Flag
10	A Night mode	On/Off	1.003 enable	CW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b></p> <p>This communication object can be used to activate and deactivate the operating mode "night mode" via the bus for the respective output. If a logical one is received, the corresponding output switches to night mode.</p> <p>In the operating mode "night mode," the output can no longer be switched on permanently but only with a time limit (cleaning lighting for e.g. 30 minutes).</p> <p><b>Availability:</b></p> <p>The communication object "night mode" is only displayed if the parameter "night mode" is set to "enabled."</p> <p><b>More information:</b></p> <p>➔ 6.4 Night mode</p> <p><b>Example:</b></p> <p>The command to switch on night mode can be sent by a button, a timer or a building management system.</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
11	A Timer night mode	ON time (seconds)	7,005	CRW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to change the ON time in the operating mode "night mode" via the bus for the respective output. This time is set in seconds.</p> <p><b>Note:</b>            In contrast to the ETS parameter, due to the DPT it is not possible to specify a delay time of 23:59:59 here.</p> <p><b>Availability:</b>            The communication object "timer night mode" is only displayed if the parameters "night mode" and "change ON time in night mode via object" are set to "enabled."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.4 Night mode</li> <li>➔ 7.2 Switching behavior if the timer and night mode are activated</li> </ul>				
12	A Timer day mode	ON time 1 (seconds)	7.005 time (s)	CRW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to change ON time 1 in the operating mode "day mode" via the bus for the respective output. This time is set in seconds.            This makes it possible to change the timer period during operation.</p> <p><b>Availability:</b>            The communication object "timer day mode" is only displayed if the parameter "change ON period 1 during day mode via object" is set to "enabled."</p>				



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
14	A Pre-warning expiration of timer period	On/Off	1.001 switching	CRT
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>Normal mode (if the parameter "night mode" is set to "enabled")</li> <li>Timer mode</li> </ul> <p><b>Function:</b></p> <p>This communication object is used to signal the elapse of the timer period in timer mode or night mode. This can be used to switch on a warning lamp, for example.</p> <p>The communication object for "warning before switching Off" works for warning in night mode and also for timer mode in day mode.</p> <p><b>Availability:</b></p> <p>The communication object "pre-warning expiration of timer period" is only displayed if the parameter "warning before switching off" is set to "via communication object" or "via briefly switching on - off via communication object."</p> <p><b>More information:</b></p> <p>➔ 6.10 Warning before switching Off</p>				
15	A Lock timer	On/Off	1.003 enable	CW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>Timer mode</li> </ul> <p><b>Function:</b></p> <p>In timer mode, this communication object can be used to halt, re-start, disable or re-enable the timer function in day and night mode for the respective output. This makes it possible to switch off timer mode if necessary.</p> <p><b>Availability:</b></p> <p>The communication object "lock timer" is only display if the parameter "blocking characteristics for timer mode" is set to "deactivate timer," "reset timer," or "pause timer." The parameter "blocking characteristics for timer mode" is displayed an additional time if the parameter 'night mode' was set to "enabled."</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.2.5 Parameters of the parameter card of operating modes

Under the "operating modes" heading it is displayed for each parameter which parameter card the respective parameter is found on.

Parameter	Settings
ON time 1 during day mode	12:15:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter is used to set the ON time.            If during an ongoing ON time, a renewed switch or scene recall command is received, the command is executed, the timer is reset to its initial value and the ON time begins again. Exception:</p> <p>➔ 7.2.1 Behavior in timer mode with the setting "retriggering possible" = "0"</p>	
Retriggering possible	1 [0...5]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter is used to set whether, if a further switch-on telegram is received during an ongoing ON time, the ON time is re-started and thus extended.            If the value of this parameter is "0," then an extension is not possible during the ON time.            It can also be configured how long the timer period can be extended maximally through multiple receptions of a switching telegram. The maximum time configurable here is:</p> <ul style="list-style-type: none"> <li>• 1: up to max. 1x timer period</li> <li>• 2: up to max. 2x timer period</li> <li>• 3: up to max. 3x timer period</li> <li>• 4: up to max. 4x timer period</li> <li>• 5: up to max. 5x timer period</li> </ul> <p><b>More information:</b></p> <p>➔ 7.2 Switching behavior if the timer and night mode are activated</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Warning before switching Off	<b>No</b> Via briefly switching on - off Via communication object Via briefly switching on - off and via communication object
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter can be used to set whether, after the elapse of the ON time, the channel should immediately be switched off permanently or a warning should be issued before switching off the output.</p> <p><b>Other parameters/parameter cards:</b>            Depending on the selected option, the parameters "warning period" and "warning signal period" are also displayed.</p> <p><b>Communication object:</b>            If the parameter "warning before switching off" is set to the option ""via communication object, "via briefly switching on - off and via communication object," the communication object "pre-warning expiration of timer period" is displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.10 Warning before switching Off</li> <li>➤ 7.2 Switching behavior if the timer and night mode are activated</li> <li>➤ 7.2.4 Behavior in timer mode with setting "warning before switching off" = "short switch off/on" and "retriggering possible" = "1."</li> </ul>	
Change ON 1 period during day mode via object	<b>Disable</b> Enable
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to change the timer period in day mode via the bus. This time is set in seconds.</p> <p><b>Communication object:</b>            If the parameter "change ON time 1 during day mode via object" is set to "enabled," the communication object "timer day mode" is displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Blocking characteristics for timer mode</b>	<b>Deactivate timer</b> Reset timer Pause timer No blocking
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter regulates the blocking characteristics for timer mode. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>"No blocking:"</b>                Blocking the timer is not possible.</li> </ul> <p>If one of the following parameter settings is selected, the communication object "lock timer" is displayed.</p> <ul style="list-style-type: none"> <li>• <b>"Pause timer":</b>                Triggered time functions are paused and resume at the place where they were paused after release of the communication object "lock timer."</li> <li>• <b>"Reset timer":</b>                Triggered time functions are halted. Upon release of the communication object "lock timer," the timer is reset and re-started.</li> <li>• <b>"Deactivate timer":</b>                Triggered time functions are halted. Upon release of the communication object "lock timer," the time function neither resumes nor re-starts.</li> </ul> <p><b>Communication object:</b>            If the parameter "blocking characteristics for timer mode" is set to "no blocking," the communication object "lock timer" is hidden.</p>	
<b>ON delay</b>	<b>12:00:00 AM</b> [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired ON delay. The pre-set value 00:00:00 means that switch-on commands are executed immediately. A configured ON delay affects the object "switching" and any logic object assigned to the output.</p> <p><b>More information:</b>            ↪ 7.1 Switching behavior when a delay has been configured for switching on and off</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
OFF delay	12:00:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired OFF delay. The pre-set value 00:00:00 means that switch-off commands are executed immediately. A configured OFF delay affects the object "switching" and any logic object assigned to the output.</p> <p><b>More information:</b>            ↪ 7.1 Switching behavior when a delay has been configured for switching on and off</p>	
ON delay (central switching)	12:00:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired ON delay for central switching. The pre-set value 00:00:00 means that switch-on commands are executed immediately. A configured ON delay only affects the object "central switching."</p> <p><b>Availability:</b>            The parameter "ON delay (central switching)" is only available if the parameter "central switching" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b>            ↪ 6.2 Central switching            ↪ 7.4 Central switching with time delay</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
OFF delay (central switching)	12:00:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired OFF delay for central switching. The pre-set value 00:00:00 means that switch-off commands are executed immediately. A configured OFF delay only affects the object "central switching."</p> <p><b>Availability:</b>            The parameter "OFF delay (central switching)" is only available if the parameter "central switching" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.2 Central switching</li> <li>➔ 7.4 Central switching with time delay</li> </ul>	
Night mode	Disable Enable
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            With the parameter "night mode," night mode can be activated ➔ 6.4 Night mode.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "night mode" is set to "enabled," additional parameters are displayed. These parameters are discussed in chapter ➔ 6.4 Night mode .</p> <p><b>Communication object:</b>            If the parameter "night mode" is set to "enable," the communication object "night mode" is displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Number of flashing cycles (0 = indefinite)	5 [0...10000]
<p><b>Operating mode:</b></p> <ul style="list-style-type: none"> <li>Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired number of flashing cycles.            With the value "0," the number of flashing cycles.            If a telegram for switching off the channel is received, the channel is switched off. This happens irrespective of the current flashing status and independent of the remaining flashing cycles. That is, switching off happens whenever a switch off telegram is received.</p>	
ON time flashing	12:00:01 AM [12:00:01 AM...12:04:15 AM]
<p><b>Operating mode:</b></p> <ul style="list-style-type: none"> <li>Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired ON time for flashing cycles. Based on this and the configured "OFF time flashing," the respective flashing frequency can be determined.</p>	
OFF time flashing	12:00:01 AM [12:00:01 AM...12:04:15 AM]
<p><b>Operating mode:</b></p> <ul style="list-style-type: none"> <li>Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired OFF time for flashing cycles. Based on this and the configured "ON time flashing," the respective flashing frequency can be determined.</p>	

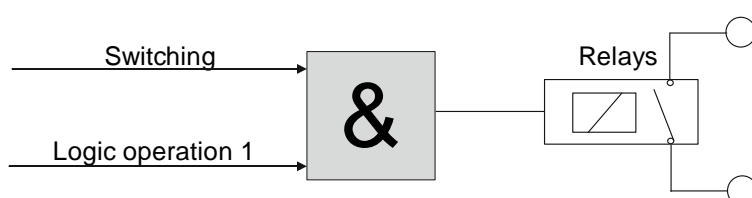
07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.3 “Logic operations” parameter card

Two logic operations are available for each switching output. The switching value of the respective channel forms the first input of the logic operation. The communication object “logic operation 1” is available for the second input of the logic operation. The communication object can be linked via the bus as desired. The logical output value directly affects the switching output.

If a second logic operation is configured, the logical output value of the first logic operation acts as the input for the second logic operation. The communication object “logic operation 2” is available for the second input of logic operation 2. Logical output value 2 directly affects the switching output.

1 x Logic operation for chanal A:



2 x Logic operation for chanal A:

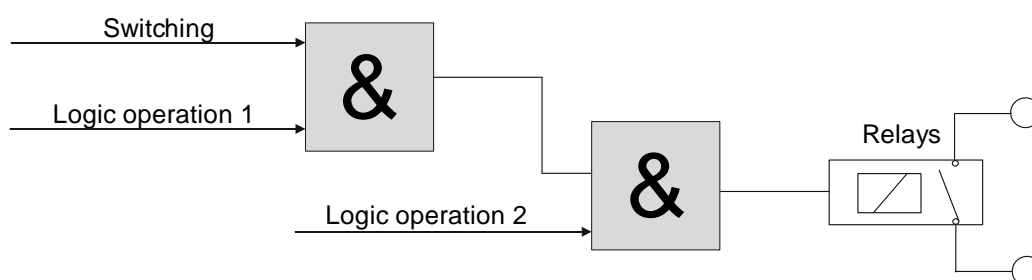


Fig. 6 Logic operations for channel A



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.3.1 "Logic operations" process diagram

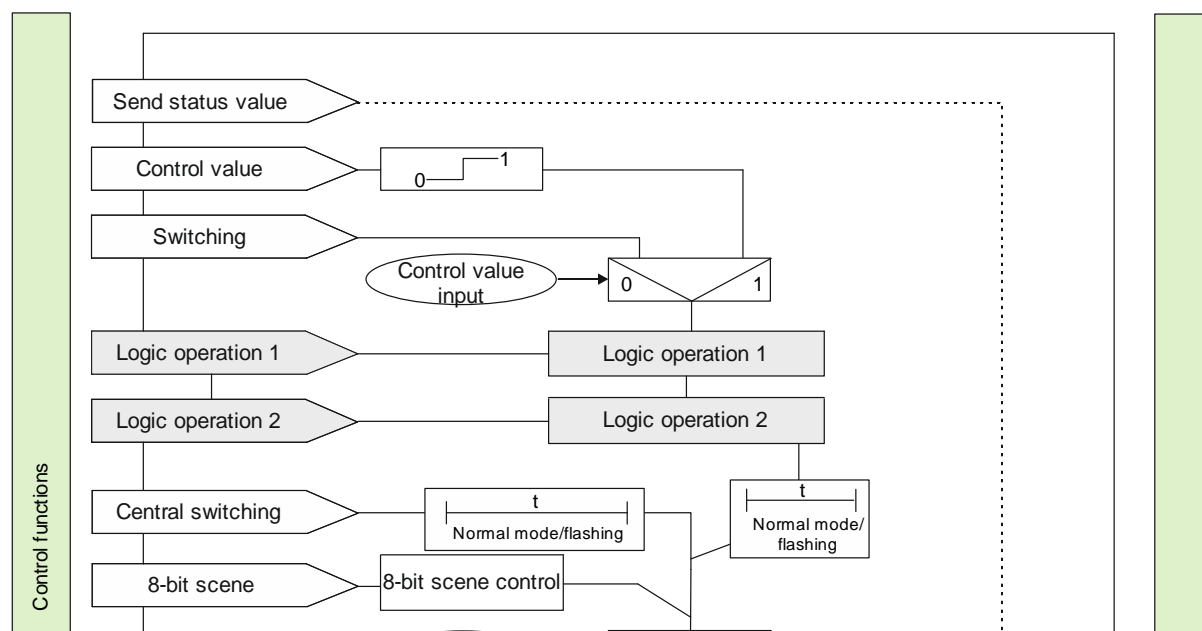


Fig. 7 Logic operations

### 5.3.2 Communication objects of the "logic operation" parameter card:

Obj	Object name	Function	Type	Flag
6	Logic operation 1	On/off	1.001 switching	CRW
7	Logic operation 2			

**Function:**

This object is used to receive the switching information for the second input of the logic operation 1 or 2 for the respective output. With the parameter setting "no logic operation" and "TRIGGER," this object has no function and is therefore not displayed.

**Note:**

After downloading the values from the software to the switching actuator, the logical input has the value that was in the input before the download. After reset and start-up, the logical input has the configured value or the value "0."

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 5.3.3 Parameters of the "logic operation" parameter card:

Parameter	Settings												
Logic operation 1 Logic operation 2	No logic operation AND OR XOR FILTER TRIGGER												
<p><b>Function:</b></p> <p>This parameter can be used, if necessary, to add an additional switching object "logic operation 1" to the switching of the output via a logic operation of the switching object. The logic operation object is not subject to any time deal, i.e. the logic operation is always in effect immediately. The following logic operations are possible:</p> <ul style="list-style-type: none"> <li>• <b>AND</b> Only if the values of the logical input and the other input are equal to "1" is the result of the logic operation "1"; otherwise it is "0."</li> <li>• <b>OR</b> Only if at least one of the values of the logical input and the other input are equal to "1" is the result of the logic operation "1"; otherwise it is "0."</li> <li>• <b>XOR</b> If the values of the logical input and the other input are equal, the result of the logic operation is "0"; otherwise it is "1."</li> <li>• <b>FILTER</b> If the value of the logical input is "1," the value of the other input is passed on to the output. If the logical input is "0," the value of the other input is not passed on, i.e. it is filtered. If the output is to be inverted and value of the logical input is "1," the inverted value of the other input is passed on to the output. If the logical input is "0," the value of the other input is not passed on, i.e. it is filtered.</li> </ul> <table border="1"> <thead> <tr> <th>Input value</th> <th>Value Logic operation</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>0</td> <td>---</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>--- = no issuance of an output value X = any value</p>		Input value	Value Logic operation	Output	X	0	---	0	1	0	1	1	1
Input value	Value Logic operation	Output											
X	0	---											
0	1	0											
1	1	1											
<p>For regular normal mode of the channel without an effective filter, after bus voltage recovery this input must be set to "1."</p> <ul style="list-style-type: none"> <li>• <b>TRIGGER</b> There is no logical input. For each incoming value ("0" or "1") from the other input, the value "1" is passed on at the output.</li> </ul> <p><b>Other parameters:</b></p> <p>If the option "AND," "OR," "XOR," or "FILTER" is selected, the parameters "invert logical input," "invert logical output," and "initial value of logic operation object after bus voltage recovery" are also displayed.</p>													

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Communication objects:</b> If the option "AND," "OR," "XOR," or "FILTER" is selected in the parameter "logic operation 1" or "logic operation 2," the communication object "logic operation 1" or "logic operation 2" is displayed.	
<b>Invert logical input</b>	No Yes
<b>Function:</b> This parameter determines whether the input value of the respective logic object is to be inverted.	
<b>Availability</b> This parameter is only visible is the parameter "logic operation 1" or "logic operation 2 is set to "AND," "OR," "XOR," or "FILTER."	
<b>Invert logical output</b>	No Yes
<b>Function:</b> This parameter defines whether the output value of the logic operation (AND, OR, XOR, FILTER) is inverted.	
<b>Availability</b> This parameter is only visible is the parameter "logic operation 1" or "logic operation 2 is set to "AND," "OR," "XOR," or "FILTER."	
<b>Initial value of logic operation object after bus voltage recovery</b>	Off On <b>as before bus voltage failure</b>
<b>Function:</b> This parameter can be used to set the desired starting value of the logic input when bus voltage is recovered. If the parameter is set to "as before bus voltage failure," the logical input is set to the value stored when the bus voltage failure took place.	
<b>Availability:</b> This parameter is only visible is the parameter "logic operation 1" or "logic operation 2 is set to "AND," "OR," "XOR," or "FILTER."	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6 Setting functions

### 6.1 Control value input

As an alternative to the switching input, there is also a control value input for each channel. This can be used to implement analog values in switching on/off commands.

For the override functions as well, a control value input can be configured with the corresponding communication object instead of the switching input. The communication objects and parameter settings for this are described in chapter 6.5 *Overrides*.

#### 6.1.1 "Control value input" process diagram

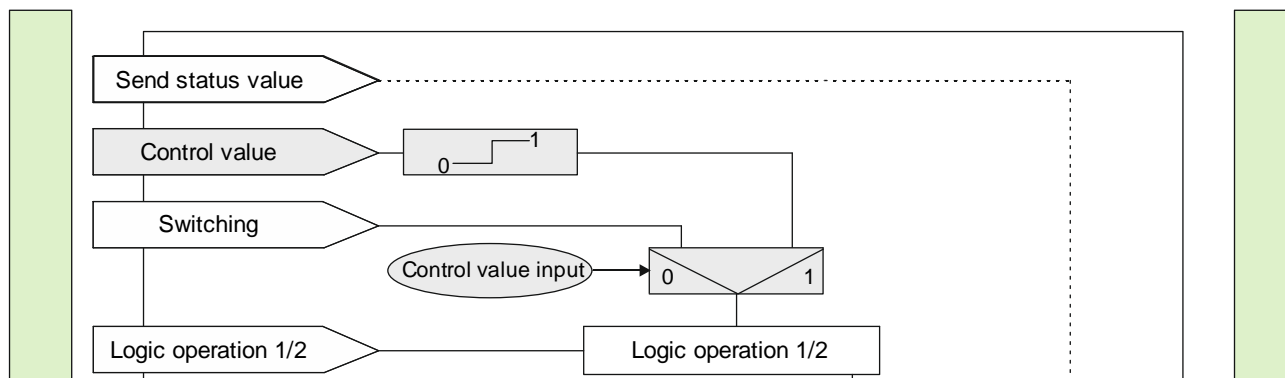


Fig. 8 Control value input function

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.1.2 Communication objects for the "control value input"

No.	Object name	Function	Datapoint type	Flags
4	A Control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW

**Function:**

With this object, control value telegrams for the channel are received. A received control value is converted into a switching signal via a threshold evaluation.

**Availability/alternative:**

Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" is disabled, this communication object is hidden and the parameter "switching" is shown.

### 6.1.3 Parameters for the control value input on the "functions, objects" parameter card

Parameter	Settings
Control Value Input	Disable Enable

**Function:**

As an alternative to the switching input, there is also a control value input for each channel. This can be used to implement analog values in switching on/off commands. A threshold value can also be set.

**Other parameters/parameter cards:**

If the parameter "control value input" is in the status "enabled," the parameter card "control value input" is displayed.

**Communication object:**

If the parameter "control value input" is in the status "enabled," the communication object "switching" is hidden and the parameter "control value" is shown.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.1.4 Parameters for the control value input on the "control value input" parameter card

Parameter	Settings
<b>Data Type</b>	<b>Percentage (%)</b> Value (8-bit) Temperature (°C) Illuminance (lx) Current (mA) Power (kW) Power (W)
<b>Function:</b>	<p>This parameter defines the datapoint type of the communication object "control value." The following datapoint types can be selected:</p> <ul style="list-style-type: none"> <li>• Percentage (%): Corresponds to the datapoint type "5.001 percent (0...100 %)"</li> <li>• Value (8-bit): Corresponds to the datapoint type 5.010 counting impulses (0 ... 255)</li> <li>• Temperature (°C): Corresponds to the datapoint type 9.001 temperature °C</li> <li>• Illuminance (lx): Corresponds to the datapoint type 9.004 illuminance lx</li> <li>• Current (mA): Corresponds to the datapoint type 9.021 current mA</li> <li>• Output (kW): Corresponds to the datapoint type 9.024 output kW</li> <li>• Output (W): Corresponds to the datapoint type 14.056 output W</li> </ul>
<b>Threshold for Off (&lt;=)</b>	<b>0</b> [0...100]
<b>Function:</b>	<p>This parameter determines the threshold for OFF.</p> <p>If the value of this communication object is equal to or smaller than the configured threshold for OFF, then the determined switching value is equal to "OFF" (0).</p> <p>The permitted values for the threshold depend on the selected data type.</p> <p><b>Note:</b></p> <p>If both entered threshold values ("threshold for OFF" and "threshold for ON") are identical, this exact value is interpreted as the "threshold for ON" when it is received.</p> <p>If the "threshold for OFF" is configured so that it is greater than the "threshold for ON," then the higher value is automatically used as the "threshold for ON."</p>

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Threshold for ON (>=)	1 [0...100]
<p><b>Function:</b>            This parameter determines the threshold for ON.            If the value of this communication object is equal to or greater than the configured threshold for ON, then the determined switching value is equal to "ON" (1).            The permitted values for the threshold depend on the selected data type.</p> <p><b>Note:</b>            If both entered threshold values ("threshold for OFF" and "threshold for ON") are identical, this exact value is interpreted as the "threshold for ON" when it is received.            If the "threshold for OFF" is configured so that it is greater than the "threshold for ON," then the higher value is automatically used as the "threshold for ON."</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.2 Central switching

The “central switching” function can be used to switch individual outputs on and off together. Here, it is possible to switch outputs with a time delay, thus avoiding load peaks.

The linking of outputs for joint switching takes place by setting up a group address in ETS.

### 6.2.1 “Central switching” process diagram

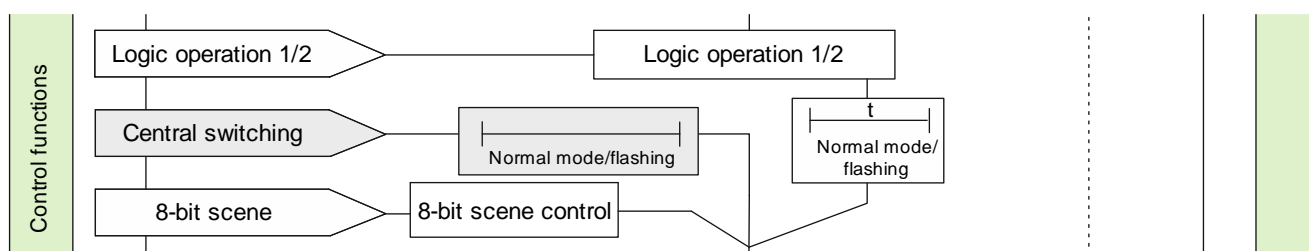


Fig. 9 Central switching

### 6.2.2 Communication objects for “central switching”

No.	Object name	Function	Datapoint type	Flags
8	A Central switching	On/Off	1.001 switching	CW
<p><b>Function:</b>                      With this object, switch telegrams are received which are then sent to the associated output using a different time function than the one for the communication object “switching.”</p> <p><b>Availability:</b>                      The communication object “central switching” is only displayed if the parameter “central switching” is set to “enabled.”</p> <p><b>More information:</b>                      ➔ 6.2 Central switching                      ➔ 7.4 Central switching with time delay</p>				



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.2.3 Parameters for central switching on the “functions, objects” parameter card

Parameter	Settings
Central switching	Disable Enable
<p><b>Function:</b>            This parameter is used to activate and deactivate the communication object “central switching.”</p> <p><b>Communication object:</b>            If the parameter “central switching” is set to “enabled,” the communication object “central switching” is displayed.</p>	

### 6.2.4 Parameters for central switching on the parameter card of the operating mode “normal mode” or “flashing mode.”

Parameter	Settings
ON delay (central switching)	12:00:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b>            This parameter is used to set the desired ON delay for central switching. The pre-set value 00:00:00 means that switch-on commands are executed immediately. A configured ON delay only affects the object “central switching.”</p> <p><b>Availability:</b>            The parameter “ON delay (central switching)” is only available if the parameter “central switching” is set to “enabled” (“functions, objects” parameter card).</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.2 Central switching</li> <li>➔ 7.4 Central switching with time delay</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

OFF delay (central switching)	12:00:00 AM [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Flashing</li> </ul> <p><b>Function:</b></p> <p>This parameter is used to set the desired OFF delay for central switching. The pre-set value 00:00:00 means that switch-off commands are executed immediately. A configured OFF delay only affects the object "central switching."</p> <p><b>Availability:</b></p> <p>The parameter "OFF delay (central switching)" is only available if the parameter "central switching" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.2 Central switching</li> <li>➤ 7.4 Central switching with time delay</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.3 8-bit scene control

Users can use the function “8-bit scene recall/store,” without changing the project planning with the ETS, to independently reprogram switching actuators with integrated 8-bit scene control, i.e. to assign current switching states to the respective scene.

A single communication object is used to transmit the command to store a scene as well as the command to recall a stored scene and the number of the desired scene.

Before storing a scene, the affected switching actuators must be set to the desired switching state using the designated buttons/sensors. By receiving a telegram for storing, the currently set switching states are stored in the corresponding scene.

The scenes refer to the switching value. When triggering a scene, the corresponding switching value is activated and then an internal object reception is triggered. The switching actuator then behaves as if it had received a switching message. If a scene is stored, the current switching status is stored.

**Note:**

If a scene is recalled before the associated switching states for this scene were stored, there is no reaction to the scene recall.

#### 6.3.1 “8-bit scene control” process diagram

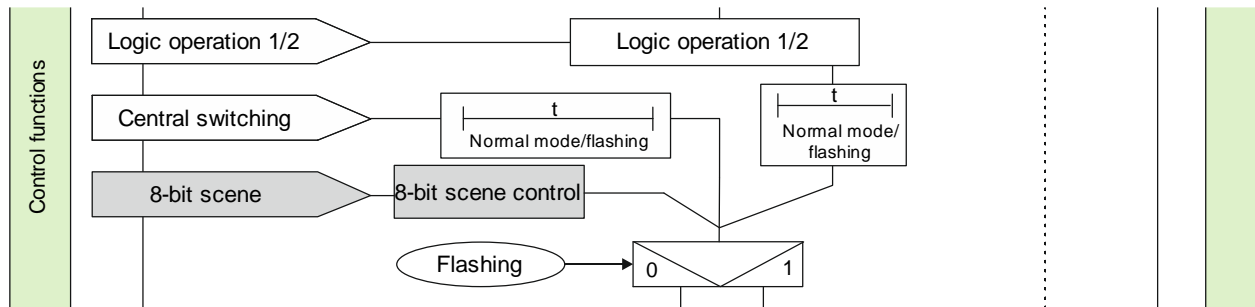


Fig. 10 8-bit scene control

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.3.2 Communication objects for 8-bit scene control

No.	Object name	Function	Datapoint type	Flags
9	A 8-bit scene	Recall/ store	18.001 scene control	CW

**Function:**  
 With this communication object, the 8-bit scene with the number x is recalled (restored) or saved.  
 Bits 0...5 contain (binary coded) the number of the desired scene as a decimal number in the range 1 to 64 (where the decimal number 1 corresponds to the binary number 0, decimal number 3 the binary number 1, etc. That is, scene 1 corresponds to the value 0, scene 64 to the value 63).  
 If bit 7 = log. 1, the scene is saved; if bit 7 = log. 0, it is recalled. Bit 6 currently has no meaning and must be set to log. 0.

**Availability:**  
 The communication object "8-bit scene" is only displayed if the parameter "8-bit scene control" is set to "enabled."

### 6.3.3 Parameters for 8-bit scene control on the "functions, objects" parameter card

Parameter	Settings
8-bit scene control	Disable Enable

**Function:**  
 This parameter is used to activate or deactivate 8-bit scene control.

**Other parameters/parameter cards:**  
 If the parameter "8-bit scene control" is set to "enabled," the parameter card "scene assignment" is displayed. There, up to 8 scene numbers can be assigned to each output channel.

**Communication object:**  
 If the parameter "8-bit scene control" is set to "enabled," the communication object "8-bit scene" is displayed.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.3.4 Parameters for 8-bit scene control on the "scene assignments" parameter card

Parameter	Settings
Link 1 with scene [0...64] (0 = disable)	0 1 ... 64
Link 2 with scene [0...64] (0 = disable)	0 1 ... 64
Link 3 with scene [0...64] (0 = disable)	0 1 ... 64
Link 4 with scene [0...64] (0 = disable)	0 1 ... 64
Link 5 with scene [0...64] (0 = disable)	0 1 ... 64
Link 6 with scene [0...64] (0 = disable)	0 1 ... 64
Link 7 with scene [0...64] (0 = disable)	0 1 ... 64
Link 8 with scene [0...64] (0 = disable)	0 1 ... 64
<p><b>Function:</b>            This parameter can be used to incorporate the output of the switching actuator in one 8-bit scene with a number in the range from 1 to 64. "0" means that this assignment option is not being used.</p> <p><b>Note:</b>            If a scene is recalled before the associated switching states for this scene were stored or predefined by ETS, there is no reaction to the scene recall.</p> <p><b>Other parameters:</b>            If the parameter "link x with scene [0...64]" is not set to "0," the parameters "8-bit scenes configurable by user" and "pre-defined switching value for scene" are also displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
8-bit scenes configurable by user	Disable Enable
<p><b>Function:</b>            With "disable" the scenes are not programmable (via a scene telegram). The switching value for recall of the scenes set via the parameter "predefined switching value for scene" cannot be changed during operation.</p> <p><b>Availability:</b>            The parameter "8-bit scenes configurable by user" is only displayed if the setting of the parameter "link x with scene [0...64]" is not "0."</p> <p><b>Other parameters:</b>            If the parameter "8-bit scenes configurable by user" is set to "enabled," the parameter "delete learned scene" is also displayed. The parameter "predefined switching value for scene (%)" is hidden.</p>	
Delete learned scene	Disable Enable
<p><b>Function:</b>            If the option "disable" is selected, learned scene values in the download of the configuration from the ETS software into the device are not deleted.            If the option "enable" is selected, learned scene values in the download of the configuration from the ETS software into the device are deleted.</p> <p><b>Availability:</b>            The parameter "delete learned scene" is only displayed if the setting of the parameter "link x with scene [0...64]" is not "0" and the parameter "8-bit scenes configurable by user" is set to "enable."</p> <p><b>Other parameters:</b>            If the parameter "delete learned scene" is set to "enabled," the parameter "predefine scene" is also displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Predefine scene</b>	<b>Disable</b> Enable
<p><b>Function:</b>            If "disable" is selected, the corresponding parameter "predefined switching value for scene" is hidden. A scene must be programmed by the user. Already learned values are deleted during the download of the configuration from the ETS into the device. If nothing is learned, the scene is not activated.            If "enabled," the respective parameter "predefined switching value for scene" is displayed which is stored as a scene value during the download of the configuration from the ETS software into the device.</p> <p><b>Availability:</b>            The parameter "predefine scene" is only displayed if the setting of the parameter "link x with scene [0...64]" is not "0" and the parameters "8-bit scenes configurable by user" and "delete learned scene" are set to "enabled."</p> <p><b>Other parameters:</b>            If the parameter "predefine scene" is set to "enabled," the parameter "predefine scene" is also displayed.</p>	
<b>Predefined switching value for scene</b>	<b>Off</b> On
<p><b>Function:</b>            This parameter can be used to predefine the switching value for the selected scene number during the configuration and be loaded into the device along with the ETS software.</p> <p><b>Availability/alternative:</b>            The parameter "predefined switching value for scene" is only displayed if the setting of the parameter "link x with scene [0...64]" is not "0" and the parameter "8-bit scenes configurable by user" is set to "disable" or the parameter or the parameters "8-bit scenes configurable by user," "delete learned scene," and "predefine scene" are set to "enable."</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.4 Night mode

Via an optional "night mode" object, it is possible for each output, if necessary, to activate time-limited switching on (e.g. cleaning lighting) rather than permanent switching on, if appropriate with warning before switching off by switching the output off and on (flashing).

### 6.4.1 Night mode process diagram

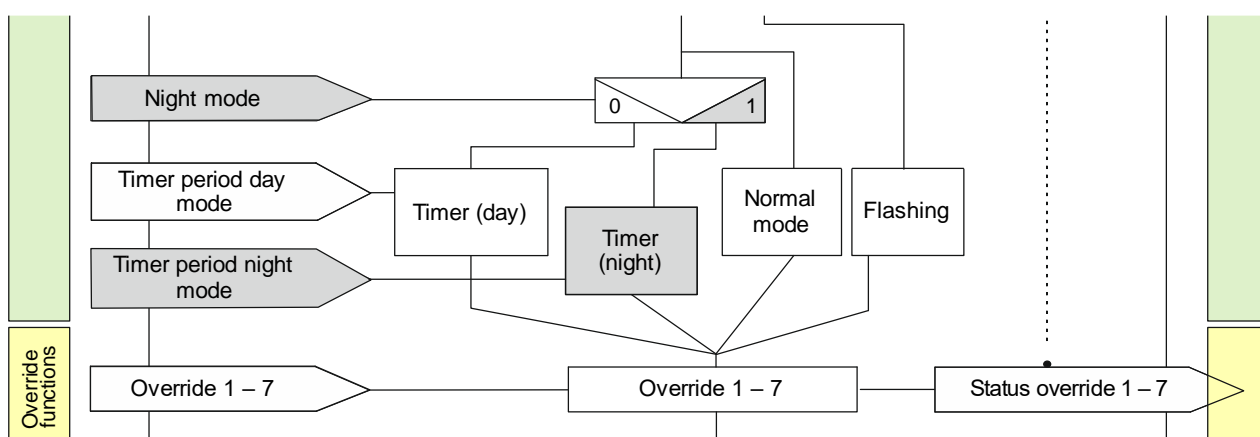


Fig. 11 Night mode



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.4.2 Communication objects for night mode

Obj	Object name	Function	Datapoint type	Flag
10	A Night mode	On/Off	1.003 enable	CW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to activate and deactivate the operating mode "night mode" via the bus for the respective output. If a logical one is received, the corresponding output switches to night mode.            In the operating mode "night mode," the output can no longer be switched on permanently but only with a time limit (cleaning lighting for e.g. 30 minutes).</p> <p><b>Availability:</b>            The communication object "night mode" is only displayed if the parameter "night mode" is set to "enabled."</p> <p><b>Example:</b>            The command to switch on night mode can be sent by a button, a timer or a building management system.</p>				
11	A Timer night mode	ON time (seconds)	7,005	CRW
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to change the ON time in the operating mode "night mode" via the bus for the respective output. This time is set in seconds.</p> <p><b>Note:</b>            In contrast to the ETS parameter, due to the DPT it is not possible to specify a delay time of 23:59:59 here.</p> <p><b>Availability:</b>            The communication object "timer night mode" is only displayed if the parameters "night mode" and "change ON time in night mode via object" are set to "enabled."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.4 Night mode</li> <li>➔ 7.2 Switching behavior if the timer and night mode are activated</li> </ul>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
14	A Pre-warning expiration of timer period	On/Off	1.001 switching	CRT
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode (if the parameter "night mode" is set to "enabled")</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object is used to signal the elapse of the timer period in timer mode or night mode. This can be used to switch on a warning lamp, for example.            The communication object for "warning before switching Off" works for warning in night mode and also for timer mode in day mode.</p> <p><b>Availability:</b>            The communication object "pre-warning expiration of timer period" is only displayed if the parameter "warning before switching off" is set to "via communication object" or "via briefly switching on - off via communication object."</p> <p><b>More information:</b>            ➔ 6.10 Warning before switching Off</p>				

#### 6.4.3 Parameters for night mode on the parameter card of the operating mode "normal mode" or "timer mode."

Parameter	Settings
Night mode	Disable Enable
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            With the parameter "night mode," night mode can be activated.</p> <p><b>Other parameters:</b>            If the parameter "night mode" is set to "enabled," the following additional parameters are displayed.</p> <p><b>Communication object:</b>            If the parameter "night mode" is set to "enable," the communication object "night mode" is displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>ON time during night mode</b>	<b>12:30:00 AM</b> [00:00:00...23:59:59]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter is used to set the ON time in night mode.            If during an ongoing ON time, a renewed switch or scene recall command is received, the command is executed, the timer is reset to its initial value and the ON time begins again.</p> <p><b>Availability:</b>            The parameter "ON time in night mode" is only available if the parameter "night mode" is set to "enabled."</p>	
<b>Retriggering possible</b>	<b>1</b> [0...5]
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This parameter is used to set whether, if a further switch-on telegram is received during an ongoing ON time, the ON time is re-started and thus extended.            If this parameter is "0," then an extension is not possible during the ON time.            It can also be configured how long the timer period can be extended maximally through multiple receptions of a switching telegram. The maximum time configurable here is:</p> <ul style="list-style-type: none"> <li>• 1: up to max. 1x timer period</li> <li>• 2: up to max. 2x timer period</li> <li>• 3: up to max. 3x timer period</li> <li>• 4: up to max. 4x timer period</li> <li>• 5: up to max. 5x timer period</li> </ul> <p><b>Availability:</b>            The parameter "retrigger" is only available in normal mode when the parameter "night mode" is set to "enabled."</p> <p><b>More information:</b>            ➔ 7.2 Switching behavior if the timer and night mode are activated</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Warning before switching Off</b>	<b>No</b> Via briefly switching on - off Via communication object Via briefly switching on - off and via communication object
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b></p> <p>This parameter can be used to set whether, after the elapse of the ON time, the channel should immediately be switched off permanently or a warning should be issued before switching off the output.</p> <p><b>Availability:</b></p> <p>The parameter "warning before switching Off" is only available in normal mode if the parameter "night mode" is set to "enable."</p> <p><b>Other parameters:</b></p> <p>Depending on the selected option, the parameters "warning period" and "warning signal period" are also displayed.</p> <p><b>Communication object:</b></p> <p>If the parameter "warning before switching off" is set to the option "via communication object," "via briefly switching on - off and via communication object," the communication object "pre-warning expiration of timer period" is displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.10 <i>Warning before switching Off</i></li> <li>➔ 7.2 <i>Switching behavior if the timer and night mode are activated</i></li> <li>➔ 7.2.4 <i>Behavior in timer mode with setting "warning before switching off" = "short switch off/on" and "retriggering possible" = "1."</i></li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Change ON time in night mode via object	Disable Enable
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode</li> <li>• Timer mode</li> </ul> <p><b>Function:</b>            This communication object can be used to change the timer period for night mode via the bus. This time is set in seconds.</p> <p><b>Availability:</b>            The parameter "change ON time in night mode via object" is only available if the parameter "night mode" is set to "enabled."</p> <p><b>Communication object:</b>            If the parameter "change ON time in night mode via object" is set to "enabled," the communication object "timer night mode" is displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Blocking characteristics for timer mode</b>	<b>Deactivate timer</b> Reset timer Pause timer No blocking
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>Normal mode</li> <li>Timer mode</li> </ul> <p><b>Function:</b></p> <p>This parameter regulates the blocking characteristics for timer mode. The following settings are possible:</p> <ul style="list-style-type: none"> <li><b>“No blocking:”</b> Blocking the timer is not possible.</li> </ul> <p>If one of the following parameter settings is selected, the communication object “lock timer” is displayed.</p> <ul style="list-style-type: none"> <li><b>“Pause timer”:</b> Triggered time functions are paused and resume at the place where they were paused after release of the communication object “lock timer.”</li> <li><b>“Reset timer”:</b> Triggered time functions are halted. Upon release of the communication object “lock timer,” the timer is reset and re-started.</li> <li><b>“Deactivate timer”:</b> Triggered time functions are halted. Upon release of the communication object “lock timer,” the time function neither resumes nor re-starts.</li> </ul> <p><b>Availability:</b></p> <p>The parameter “blocking characteristics for timer mode” is only available in normal mode when the parameter “night mode” is set to “enabled.”</p> <p><b>Communication object:</b></p> <p>If the parameter “blocking characteristics for timer mode” is set to “no blocking,” the communication object “lock timer” is hidden.            (In timer mode, the parameter must be set to “no blocking” in both places for the communication object to be hidden.)</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.5 Overrides

The different overrides can be used to influence the output of the channel so that the regular switching actions and time functions are temporarily overridden.

Up to 7 override function blocks can be activated for each channel.

The following override function blocks are available:

- ➔ 6.5.4 *Manual override (ON)*
- ➔ 6.5.5 *Override "permanent OFF"*
- ➔ 6.5.6 *Override "Lock"*
- ➔ 6.5.7 *Override "central override"*
- ➔ 6.5.8 *Override "user-defined"*
- ➔ 6.5.9 *Override "forced control"*

The priority of the override function blocks is determined by the position in the processing chain. Override block 7 has the highest priority, while override block 1 has the lowest priority.

Examples of the behavior of the switching actuator when overrides are active are described and illustrated in the following chapter:

- ➔ 7.3 *Switching behavior in case of activated overrides*

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.1 Override process diagram

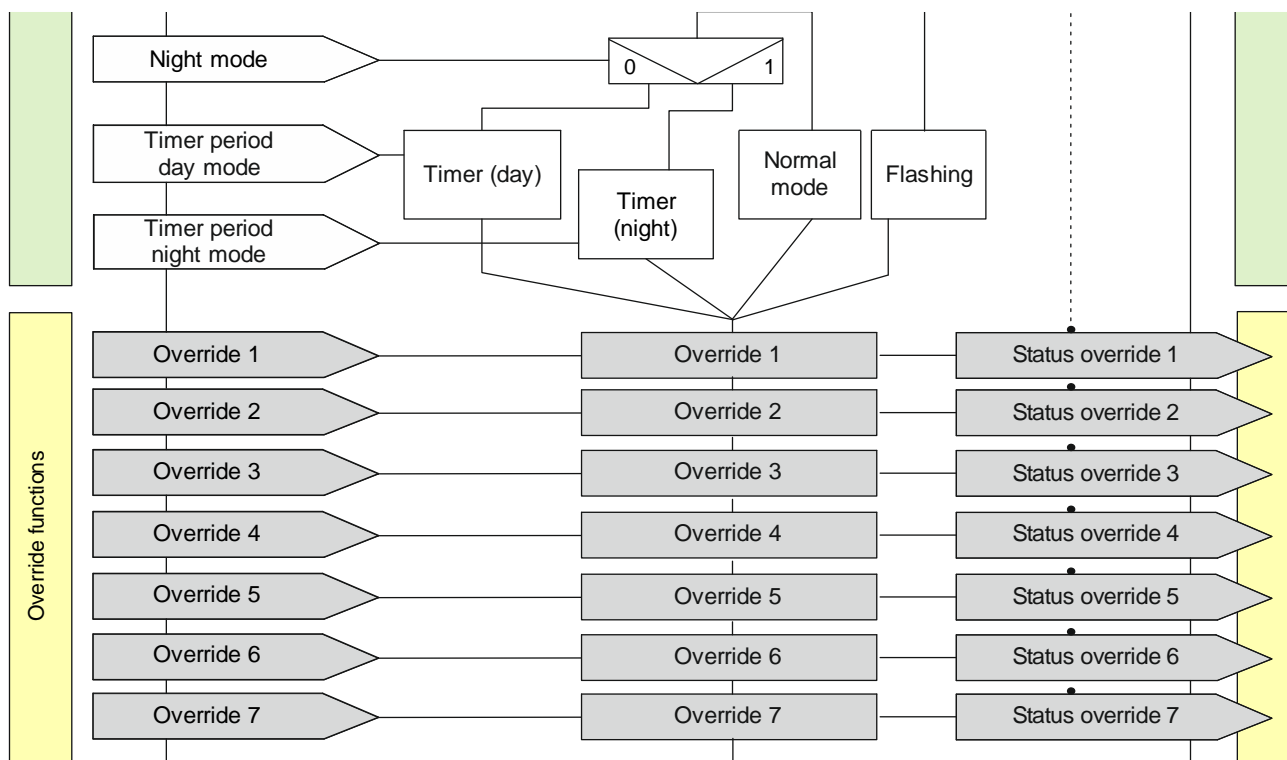


Fig. 12 Overrides

### 6.5.2 Communication objects for overrides

The communication objects for the various overrides are described in the following sections.

As the communication objects for the 7 override function blocks are the same and only differ in their numbers, the following lists only the communication objects of override function block 1. The respective numbers of the communication objects of the other override function blocks are shown in the table of all communication objects (➔ 2 Communication objects).



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.3 Parameters for the overrides on the "functions, objects" parameter card.

Parameter	Settings
Override 1 – 7	<b>Deactivated</b> Manual override (ON) Permanent OFF Lock Central override User-defined Forced control
<p><b>Function:</b>            This parameter can be used to set 7 overrides. The priority of the override function blocks is determined by the position in the processing chain. Override block 7 has the highest priority, while override block 1 has the lowest priority.</p> <p><b>Other parameters/parameter cards:</b>            If an override is activated, the parameter card "override [number], [type of override]" is displayed.</p> <p><b>Communication object:</b>            Depending on which override was activated and which settings were made, different communication objects are displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.5 Overrides</li> <li>➤ 7.3 Switching behavior in case of activated overrides</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.4 Manual override (ON)

**Note:**

When bus voltage is recovered, the override function "manual override (ON)" is "deactivated."

#### 6.5.4.1 Manual override process diagram

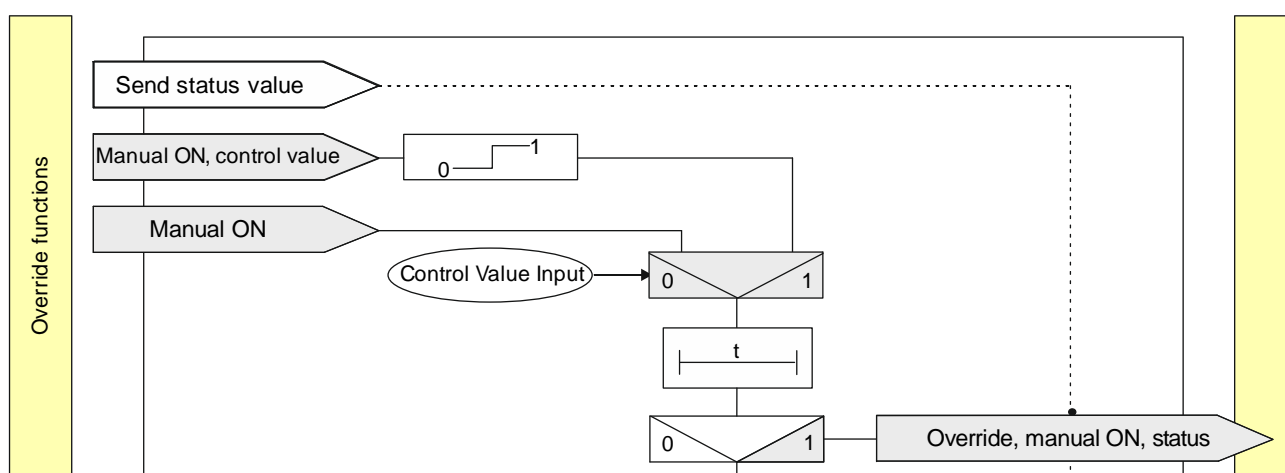


Fig. 13 Override "manual ON"

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.5.4.2 Communication objects for manual override

No.	Object name	Function	Datapoint type	Flags
16	A Override "manual ON"	On/Off	1.003 enable	CW
<p><b>Function:</b>            This communication object makes it possible to re-switch on permanently or for a limited duration an output that was switched off via its "normal" switching input (possibly with a logic operation).            Manual (ON) is active when the value of the communication object is "on."            If an inversion is configured, manual (ON) is active when the object value is "off."            The respective output is only switched off via this object if the output was switched off via its "normal" switching input (with a logic operation if any). Otherwise the output remains switched on.</p> <p><b>Availability/alternative:</b>            The communication object "override 1, manual ON" is only displayed if the parameter "override 1" is set to "manual override (ON)" ("functions, objects" parameter card).            Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" on parameter card "override 1, manual ON" is enabled, this communication object is hidden and communication object "override 1, manual ON, control value" is shown instead.</p>				
17	A Override 1, manual ON, control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b>            This communication object enables the use of a control value as the input value for override.</p> <p><b>Availability:</b>            The communication object "override 1, manual ON, control value" is only displayed if the parameter "override 1" is set to "manual (ON)" (parameter card "functions, objects") and the parameter "control value input" (parameter "override 2, manual ON) is set to "enabled."            Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" on parameter card "override 1, manual ON" is disabled, this communication object is hidden and communication object "override 1, manual ON, control value" is shown.</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
19	A Override 1, manual ON, status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This status object is used to report that override 1 is active.</p> <p><b>Availability:</b>            The communication object "override 1, manual ON, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, manual ON" parameter card).</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.5.4.3 Parameters for manual override on the parameter card "override 1, manual ON"

Parameter	Settings
<b>Control Value Input</b>	Disable Enable
<p><b>Function:</b>            This parameter defines whether instead of the switching input a control value input should be used for the activation and deactivation of the override function.</p> <p><b>Other parameters:</b>            When the status of the parameter "control value input" is set to "enable," parameters for the datatype of the control value input and the threshold are displayed → 6.1.4 Parameters for the control value input on the "control value input" parameter card.</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "override 1, manual ON" is hidden and the parameter "override 1, manual ON, control value" is shown.</p>	
<b>Invert override input</b>	No Yes
<p><b>Function:</b>            This parameter defines whether the input value of the communication object "override 1, manual ON" should be used directly or inverted.</p>	
<b>Behavior on override deactivation</b>	No change Updated value
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Override duration</b>	<b>00:00:00:0</b> [00:00:00:0...23:59:59:9]
<b>Function:</b> This parameter defines the desired ON time with manual override. The override duration is then re-started with each incoming activation telegram. With a parameter value of 00:00:00, the override duration is unlimited.	
<b>Status override</b>	Disable <b>Enable</b>
<b>Function:</b> This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.  <b>More information:</b> ➔ 6.6 Status	

### 6.5.5 Override "permanent OFF"

#### 6.5.5.1 Override "permanent OFF" process diagram

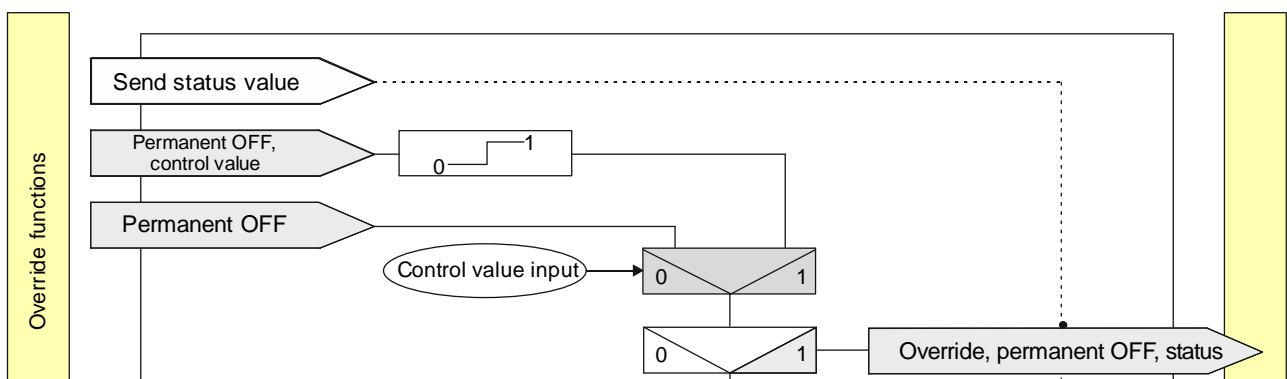


Fig. 14 Override "permanent OFF"

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.5.5.2 Communication objects for override "permanent OFF"

No.	Object name	Function	Datapoint type	Flags
16	A Override 1, permanent OFF	On/Off	1.003 enable	CW
<p><b>Function:</b>            This object can be used to switch of an output irrespective of the upstream sub-functions.            Permanent OFF is active when the value of the object is "on."            If an inversion is configured, permanent OFF is active when the object value is "off."            The respective output is only switched on via this object if the output was switched on via its "normal" switching input (with a logic operation if any). Otherwise the output remains switched off.</p> <p><b>Availability/alternative:</b>            The communication object "override 1, permanent OFF" is only displayed if the parameter "override 1" is set to "permanent OFF" ("functions, objects" parameter card).            Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" on parameter card "override 1, permanent OFF" is enabled, this communication object is hidden and communication object "override 1, permanent OFF, control value" is shown instead.</p>				
17	A Override 1, Permanent OFF, Control Value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b>            This object can be used to switch off an output permanently irrespective of the upstream sub-functions via a threshold switch.</p> <p><b>Availability:</b>            The communication object "override 1, permanent OFF, control value" is only displayed if the parameter "override 1" is set to "permanent OFF" (parameter card "functions, objects") and the parameter "control value input" (parameter "override 1, permanent OFF") is set to "enabled."            Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" on the parameter card "override 1, permanent OFF" is disabled, this communication object is hidden and communication object "override 1, permanent OFF" is shown.</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
19	A Override 1, permanent OFF, status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This status object is used to report that override 1 is active.</p> <p><b>Availability:</b>            The communication object "override 1, permanent OFF, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, permanent OFF" parameter card).</p>				

#### 6.5.5.3 Parameters for the override "permanent OFF" on the parameter card "override x, permanent OFF."

Parameter	Settings
Control Value Input	Disable Enable
<p><b>Function:</b>            This parameter defines whether instead of the switching input a control value input should be used for the activation and deactivation of the override function.</p> <p><b>Other parameters:</b>            When the status of the parameter "control value input" is set to "enable," parameters for the datatype of the control value input and the threshold are displayed → 6.1.4 Parameters for the control value input on the "control value input" parameter card.</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "override 1, permanent OFF" is hidden and the parameter "override 1, permanent OFF, control value" is shown.</p> <p><b>More information:</b>            → 6.1 Control value input</p>	
Invert override input	No Yes
<p><b>Function:</b>            This parameter defines whether the input value of the communication object "override 1, permanent OFF" should be used directly or inverted.</p>	



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Behavior on override deactivation</b>	No change <b>Updated value</b>
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	
<b>Status override</b>	Disable <b>Enable</b>
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.</p> <p><b>More information:</b>            ↪ 6.6 Status</p>	
<b>Start value / behavior of override input when bus voltage is recovered</b>	Off On <b>Deactivated</b> Last value
<p><b>Function:</b>            This parameter can be used to set the desired start value/behavior of the override input of the function block "override 1, permanent OFF" when bus voltage is recovered. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Off</b> If this parameter is set, the override function block behaves as if an "off" had been received at the override block input when bus voltage is recovered.</li> <li>• <b>On</b> If this parameter is set, the override function block behaves as if an "on" had been received at the override block input when bus voltage is recovered.</li> <li>• <b>Deactivated</b> If this parameter is set to "deactivated," the override function block is deactivated when bus voltage is recovered.</li> <li>• <b>Last value</b> If this parameter is set to "last value," the override input of the function block is set to the stored value in case of bus voltage failure.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.6 Override "Lock"

**Note:**

When bus voltage is recovered the override function "lock" remains as before bus voltage failure.

#### 6.5.6.1 Override "lock" process diagram

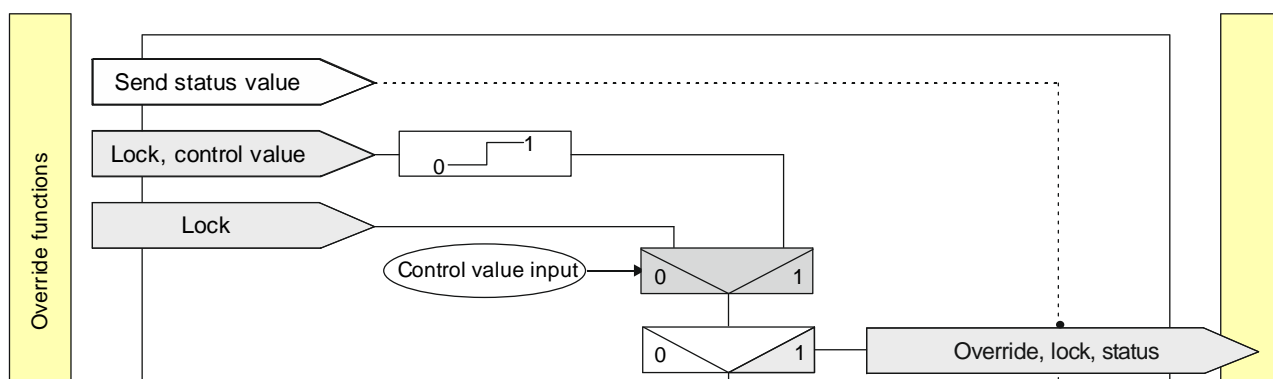


Fig. 15 "Lock" override

#### 6.5.6.2 Communication objects for the override "lock"

No.	Object name	Function	Datapoint type	Flags
16	A Override 1, lock	On/Off	1.003 enable	CW

**Function:**

This communication object can be used to lock an output against changes for as long as the lock is active irrespective of the upstream sub-functions.

The lock is active when the value of the communication object is "on."

If an inversion is configured, the lock is active when the object value is "off."

If the lock is deactivated, the current value of the processing chain at the input of the function block is passed on to the output. After releasing the lock object, the last received value is processed.

The lock object ensures that all upstream function blocks are internally saved, but not evaluated and sent.

**Availability/alternative:**

The communication object "override 1, lock" is only displayed when the parameter "override 1" is set to "lock" ("functions, objects" parameter card).

Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" on parameter card "override 1, lock" is enabled, this communication object is hidden and communication object "override 1, lock" is shown instead.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
17	A Override 1, lock, control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b> This communication object enables the use of a control value as the input value for override.</p> <p><b>Availability:</b> The communication object "override 1, lock, control value" is only displayed if the parameter "override 1" is set to "lock" (parameter card "functions, objects") and the parameter "control value input" (parameter "override 1, lock") is set to "enabled." Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" on parameter card "override 1, lock" is disabled, this communication object is hidden and communication object "override 1, lock" is shown.</p>				
19	A Override 1, lock, status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 1 is active.</p> <p><b>Availability:</b> The communication object "override 1, lock, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, lock" parameter card).</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.6.3 Parameters for the override "lock" on the parameter card "override x, lock."

Parameter	Settings
<b>Control Value Input</b>	Disable Enable
<p><b>Function:</b>            This parameter defines whether instead of the switching input a control value input should be used for the activation and deactivation of the override function.</p> <p><b>Other parameters:</b>            When the status of the parameter "control value input" is set to "enable," parameters for the datatype of the control value input and the threshold are displayed → 6.1.4 Parameters for the control value input on the "control value input" parameter card.</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "override 1, lock" is hidden and the parameter "override 1, lock, control value" is shown.</p>	
<b>Invert override input</b>	No Yes
<p><b>Function:</b>            This parameter defines whether the input value of the communication object "override 1, lock" should be used directly or inverted.</p>	
<b>Behavior on override deactivation</b>	No change <b>Updated value</b>
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Status override	Disable Enable
<b>Function:</b> This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.	
<b>More information:</b> ↪ 6.6 Status	

### 6.5.7 Override "central override"

**Note:**

When bus voltage is recovered, the override function "central override" is "deactivated."

**Example:**

For application cases in which central control is required, such as for emergency lighting or in case of a fire, the "central override" is available.

#### 6.5.7.1 Override "central override" process diagram

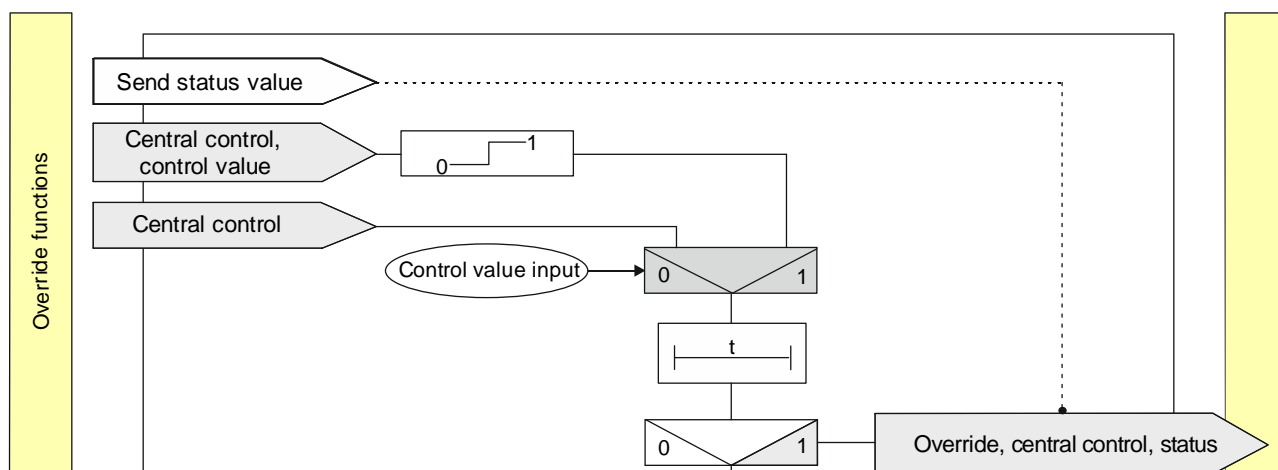


Fig. 16 Central override

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.7.2 Communication objects for the override "central override"

No.	Object name	Function	Datapoint type	Flags
16	A Override 1, central control	On/Off	1.003 enable	CW
<p><b>Function:</b>            This communication object can be used to fix an output at the current value and switch it on or off irrespective of the upstream sub-functions. The state can be retained permanently or for a limited time.            The central override is active when the value of the communication object is "on."            If an inversion is configured, the central override is active when the object value is "off."            On deactivation of the central override, the current value of the processing chain at the input of the function block is passed on to the output. After releasing the central override object, the last received value is processed.            The central control object ensures that all upstream function blocks are internally saved, but not evaluated and sent.</p> <p><b>Availability/alternative:</b>            The communication object "override 1, central control" is only displayed when the parameter "override 1" is set to "central override" ("functions, objects" parameter card).            Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" on parameter card "override 1, central control" is enabled, this communication object is hidden and communication object "override 1, central control, control value" is shown instead.</p>				
17	A Override 1, central control, control value	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b>            This communication object enables the use of a control value as the input value for override.</p> <p><b>Availability:</b>            The communication object "override 1, central control, control value" is only displayed if the parameter "override 1" is set to "central override" (parameter card "functions, objects") and the parameter "control value input" (parameter "override 1, central control") is set to "enabled."            Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" on parameter card "override 1, central control" is disabled, this communication object is hidden and communication object "override 1, central control" is shown.</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
19	A Override 1, central control, status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This status object is used to report that override 1 is active.</p> <p><b>Availability:</b>            The communication object "override 1, central control, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, central override" parameter card).</p> <p><b>More information:</b>            ➔ 6.6 Status</p>				

#### 6.5.7.3 Parameters for the override "central override" on the parameter card "override x, central control."

Parameter	Settings
Control Value Input	Disable Enable
<p><b>Function:</b>            This parameter defines whether instead of the switching input a control value input should be used for the activation and deactivation of the override function.</p> <p><b>Other parameters:</b>            When the status of the parameter "control value input" is set to "enable," parameters for the datatype of the control value input and the threshold are displayed ➔ 6.1.4 Parameters for the control value input on the "control value input" parameter card.</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "override 1, central control" is hidden and the parameter "override 1, central control, control value" is shown.</p>	
Invert override input	No Yes
<p><b>Function:</b>            This parameter defines whether the input value of the communication object "override 1, central override" should be used directly or inverted.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Monitoring time</b>	00:00:00:0 [00:00:00:0...23:59:59:9]
<p><b>Function:</b>            This parameter defines whether the cyclical input of telegrams to the communication object for central override should be monitored and how long the monitoring time is.            With a parameter value of 00:00:00, no monitoring takes place.            For all other parameter values, the cyclical input of deactivation telegrams is monitored. If the monitoring time is exceeded, the central override is activated.            With the reception of the next deactivation telegram, the central override is deactivated and the output of the function block remains unchanged.</p>	
<b>Behavior on override activation</b>	Off On <b>No change</b>
<p><b>Function:</b>            This parameter defines which value is passed on upon activation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Off:</b> The value at the output of the function block is set to "off" (0).</li> <li>• <b>On:</b> The value at the output of the function block is set to "on" (1).</li> <li>• <b>No change:</b> The value waiting at the output of the function block is retained. Values arriving at the input of the function block are not passed on to the output.</li> </ul>	
<b>Behavior on override deactivation</b>	No change <b>Updated value</b>
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Status override	Disable Enable
<b>Function:</b> This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.	
<b>More information:</b> ➔ 6.6 Status	

### 6.5.8 Override "user-defined"

For use cases in which none of the predefined override functions manual (ON), permanent OFF, blocking function or central override can be used, the "user-defined override function" is available.

This override function enables monitoring of cyclically incoming telegrams. In this case the override is activated when telegrams do not arrive within the monitoring time.

#### 6.5.8.1 "User-defined control" process diagram

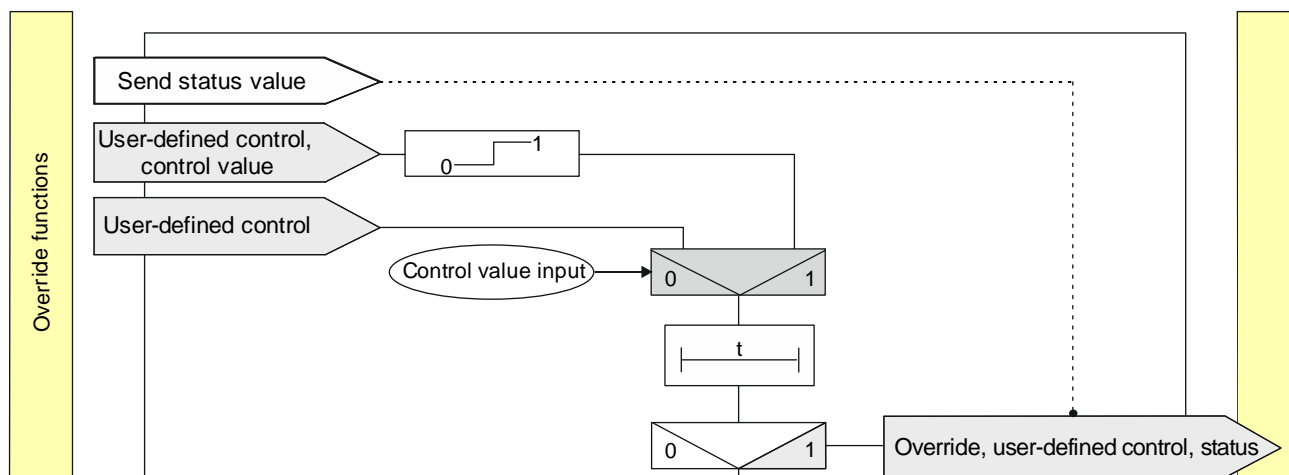


Fig. 17 Override user-defined control

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.5.8.2 Communication objects for the override "user-defined"

No.	Object name	Function	Datapoint type	Flags
16	<b>A Override 1, user-defined control</b>	On/Off	1.003 enable	CW
<p><b>Function:</b>            This communication object can be used to fix an output at the current value and switch it on or off irrespective of the upstream sub-functions. The state can be retained permanently or for a limited time.            User-defined control is active when the value of the communication object is "on."            If an inversion is configured, user-defined control is active when the object value is "off."            The behavior upon activation and deactivation of the user-defined control can be configured using a parameter.            The user-defined control object ensures that all upstream function blocks are internally saved, but not evaluated and sent.</p> <p><b>Availability/alternative:</b>            The communication object "override 1, user-defined control" is only displayed when the parameter "override 1" is set to "user-defined" ("functions, objects" parameter card).            Alternatively, a control value input can be used instead of a switching control input. If the parameter "control value input" on parameter card "override 1, user-defined control" is enabled, this communication object is hidden and communication object "override 1, user-defined control, control value" is shown instead.</p>				
17	<b>A Override 1, user-defined control, control value</b>	Value	5.001 percent (0 ... 100 %) 5.010 counting impulses (0 ... 255) 9.001 temperature °C 9.004 illuminance lx 9.021 current mA 9.024 output kW 14.056 output W	CW
<p><b>Function:</b>            This communication object enables the use of a control value as the input value for override.</p> <p><b>Availability:</b>            The communication object "override 1, user-defined control, control value" is only displayed if the parameter "override 1" is set to "user-defined control" (parameter card "functions, objects") and the parameter "control value input" (parameter "override 1, user-defined control") is set to "enabled."            Alternatively, a switching input can be used instead of a control value input. If the parameter "control value input" on parameter card "override 1, user-defined control" is disabled, this communication object is hidden and communication object "override 1, user-defined control" is shown.</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
19	A Override 1, user-defined control, status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This status object is used to report that override 1 is active.</p> <p><b>Availability:</b>            The communication object "override 1, user-defined control, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, user-defined control" parameter card).</p>				

### 6.5.8.3 Parameters for the override "user-defined" on the parameter card "override x, user-defined control"

Parameter	Settings
Control Value Input	Disable Enable
<p><b>Function:</b>            This parameter defines whether instead of the switching input a control value input should be used for the activation and deactivation of the override function.</p> <p><b>Other parameters:</b>            If the parameter "control value input" is in the "enabled" status, parameters for the datatype of the control value input and the threshold are displayed.</p> <p>➔ 6.1.4 Parameters for the control value input on the "control value input" parameter card</p> <p><b>Communication object:</b>            If the parameter "control value input" is in the status "enabled," the communication object "override 1, user-defined control" is hidden and the parameter "override 1, user-defined control, control value" is shown.</p> <p><b>More information:</b>            ➔ 6.1 Control value input</p>	
Invert override input	No Yes
<p><b>Function:</b>            This parameter defines whether the input value of the communication object "override 1, user-defined control" should be used directly or inverted.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Monitoring time</b>	<b>00:00:00:0</b> [00:00:00:0...23:59:59:9]
<p><b>Function:</b>            This parameter determines whether the cyclical input of telegrams to the communication object for user-defined override should be monitored and how long the monitoring time is.            With a parameter value of 00:00:00, no monitoring takes place.            For all other parameter values, the cyclical input of deactivation telegrams is monitored. If the monitoring time is exceeded, the override is activated.            With the reception of the next deactivation telegram, the override is deactivated. The parameter "behavior on override deactivation" is used to define which value is passed on to the output of the function block upon deactivation of the override.</p>	
<b>Behavior on override activation</b>	Off On <b>No change</b>
<p><b>Function:</b>            This parameter defines which value is passed on upon activation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Off:</b> The value at the output of the function block is set to "off" (0).</li> <li>• <b>On:</b> The value at the output of the function block is set to "on" (1).</li> <li>• <b>No change:</b> The value waiting at the output of the function block is retained. Values arriving at the input of the function block are not passed on to the output.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Override duration	00:00:00: [00:00:00:0...23:59:59:9]
<p><b>Function:</b>            This parameter defines the desired ON time with activated override.            The override duration is then re-started with each incoming activation telegram.            With a parameter value of 00:00:00, the override duration is unlimited.</p> <p><b>Note:</b>            If the monitoring time is simultaneously set not equal to 00:00:00, the following behavior will be observed:</p> <p><b>Monitoring time &lt; override duration</b>            The override duration is triggered with cyclically incoming activation telegrams, i.e. the configured override duration is not in effect.</p> <p><b>Monitoring time &gt; override duration:</b>            With the elapse of the override duration, the override is switched off. With the next incoming activation telegram for monitoring, it is re-activated and the override duration begins again.</p>	
Behavior on override deactivation	No change Updated value
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	
Restart timer on deactivation of override	Disable Enable
<p><b>Function:</b>            This parameter defines whether an already expired timer (day, night mode or ON/OFF delay) is restarted with deactivation of the override ("enabled") or not ("disabled").</p> <p><b>Availability/alternative:</b>            The parameter "restart timer on deactivation of override" is only visible if the parameter "behavior on override deactivation" is set to "no change."</p> <p><b>More information:</b>            ➔ 7.3.3 Behavior of the switching actuator in timer mode with night mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Status override	Disable Enable
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.</p> <p><b>More information:</b>            ↪ 6.6 Status</p>	
Start value / behavior of override input when bus voltage is recovered	Off On Deactivated Last value
<p><b>Function:</b>            This parameter can be used to set the desired start value/behavior of the override input of the function block "override 1, user-defined" when bus voltage is recovered. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Off</b>              If this parameter is set, the override function block behaves as if an "off" had been received at the override block input when bus voltage is recovered.</li> <li>• <b>On</b>              If this parameter is set, the override function block behaves as if an "on" had been received at the override block input when bus voltage is recovered.</li> <li>• <b>Deactivated</b>              If this parameter is set to "deactivated," the override function block is deactivated when bus voltage is recovered.</li> <li>• <b>Last value</b>              If this parameter is set to "last value," the override input of the function block is set to the stored value in case of bus voltage failure.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.9 Override "forced control"

Switching actuators with forced control allow an override of particular dimmer outputs through centralized control interventions. For example, in energy-saving or night mode it is possible to forcibly prevent the switching on of particular lights or loads.

#### 6.5.9.1 Override "forced control" process diagram

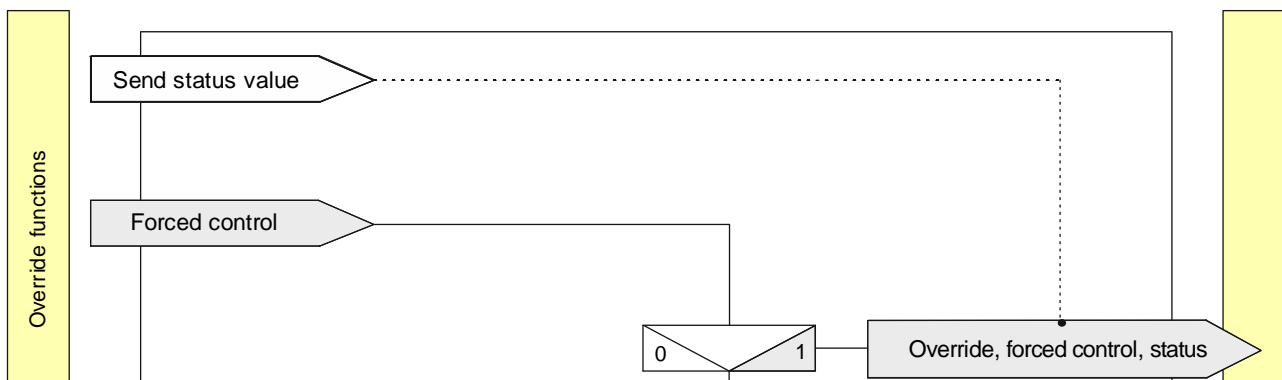


Fig. 18 Forced control

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.5.9.2 Communication objects for the override "forced control"

No.	Object name	Function	Datapoint type	Flags															
18	A <b>Override 1, forced control</b>	On/Off	2.001 prio. Switching	CW															
<p><b>Function:</b>            This 2-bit communication object enables forced switching on to a configured value and forced switching off irrespective of the upstream sub-functions.            The following settings are possible:</p> <table border="1"> <thead> <tr> <th>Bit 1</th> <th>Bit 0</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>Forced control not active</td> </tr> <tr> <td>0</td> <td>1</td> <td>Forced control not active</td> </tr> <tr> <td>1</td> <td>0</td> <td>Forcibly switched off</td> </tr> <tr> <td>1</td> <td>1</td> <td>Forcibly switched on</td> </tr> </tbody> </table> <p><b>Availability:</b>            The communication object "override 1, forced control" is only displayed when the parameter "override 1" is set to "forced control" ("functions, objects" parameter card).</p>					Bit 1	Bit 0	Function	0	0	Forced control not active	0	1	Forced control not active	1	0	Forcibly switched off	1	1	Forcibly switched on
Bit 1	Bit 0	Function																	
0	0	Forced control not active																	
0	1	Forced control not active																	
1	0	Forcibly switched off																	
1	1	Forcibly switched on																	
19	A <b>Override 1, forced control, status</b>	On/Off	1.002 Boolean	CRT															
<p><b>Function:</b>            This status object is used to report that override 1 is active.</p> <p><b>Availability:</b>            The communication object "override 1, forced control, status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, [type of override]" parameter card).</p>																			



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.5.9.3 Parameters for the override "forced control" on the parameter card "override x, forced control"

Parameter	Settings
<b>Behavior on override deactivation</b>	No change Updated value
<p><b>Function:</b>            This parameter defines which value is passed on upon deactivation of the override at the output of the function block. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>No change:</b> The value at the output is retained until a new value arrives at the input of the function block.</li> <li>• <b>Updated value:</b> The value at the input of the function block is passed on at the output of the function block.</li> </ul>	
<b>Restart timer on deactivation of override</b>	Disable Enable
<p><b>Function:</b>            This parameter defines whether an already expired timer (day, night mode or ON/OFF delay) is restarted with deactivation of the override ("enabled") or not ("disabled").</p> <p><b>Availability/alternative:</b>            The parameter "restart timer on deactivation of override" is only visible if the parameter "behavior on override deactivation" is set to "no change."</p> <p><b>More information:</b>            ➔ 7.3.3 Behavior of the switching actuator in timer mode with night mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.</p>	
<b>Status override</b>	Disable Enable
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of override 1. This communication object is used to report whether the override is active.</p> <p><b>More information:</b>            ➔ 6.6 Status</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Start value / behavior of override input on bus voltage recovery</b>	Activated – switched off Activated – switched on <b>Deactivated</b> Last value
<p><b>Function:</b>            This parameter can be used to set the desired start value/behavior of the override input of the function block "override 1, forced control" when bus voltage is recovered. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>Activated – switched off</b>                If this parameter is set, the override function block is activated when bus voltage is recovered and the output is forcibly switched off.</li> <li>• <b>Activated – switched on</b>                If this parameter is set, the override function block is activated when bus voltage is recovered and the output is forcibly switched on to the specified value.</li> <li>• <b>Deactivated</b>                If this parameter is set to "deactivated," the override function block is deactivated when bus voltage is recovered.</li> <li>• <b>Last value</b>                If this parameter is set to "last value," the override input of the function block is set to the stored value in case of bus voltage failure.</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.6 Status

### 6.6.1 "Status" process diagram

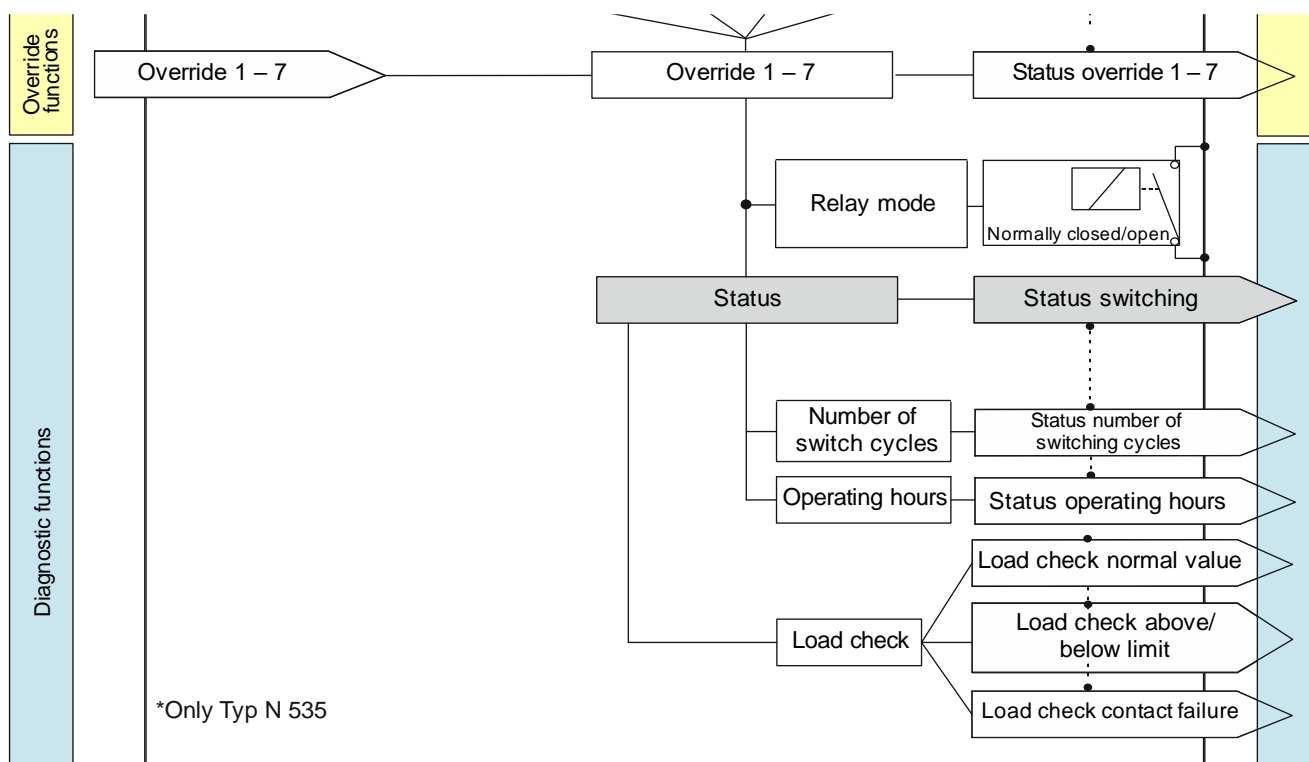


Fig. 19 Status

### 6.6.2 Communication objects for status

No.	Object name	Function	Datapoint type	Flags
5	A Status switching	On/Off	1.001 switching	CRT

**Function:**  
 In the "status switching" communication object, the current switching state of the respective output is stored and can be requested via a read request or, if so configured, transmitted automatically after every object value change.

**Availability:**  
 The communication object "status switching" is only displayed if the parameter "status switching" is set to "enabled."

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
19	A Override 1, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 1 is active.</p> <p><b>Availability:</b> The communication object "override 1, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 1, [type of override]" parameter card).</p>				
23	A Override 2, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 2 is active.</p> <p><b>Availability:</b> The communication object "override 2, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 2, [type of override]" parameter card).</p>				
27	A Override 3, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 3 is active.</p> <p><b>Availability:</b> The communication object "override 3, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 3, [type of override]" parameter card).</p>				
31	A Override 4, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 4 is active.</p> <p><b>Availability:</b> The communication object "override 4, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 4, [type of override]" parameter card).</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
35	A Override 5, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 5 is active.</p> <p><b>Availability:</b> The communication object "override 5, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 5, [type of override]" parameter card).</p>				
39	A Override 6, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 6 is active.</p> <p><b>Availability:</b> The communication object "override 6, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 6, [type of override]" parameter card).</p>				
43	A Override 7, [type of override], status	On/Off	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that override 7 is active.</p> <p><b>Availability:</b> The communication object "override 7, [type of override], status" is only displayed if the parameter "status override" is set to "enabled" ("override 7, [type of override]" parameter card).</p>				
44	A Overrides status	1 = Active	1.002 Boolean	CRT
<p><b>Function:</b> This status object is used to report that at least one of the overrides is active.</p> <p><b>Availability:</b> The communication object "overrides status" is only displayed if the parameter "overrides status" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b> ➔ 6.5 Overrides</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
45	A Number of switching cycles	Value in cycles	12.001 counting impulses (without prefix)	CRT
<p><b>Function:</b>            This communication object can be used to request the number of switch cycles of this channel via the bus at any time. The value is increased internally by 1 as soon as the channel has been switched off and back on again.            Depending on the setting of the parameter "value change since last sent," the increased value is sent and can then also be retrieved via this communication object.            If the parameter "threshold monitoring" ("counting of switching cycles" parameter card) is set to "enabled," a telegram is sent to the bus if the threshold is exceeded.</p> <p><b>Availability:</b>            The communication object "number of switching cycles" is only displayed if the parameter "counting of switching cycles" is set to "enabled" ("functions, objects" parameter card).</p> <p><b>More information:</b>            ➔ 6.8 Counting of switching cycles</p>				
48	A Exceedance of threshold for switching cycles	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for switching cycle counting and to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "switching cycle (set value)" the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for switching cycles" is only displayed if the parameter "counting of switching cycles" (on the "functions, objects" parameter card) is set to "enabled" and the parameter "threshold monitoring" (on the "counting of switching cycles" parameter card) is also set to "enabled."</p> <p><b>More information:</b>            ➔ 6.8 Counting of switching cycles</p>				

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
49	A Operating hours	Value (in hours)	12.001 counting impulses (without prefix)	CRT
<p><b>Function:</b>            This object can be used to query the current operating duration of the output via the bus in hours at any time. That is, it is possible to query how many hours the output was switched on, or, depending on the setting (only for switching actuators with load current detection, N 535), how many hours the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" is set to "enabled" (on the "functions, objects" parameter card) and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "hours."</p> <p><b>More information:</b>            ↻ 6.9 Counting of operating hours</p>				
50	A Operating hours	Value (in seconds)	13.100 time difference (s)	CRT
<p><b>Function:</b>            This object can be used to query the current operating duration of the output via the bus in seconds at any time. That is, it is possible to query how many seconds the output was switched on, or, depending on the setting (only switching actuators with load current detection, type N 535), how many seconds the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "seconds."</p> <p><b>More information:</b>            ↻ 6.9 Counting of operating hours</p>				

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
53	A Exceedance of threshold for operating hours	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for operating hours counting and to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "operating hours," the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the "operating hours" parameter card) is set to "enabled."</p>				
54	A Load Check measured value	Current (mA)	7.012 current (mA)	CRT
55	A Load Check measured value	Current (A)	14.019 elect. current (A)	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object can be used to query the current measured value of the load check in mA (datapoint type 7.012, 2 bytes without prefix) or A (datapoint type 14.019, 4 bytes floating point value).</p> <p><b>Availability:</b>            The communication object "Load Check measured value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• Parameter card "Functions, objects"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Current unit," setting "mA" or setting "A"</li> <li>○ Parameter "Load Check measured value," setting "enabled"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.1 Load detection</p>				



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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
59	A Exceedance of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or exceeding of the threshold value for the load check and to query via the bus whether there has been a shortfall of the threshold value.</p> <p><b>Availability:</b>            The communication object "Exceedance of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Exceedance of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
60	A Shortfall of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or shortfall of the respective threshold value for the load check and query via the bus whether the value falls below the threshold.</p> <p><b>Availability:</b>            The communication object "Shortfall of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Shortfall of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
61	A Load check contact failure	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report a contact failure, or can be used to query via the bus whether there is a contact failure. A contact failure is detected if there is an active flow of current while the channel is switched off.</p> <p><b>Note:</b>            The status of this communication object is retained when the channel is subsequently switched on again and only receives a new value when it is switched off again.</p> <p><b>Availability:</b>            The communication object "Load Check Contact Failure" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Contact Failure," setting "enable"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.4 Contact Failure</p>				

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"

Parameter	Settings
Send status on request	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the status of the communication object is sent upon request or whether requests for the status value will be rejected.            The request is triggered via the communication object "send status values."</p> <p><b>Availability:</b>            The communication object "send status on request" is only displayed if the parameter "status ..." is set to "enabled."</p>	
Send status on change of status	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the value of the status object is automatically sent after each status change.</p> <p><b>Availability:</b>            The communication object "send status on change of status" is only displayed if the respective parameter "status ..." is set to "enabled."</p>	
Send status cyclically	00:00:00 [00:00:00...18:12:15]
<p><b>Function:</b>            This parameter can be used to set the time interval at which the value of the status object is sent cyclically.            If this is set to "00:00:00," cyclic sending is deactivated.</p> <p><b>Availability:</b>            The communication object "send status cyclically" is only displayed if the respective parameter "status ..." is set to "enabled."</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.6.4 Parameters for the status on the "functions, objects" parameter card

Parameter	Settings
Overrides status	Disable Enable
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of the overrides. This communication object is used to report whether the override is active.</p> <p><b>Availability:</b>            The parameter "overrides status" is displayed as soon as an override is activated.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "overrides status" is set to "enabled," additional parameters are displayed with which it is possible to set when a status is sent.</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "overrides status" is set to "enabled," the communication object "overrides status" is displayed.</p> <p><b>More information:</b>            ➔ 6.5 Overrides</p>	
Status switching	Disable Enable
<p><b>Function:</b>            This parameter is used to define whether the communication object "status switching" is available. This status object can be used, for example, to display the current switching state of the output.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "status switching" is set to "enabled," parameters are displayed with which it is possible to set when a status is sent.</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "status switching" is set to "enabled," the communication object "status switching" is displayed.</p>	

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 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Counting of switching cycles	Disable Enable
<p><b>Function:</b>            This parameter is used to activate the counting of switching cycles for the respective output (i.e. how frequently an output was switched on and off). The counting of switching cycles is used to monitor the connected load.</p> <p><b>Other parameter cards:</b>            If the parameter "counting of switching cycles" is set to "enabled," the parameter card "counting of switching cycles" is displayed.</p> <p><b>Communication object:</b>            If the parameter "counting of switching cycles" is set to "enabled," the communication objects "number of switching cycles – value (in cycles)" and "number of switching cycles – set value (in cycles)" are displayed.</p> <p><b>More information:</b>            ➔ 6.8 Counting of switching cycles</p>	
Counting of operating hours	Disable Enable
<p><b>Function:</b>            The operating hours counter is used to record the operating hours of the channel, i.e. how many hours (or seconds) the channel has been on. With the corresponding setting (only for switching actuators with load current detection, type N 535), it can alternatively be recorded how long the channel is switched on while a current flow was present at the same time.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "counting of operating hours" is set to "enabled," the parameter card "operating hours" is displayed.</p> <p><b>Communication objects:</b>            If the parameter "counting of operating hours" is set to "enabled," the communication objects "counting of operating hours" and "counting of operating hours – set value" are displayed.</p>	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
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### 6.6.5 Parameters for the status on the "override x, [type of override]" parameter card

Parameter	Settings
Status override	Disable Enable
<p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the status of override x. This communication object is used to report whether the override is active.</p> <p><b>Other parameters:</b>            If the parameter "status override" is set to "enable," additional parameters for sending the status of the override are displayed</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p>	

### 6.6.6 Parameters for the status on the "Load Check" parameter card

Parameter	Settings
Load Check measured value	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the measured value of the load check. This can be used to output the current value of the load check and it can be queried via the bus.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "Load Check measured value" is set to "enable," additional parameters are displayed with which it is possible to set when a status is sent.</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "Load Check measured value" is set to "enable," the communication object "Load Check measured value" is displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check</p>	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
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 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check monitoring	<b>No</b> Exceedance of load check limit value Shortfall of load check limit value Both
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to set whether and which value of the load check is monitored. The following settings are possible here:</p> <ul style="list-style-type: none"> <li>• <b>"No":</b> The load check is not monitored.</li> <li>• <b>"Exceedance of load check limit value"</b> The exceedance of the upper limit of the load check is monitored.</li> <li>• <b>"Shortfall of load check limit value"</b> The shortfall of the lower limit of the load check is monitored.</li> <li>• <b>"Both:"</b> The exceedance and shortfall of the load check are monitored.</li> </ul> <p><b>Other parameters:</b>            If the parameter "Load Check monitoring" is set to "exceedance of load check limit value" and/or "shortfall of load check limit value," additional parameters are displayed via which details on load check monitoring can be checked.            In addition, parameters are displayed which can be used to set when the status of the exceedance of load check limit value and shortfall of load check limit value is sent.            ➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "Load Check monitoring" is set to "Exceedance of load check limit value," the communication object "Load Check - exceedance of load check limit value" is displayed.            If the parameter "Load Check monitoring" is set to "Shortfall of load check limit value," the communication object "Load Check - shortfall of load check limit value" is displayed.            If the parameter "Load Check monitoring" is set to "Both," the communication objects "Load Check - exceedance of load check limit value" and "Load Check - shortfall of load check limit value" are displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring            ➔ 6.7.2.1 Diagram illustrating load check monitoring            ➔ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</p>	



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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Normal value recall	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            The parameter "Normal value recall" can be used to activate that the currently valid normal value can be queried and/or changed (via an additionally displayed communication object). This makes it possible, for example, to store the currently measured current value.</p> <p><b>Availability:</b>            The parameter "Normal value recall" is only displayed if the parameter "Load Check monitoring" is set to "Exceedance of load check limit value," "shortfall of load check limit value" or "both."</p> <p><b>Other parameters:</b>            If the parameter "Normal value recall" is set to "enable," additional parameters for sending the status of the normal value are displayed.</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication objects:</b>            If the parameter "Normal value recall" is set to "enable," the communication objects "Load Check-Normal value store" and "Load Check-Normal value recall" are displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check</p>	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Contact Failure	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            If the parameter "Contact Failure" is set to "enable," a communication object can be used to query whether there is a contact failure on the relay. There is a contact failure if a current is measured even though the relay contact should be open.</p> <p><b>Note:</b>            After opening the relay contact, the flow of current must have fallen to "0" within a second so that no contact failure is reported.            The dead time of one second is fixed and cannot be changed.</p> <p><b>Other parameters:</b>            If the parameter "Contact Failure" is set to "enable," additional parameters for sending the status of the contact failure are displayed.            ➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "Contact Failure" is set to "enable," the communication object "Load check contact failure" is also displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.4 Contact Failure</p>	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
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 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.6.7 Parameters for the status on the "switching cycle" parameter card

Parameter	Settings
Threshold monitoring	Disable Enable
<p><b>Function:</b>            This parameter can be used to activate threshold monitoring of switch cycles.</p> <p><b>Other parameters:</b>            If the parameter "threshold monitoring" is set to "enable," the parameter "threshold for switching cycles" and parameters for sending the status of the threshold are also displayed</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication objects:</b>            If the parameter "threshold monitoring" is set to "enabled," the communication objects "threshold for switching cycles" and "exceedance of threshold for switching cycles" are additionally displayed.</p>	

### 6.6.8 Parameters for the status on the "operating hours" parameter card

Parameter	Settings
Threshold monitoring	Disable Enable
<p><b>Function:</b>            This parameter can be used to active threshold monitoring of operating hours.</p> <p><b>Other parameters:</b>            If the parameter "threshold monitoring" is set to "enabled," the parameter "threshold for operating hours" and the parameters for sending the status of the threshold value are also displayed</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "threshold monitoring" is set to "enabled," the communication objects "threshold for operating hours" and "exceedance of threshold for operating hours" are additionally displayed.</p>	

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## 6.7 Load check

### Note:

The following subsections relate only to switching actuators with load current detection (type N 535).

This function captures the load current per switching out (channel) and transmits it via the KNX bus. These measured values can be displayed via a display unit or a visualization in real time. At the same time, the measured load current between two limit values can be monitored and evaluated. Every channel can be parameterized separately in this regard.

### 6.7.1 Load detection

The measured load is output via the communication object "Load Check measured value" and can be visualized accordingly. Depending setting, one of the following communication objects is used here:

- Communication object "Load Check measured value" with datapoint type "14.019." Output as 4-byte communication object with display of the current as a 4-byte floating point value in A
- Communication object "Load Check measured value" with datapoint type "7.012:" Output as 2-byte communication object with display of the current as a 2-byte counter value in mA

The current output range starts with currents of 20 mA and above. Lower currents are sent to the bus as 0 mA. The smallest possible resolution of the load check is 1 mA.



**Load detection takes place when the switching contact is open as well as when it is closed.**



**The switching actuator with load current detection is not a calibrated current sensing device!**

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The measured load current can be corrected. A configurable adjustment factor is available. This value is multiple with the measured load.

The measured load current can also be adjusted with an offset value in mA. This is possible in the range from -32 768 to 32 767. This can correct any drifts in the current flow. Measuring errors can be compensated to get a correct zero point. Hence, the offset value for a reconciliation must be configured first. The correction of offset and adjustment factor is used to set up the measuring amplifier. If this is set too high, the threshold of the noise gate might be exceeded. This could result in values being output despite a lack of current flow.



#### Effect of the offset in case of small load checks

If an offset value of  $> 20$  mA is configured, e.g. 25 mA, the value 25 mA should be sent when a load check of  $< 20$  mA is measured. However, a lower measured current  $< 20$  mA is added to the 25 mA.



#### Offset value and scaling factor in relay mode

Offset value and scaling factor work when the relay contact is closed as well as when it is open.

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.1.1 Effect of offset and scaling factor when recording current measurements

The following graphic shows the effect of signal enhancement, offset value, factor correction and threshold value assessment.

The following parameters are used for this:

- Load Check (setting: enabled)
- Scaling factor (value \* 0.001)
- Value offset

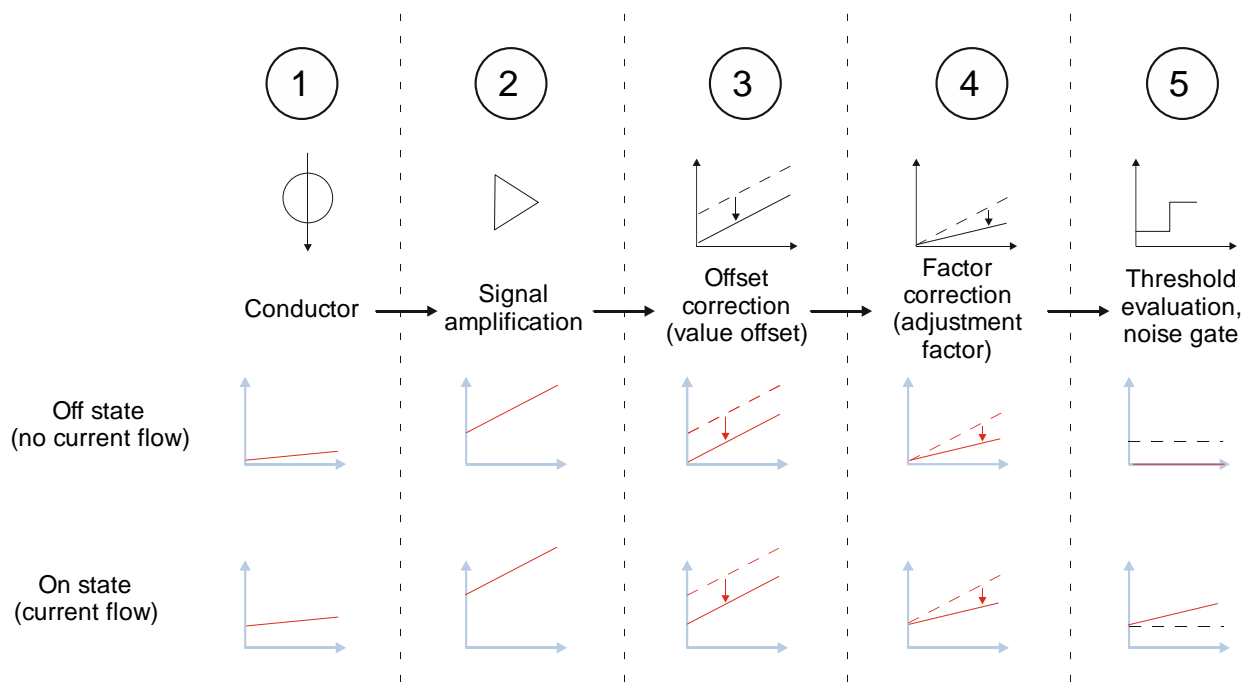


Fig. 20 Effect of offset and scaling factor when recording current measurements

- (1) Flow of current without enhancement or correction
- (2) Flow of current with signal enhancement
- (3) Enhanced signal taking into account the value that was entered in the "value offset" parameter
- (4) Enhanced signal taking into account the offset value and the scaling factor (parameter "Scaling factor (value \* 0.001)")
- (5) Check whether the measured values after the signal enhancement and consideration of the offset value and scaling factor are above the threshold value (noise gate) of 20 mA. If the respective measured value falls below this, the value "0" is output.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03



#### Configuring the offset value

If the relay contact is open and there is a positive offset value, a load current can be output.

If the configured negative offset value is too large, this can result in a load current output of 0 mA or 0 A, even though current flow is actually available.

This can falsify threshold monitoring and contact failure monitoring.

#### 6.7.1.2 Formula for load current correction

The measured load current is corrected according to the following formula:

$$\text{Corrected load current value} = (\text{measure load current value} + \text{offset value}) * (\text{scaling factor} * 0.001)$$

The value for "value offset" as well as the scaling factor can be set in the parameters "value offset" and "scaling factor (value \* 0.001)."

#### 6.7.2 Load Check monitoring

Load Check monitoring is used to display and monitor operating states of electric consumers. To do this, an upper and lower limit can be configured. If the load check falls above or below these limits, a status value is sent. This can signal the failure of equipment, the interruption of a circuit or contact errors. It also enables energy and load management.

For Load Check monitoring within the upper and lower limit, a Load Check normal value must be configured in mA. Alternatively, the currently valid Load Check normal value in A or mA can be queried via the KNX bus during operation and stored as the normal value. The store option makes it possible to dynamically adjust the Load Check normal value in order to take into account changed loads, e.g. when lamps are replaced or the electricity input for load drives in the regular operating state changes. When storing the Load Check normal value, the configured scaling factor or a configured offset value are also taken into account.

This Load Check normal value represents the target for threshold monitoring of the Load Check. The configured value intervals for the upper and lower limit refer to this reference value. The ranges for threshold exceedance and shortfall thus adapt to a changed Load Check normal value.

Threshold monitoring can be configured as desired, for both thresholds, for one or for no threshold.

For the evaluation of exceedances and shortfalls of load check limit values, the respective offset values are configured in mA. These values represent the respective distance to the upper evaluation limit for exceedance of load check limit value or the lower evaluation limit for shortfall of load check limit values for the configured or stored load check normal value.

To reset an exceedance of load check limit value or shortfall of load check limit value, you can configure each hysteresis in %. Here, the hysteresis for the exceedance of load check limit value defines by how much the load check must fall below the limit after an exceedance of load check limit value so that this exceedance is reset. The hysteresis for the shortfall of load check limit value defines by how much the load check must be above the limit after a shortfall of load check limit value so that this shortfall is reset. The hystereses in % refer to the respective offset value of the exceedance of load check limit value or the offset value of the shortfall of load check limit value.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.2.1 Diagram illustrating load check monitoring

The following graphic shows the load check as well as the defined limits and hysteresis. The second and third curve show at which point in time a value fell below or above the limit.

The following parameters were defined:

- Load Check monitoring (setting: "Both")
- Load Check normal value (mA)
- Load Check offset above limit (mA) (in the image here: "upper limit")
- Load Check hysteresis above limit (%) (in the image here: "hysteresis upper limit")
- Load Check offset below limit (mA) (in the image here: "lower limit")
- Load Check hysteresis below limit (%) (in the image here: "hysteresis lower limit")

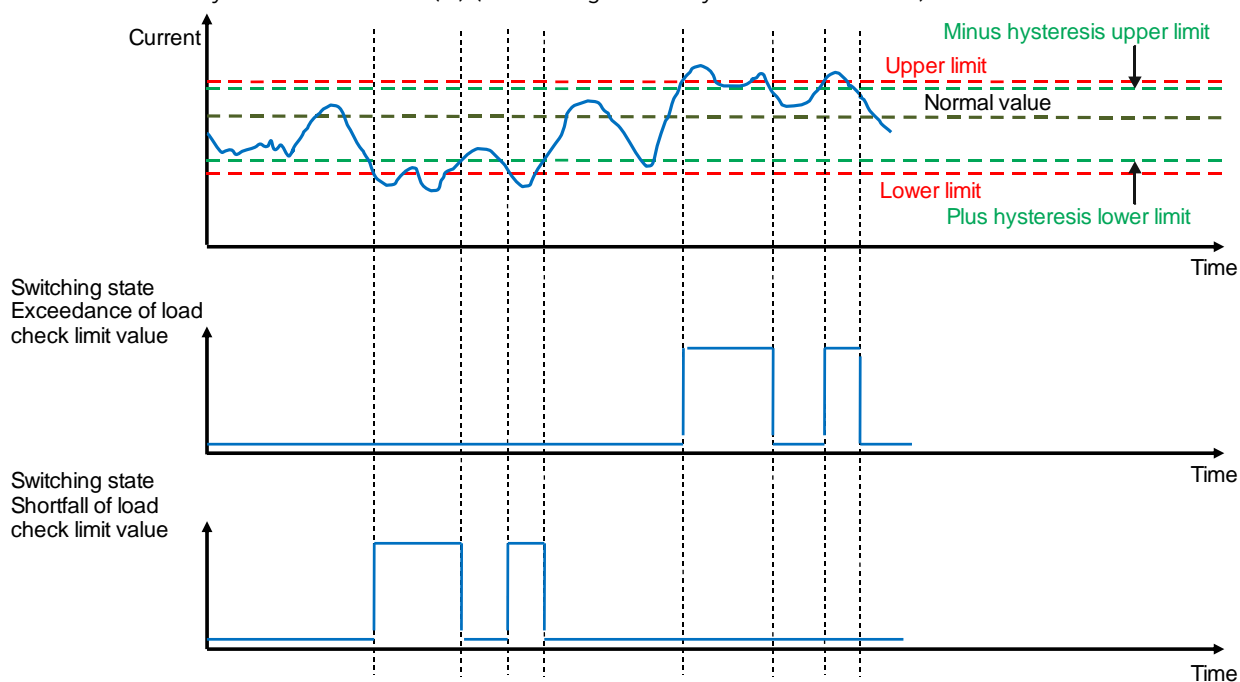


Fig. 21 Diagram illustrating load check monitoring



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value

The following graphic shows the defined limits and hystereses as well as the exceedance of load check limit value and shortfall of load check limit value.

The following parameters were defined:

- Load Check monitoring (setting: "Both")
- Load Check normal value (mA)
- Load Check offset above limit (mA) (in the image here: "upper limit")
- Load Check hysteresis above limit (%) (in the image here: "hysteresis upper limit")
- Load Check offset below limit (mA) (in the image here: "lower limit")
- Load Check hysteresis below limit (%) (in the image here: "hysteresis lower limit")

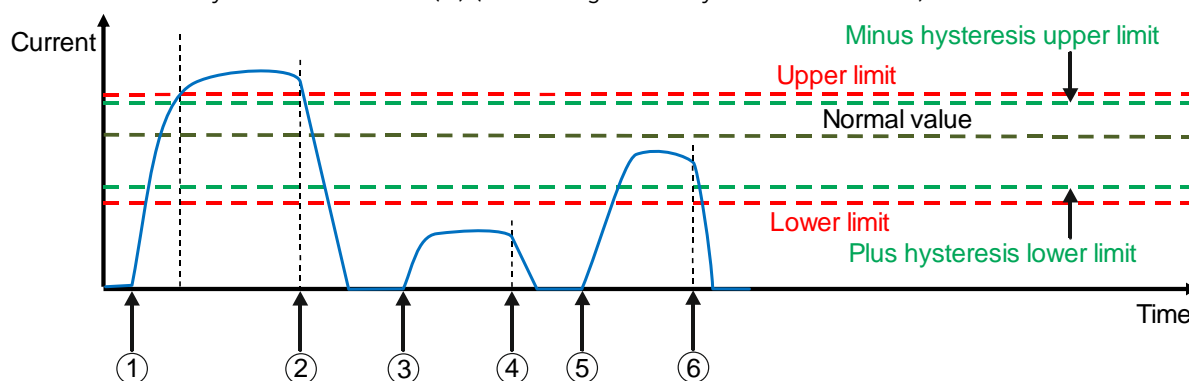


Fig. 22 Example of exceedance of load check limit value and shortfall of load check limit value

- (1) The channel is switched on and the flow of current commences. The upper limit is exceeded. The communication object "Load Check - exceedance of load check limit value" is set to "On."
- (2) The channel is switched off. The communication object "Load Check - exceedance of load check limit value" remains set to "On" even though there is no more flow of current.
- (3) The cause of the exceedance of load check limit value has been resolved. The channel is switched on and the flow of current commences. The communication object "Load Check - exceedance of load check limit value" is set back to "Off."  
It now falls below the lower limit. The communication object "Load Check - shortfall of load check limit value" is set to "On."
- (4) The channel is switched off. The communication object "Load Check - shortfall of load check limit value" remains set to "On" even though there is no more flow of current.
- (5) The cause of the shortfall of load check limit value has been resolved. The channel is switched on and the flow of current commences. The communication object "Load Check - shortfall of load check limit value" is set back to "Off." The flow of current is in the normal range.
- (6) The channel is switched off.

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.3 Threshold monitoring with dead time

After switching on loads, current spikes can occur. E.g. starting a motor leads to an increased energy intake. This can lead to undesired false alarms due to exceedances of load check limit value. To avoid this incorrect behavior, a dead time can be configured. The measured current for threshold monitoring is only used at the end of this dead time. The system is then in a settled, realistic state. The sending of the Load Check-Normal value and storing of the Load Check normal value take place at the end of this dead time.

The following graphic shows the defined limits and hystereses as well as the exceedance of load check limit value and shortfall of load check limit value. The effect of the configured dead time on the communication object "Load Check - exceedance of load check limit value" is also shown.

The following parameters were defined:

- Load Check monitoring (setting: "Both")
- Load Check normal value (mA)
- Load Check offset above limit (mA) (in the image here: "upper limit")
- Load Check hysteresis above limit (%) (in the image here: "hysteresis upper limit")
- Load Check offset below limit (mA) (in the image here: "lower limit")
- Load Check hysteresis below limit (%) (in the image here: "hysteresis lower limit")
- Dead time

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

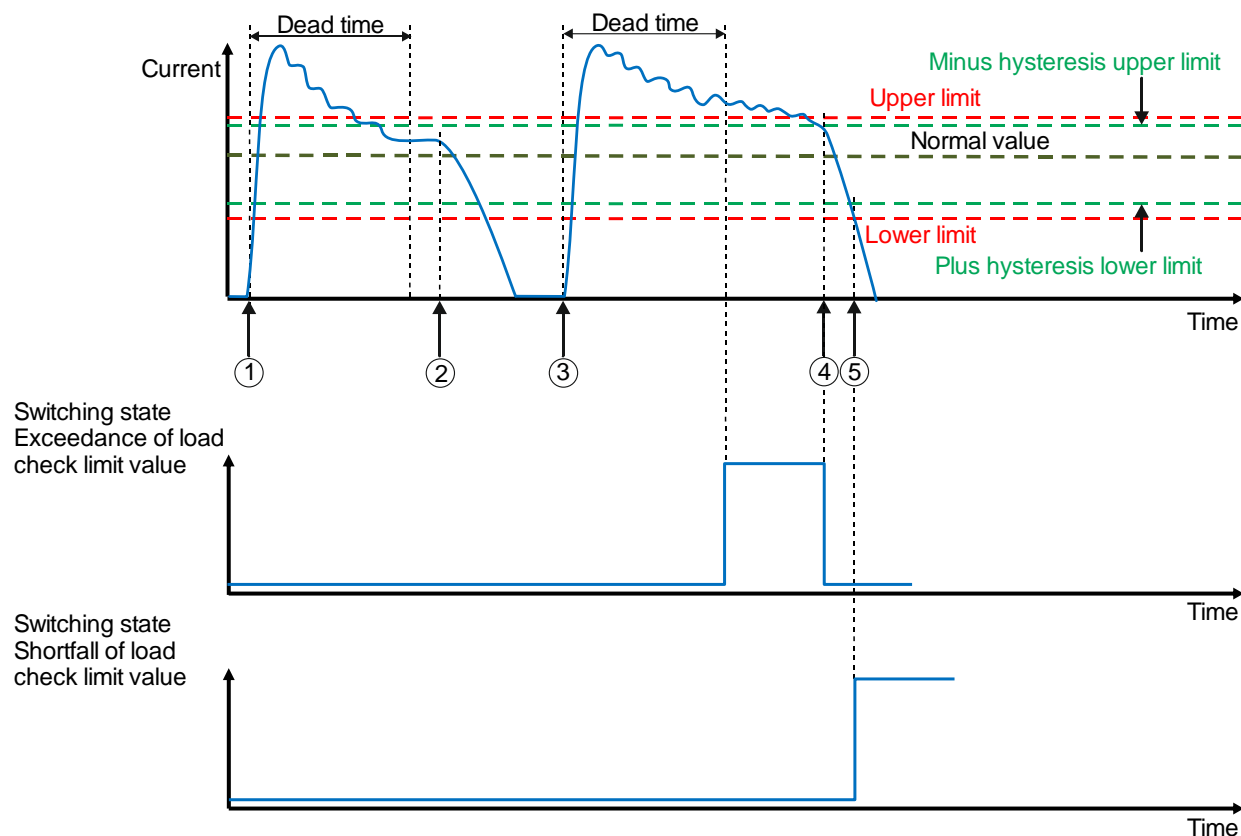


Fig. 23 Illustration of threshold monitoring with dead time

- (1) The channel is switched on and the flow of current commences. The upper limit is exceeded. Since a dead time has been configured and the flow of current stabilizes within this dead time, the communication object "Load Check - exceedance of load check limit value" is not set to "On."
- (2) The channel is switched off. When switching off, limit values are not taken into account, hence the communication object "Load Check - shortfall of load check limit value" is not set to "On" even though the value falls below the limit. The reaching of a 0 A current flow has no effect.
- (3) The channel is switched on and the flow of current commences. The upper limit is exceeded. As a dead time has been configured, the communication object "Load Check - exceedance of load check limit value" is only set to "On" after the dead time.
- (4) The value is below the upper limit minus the hysteresis to the upper limit. The communication object "Load Check - exceedance of load check limit value" once again set to "Off."
- (5) The current flow decreases e.g. due to a technical defect; there is a shortfall of the lower limit. The communication object "Load Check - shortfall of load check limit value" is set to "On."

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.7.4 Contact Failure

If there is no flow of current despite an open relay contact (output above 20 mA, weaker currents are not taken into account), this can be output as a contact failure (communication object "Load check contact failure"). This error message is reset if there is a flow of current less than 20 mA while the relay contact of the respective channel is open.

The following graphic shows the measured current in connection with the status of the communication object "Load check contact failure."

The following parameter was defined:

- Contact Failure (setting "enable")

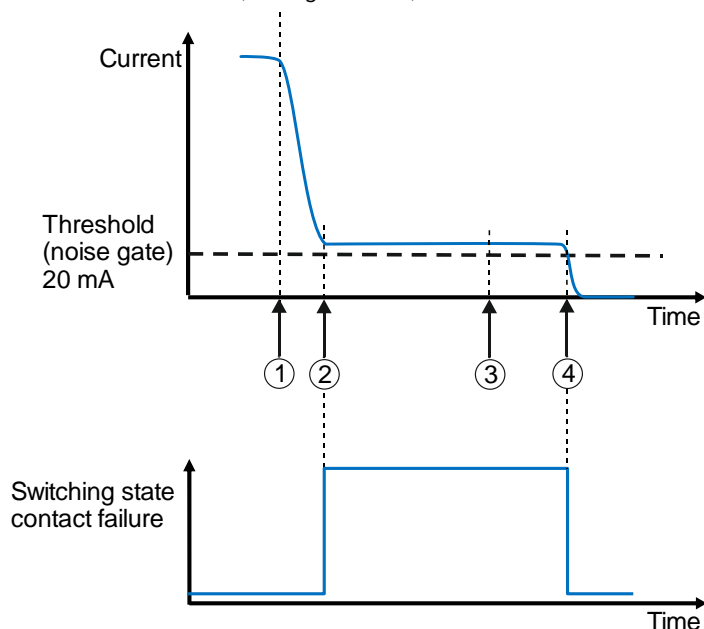


Fig. 24 Contact Failure

- (1) The channel is switched off, the current drops.
- (2) There is a contact failure. Current slightly above the lower limit is measured even though the channel is switched off. The communication object "Load Check contact failure" is set to status "On."
- (3) The channel is switched on again. The contact failure persists, the current value remains unchanged.
- (4) The contact failure is fixed. The channel is switched off. The error message is deleted. The communication object "Load check contact failure" is back in status "Off."



#### Contact failure with positive offset value while the relay contact is open

If a positive offset value is configured for current sensing, this value can trigger a contact failure if a measured current greater than 0 mA is output.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

6.7.5 "Load Check" process diagram

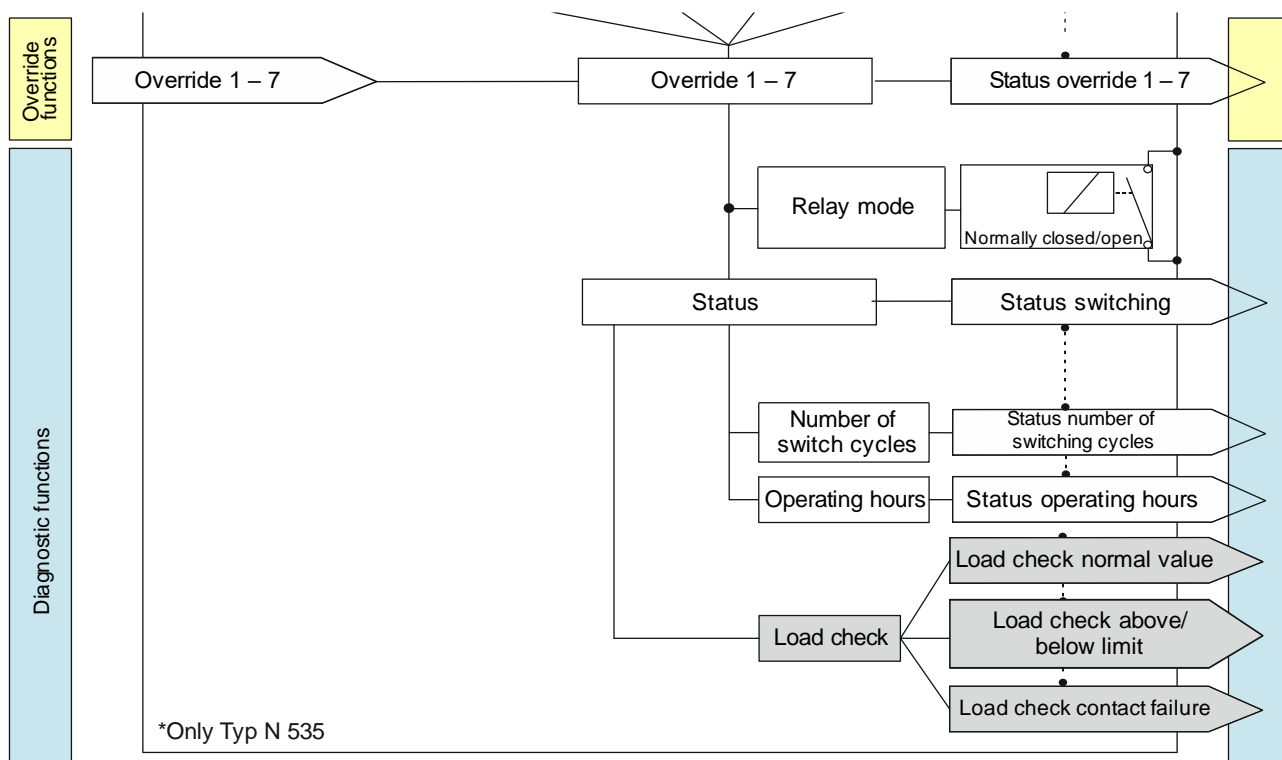


Fig. 25 Load check

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.6 Communication objects for the load check

No.	Object name	Function	Datapoint type	Flags
54	A Load Check measured value	Current (mA)	7.012 current (mA)	CRT
55	A Load Check measured value	Current (A)	14.019 elect. current (A)	CRT

**Information:**

Only for switching actuators with load current detection (type N 535)

**Function:**

This communication object can be used to query the current measured value of the load check in mA (datapoint type 7.012, 2 bytes without prefix) and A (datapoint type 14.019, 4 bytes floating point value).

**Availability:**

The communication object "Load Check measured value" is only displayed if the following parameters are set as follows:

- Parameter card "Functions, objects"
  - Parameter "Load Check," setting "enabled"
- Parameter card "Load Check"
  - Parameter "Current unit," setting "mA" or setting "A"
  - Parameter "Load Check measured value," setting "enabled"

**More information:**

- ➔ 6.7 Load check
- ➔ 6.7.1 Load detection

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
56	A Load Check-Normal value store	On	1.003 enable	CW
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object can be used to set the current measured value as the normal value of the load check. The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.</p> <p><b>Note:</b>            Load Check monitoring is reset here (no excess and no shortfall).            If the current measured value is "0," or the channel is deactivated, the measured value cannot be set as the normal value and the command is ignored. The currently stored normal value is retained and not deleted.            After successful transfer of the currently measured load check as the normal value, the new normal value is transferred to the communication object "Load Check-Normal value recall" and sent depending on the configuration.</p> <p><b>Availability:</b>            The communication object "Load Check-Normal value store" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Exceedance of load check limit value," "Shortfall of load check limit value" or "Both."</li> <li>○ Parameter "Normal value recall," setting "enable"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
57	A Load Check-Normal value recall	Current (mA)	7.012 current (mA)	CRT
58	A Load Check-Normal value recall	Current (A)	14.019 electr. current (A)	CRT

**Information:**

Only for switching actuators with load current detection (type N 535)

**Function:**

This communication object can be used to query the normal value of the load check in mA and A.

The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.

**Note:**

If the load check normal value was previously stored successfully, the new load check normal value is sent.

**Availability:**

The communication object "Load Check-Normal value recall" is only displayed if the following parameters are set as follows:

- "Functions, objects" parameter card
  - Parameter "Load Check," setting "enabled"
- Parameter card "Load Check"
  - Parameter "Current unit," setting "mA" or setting "A"
  - Parameter "Load Check monitoring," setting "Exceedance of load check limit value," "Shortfall of load check limit value" or "Both."
  - Parameter "Normal value recall," setting "enable"

**More information:**

➔ 6.7 Load check

➔ 6.7.2 Load Check monitoring



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
59	A Exceedance of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or exceeding of the respective threshold value for the load check or request via the bus whether the threshold value has been exceeded.</p> <p><b>Availability:</b>            The communication object "Exceedance of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Exceedance of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
60	A Shortfall of load check limit value	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report the hitting or shortfall of the respective threshold value for the load check, or query via the bus whether the value falls below the threshold.</p> <p><b>Availability:</b>            The communication object "Shortfall of load check limit value" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Load Check monitoring," setting "Shortfall of load check limit value" or "Both"</li> </ul> </li> </ul> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

No.	Object name	Function	Datapoint type	Flags
61	A Load check contact failure	On/Off	1.002 Boolean	CRT
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This communication object is used to report a contact failure, or can be used to query via the bus whether there is a contact failure. A contact failure is detected if there is an active flow of current while the channel is switched off.</p> <p><b>Note:</b>            The status of this communication object is retained when the channel is subsequently switched on again and only receives a new value when it is switched off again.</p> <p><b>Availability:</b>            The communication object "Load Check Contact Failure" is only displayed if the following parameters are set as follows:</p> <ul style="list-style-type: none"> <li>• "Functions, objects" parameter card               <ul style="list-style-type: none"> <li>○ Parameter "Load Check," setting "enabled"</li> </ul> </li> <li>• Parameter card "Load Check"               <ul style="list-style-type: none"> <li>○ Parameter "Contact Failure," setting "enable"</li> </ul> </li> </ul> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.4 Contact Failure</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.7.7 Parameter for the load check on the "functions, objects" parameter card

Parameter	Settings
Load Check	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to activate the monitoring of the load check. The currently measured value can be output and processed for threshold analysis. In addition, faults on the relay contact can be monitored.</p> <p><b>Other parameter cards:</b>            If the parameter "Load Check" is set to "enabled," the parameter card "Load Check" is displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring</p>	

### 6.7.8 Parameter for load check on the "Load Check" parameter card

Parameter	Settings
Current unit	mA A
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to set the unit in which the load check is output. This makes it possible to send the measured current values via two different DPTs via the KNX bus.</p> <p><b>Communication objects:</b>            If the parameter "Load Check measured value" is set to "enable" and the parameter "current unit" is set to "A," the communication object "Load Check measured value, current (A)" is displayed.            If the parameter "Load Check measured value" is set to "enable" and the parameter "current unit" is set to "mA," the communication object "Load Check measured value, current (mA)" is displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.1 Load detection</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Scaling factor (value * 0.001)	1000 [1...65535]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            The scaling factor is a correction factor for the measured current. It can be used to correct incorrect measurements. The correction is made according to the following formula:  <math display="block">\text{Corrected load current value} = (\text{measure load current value} + \text{offset value}) * (\text{scaling factor} * 0.001)</math></p> <p><b>More information:</b>            ➔ 6.7 Load check</p>	
Value offset (mA)	0 [-32768...32767]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            The offset value is a correction value for the measured current. It can be used to correct incorrect measurements. The correction is made according to the following formula:  <math display="block">\text{Corrected load current value} = (\text{measure load current value} + \text{offset value}) * (\text{scaling factor} * 0.001)</math></p> <p><b>More information:</b>            ➔ 6.7 Load check</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check measured value	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to activate or deactivate the communication object for the measured value of the load check. This can be used to output the current value of the load check and it can be queried via the bus.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "Load Check measured value" is set to "enable," additional parameters are displayed with which it is possible to set when a status is sent.</p> <p><b>Communication object:</b>            If the parameter "Load Check measured value" is set to "enable," the communication object "Load Check measured value" is displayed.</p> <p><b>More information:</b>            ➔ 6.7 Load check</p>	
Send status on request	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set whether the status of the communication object "Load Check measured value" is sent on request or whether requests for the status value will be rejected.            The request is triggered via the communication object "send status values."</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Send status on change of status	Disable Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set whether the value of the communication object "Load Check measured value" is automatically sent after each value change. With the selection of "enabled," an additional parameter is displayed through which it can be defined how much time has to have passed since the last transmission for the value to be sent again.</p> <p><b>Other parameters:</b>            If the parameter "send status on change of status" is set to "enable," the parameter "value change since last sent (mA)" is also displayed.</p> <p><b>Availability:</b>            The communication object "send status on change of status" is only displayed if the respective parameter "Load Check measured value" is set to "enable."</p>	
"Value change since last sent (mA)"	30 [0...65535]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            If the parameter "send status on change of status" is set to "enable," this parameter is used to define the change in value since the last transmission of the value of the communication object "Load Check measured value" required to trigger a new transmission.</p> <p><b>Availability:</b>            The parameter "value change since last sent (mA)" is only displayed if the parameters "Load Check measured value" and "send status on change of status" are set to "enable."</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Send status cyclically	12:00:00 AM [00:00:00...18:12:15]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set the time interval at which the value of the communication object "Load Check measured value" is sent cyclically.</p> <p><b>Availability:</b>            The parameter "send status cyclically" is only displayed if the respective parameter "Load Check measured value" is set to "enable."</p>	



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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check monitoring	<b>No</b> Exceedance of load check limit value Shortfall of load check limit value Both
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to set whether and which threshold monitoring is used for the load check. The following settings are possible here:</p> <ul style="list-style-type: none"> <li>• <b>"No":</b> The load check is not monitored.</li> <li>• <b>"Exceedance of load check limit value"</b> The exceedance of the upper limit of the load check is monitored.</li> <li>• <b>"Shortfall of load check limit value"</b> The shortfall of the lower limit of the load check is monitored.</li> <li>• <b>"Both:"</b> The exceedance and shortfall of the load check are monitored.</li> </ul> <p><b>Other parameters:</b>            If the parameter "Load Check monitoring" is set to "exceedance of load check limit value" and/or "shortfall of load check limit value," additional parameters are displayed via which details on load check monitoring can be checked. In addition, parameters are displayed which can be used to set when the status of the exceedance of load check limit value or shortfall of load check limit value is sent.</p> <p><b>Communication object:</b>            If the parameter "Load Check monitoring" is set to "Exceedance of load check limit value," the communication object "Load Check - exceedance of load check limit value" is displayed.            If the parameter "Load Check monitoring" is set to "Shortfall of load check limit value," the communication object "Load Check - shortfall of load check limit value" is displayed.            If the parameter "Load Check monitoring" is set to "Both," the communication objects "Load Check - exceedance of load check limit value" and "Load Check - shortfall of load check limit value" are displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.7 Load check</li> <li>➔ 6.7.2 Load Check monitoring</li> <li>➔ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➔ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check normal value (mA)	150 [0...65535]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set the normal value of the load check.            The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.</p> <p><b>Availability:</b>            The parameter "Load Check normal value (mA)" is only displayed if the parameter "Load Check monitoring" is set to "exceedance of load check limit value," "shortfall of load check limit value" or "both."</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.2 Load Check monitoring</p>	
Dead time	00:00:01.0 [00:00:00.1...01:49:13.5]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set whether and after what time after closing the relay contact load check monitoring begins.</p> <p><b>Availability:</b>            The parameter "dead time" is only displayed if the parameter "Load Check monitoring" is set to "exceedance of load check limit value," "shortfall of load check limit value" or "both."</p> <p><b>More information:</b>            ➔ 6.7 Load check            ➔ 6.7.3 Threshold monitoring with dead time</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
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 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check offset above limit (mA)	15 [0...65535]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to define the difference between the load check normal value and the upper limit of the range allowed. If the value of the load check exceeds this limit, a communication object "Load Check - exceedance of load check limit value" is set to "On."            When learning a new normal value during operation, this difference is retained. Hence, the new normal value results in a new upper limit that is once again optimally adapted to the normal value.</p> <p><b>Availability:</b>            The parameter "Load Check offset above limit (mA)" is only displayed if the parameter "Load Check monitoring" is set to "exceedance of load check limit value" or "both."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>	
Load Check hysteresis above limit (%)	10 [0...100]
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter is used to define by what percentage the load check has to fall below the upper limit of the allowed range so that the communication object "Load Check - exceedance of load check limit value" is set to "Off" once again.</p> <p><b>Availability:</b>            The parameter "Load Check hysteresis above limit (%)" is only displayed if the parameter "Load Check monitoring" is set to "exceedance of load check limit value" or "both."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Send status on request</b>	<b>Disable</b> Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the status of the communication object "Load Check-Above limit" or "Load Check - Below limit" is sent on request or whether requests for the status value will be rejected. The request is triggered via the communication object "send status values."</p> <p><b>Note:</b> The parameter is available for limit exceedance and shortfall, so that settings for limit exceedance and shortfall can be made separately.</p> <p><b>Availability:</b> The parameter "Send status on request" is only displayed for exceedance of load check limit value, if the parameter "Load Check monitoring" is set to "exceedance of load check limit value" or "both." The parameter "Send status on request" is only displayed for shortfall of load check limit value if the parameter "Load Check monitoring" is set to "shortfall of load check limit value" or "both."</p>	
<b>Send status on change of status</b>	<b>Disable</b> Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the value of the communication object "Load Check-Above limit" or "Load Check-Below limit" is automatically sent after each status change.</p> <p><b>Note:</b> The parameter is available for limit exceedance and shortfall, so that settings for limit exceedance and shortfall can be made separately.</p> <p><b>Availability:</b> The parameter "Send status change of status" is only displayed for exceedance of load check limit value, if the parameter "Load Check monitoring" is set to "exceedance of load check limit value" or "both." The parameter "Send status on change of status" is only displayed for shortfall of load check limit value if the parameter "Load Check monitoring" is set to "shortfall of load check limit value" or "both."</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Send status cyclically</b>	<b>00:00:00</b> [00:00:00...18:12:15]
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set the time interval at which the value of the communication object "Load Check - Above limit" or "Load Check - Below limit" is sent cyclically. If this is set to "00:00:00," cyclic sending is deactivated.</p> <p><b>Note:</b> The parameter is available for limit exceedance and shortfall, so that settings for limit exceedance and shortfall can be made separately.</p> <p><b>Availability:</b> The parameter "change status cyclically" is only displayed for exceedance of load check limit value, if the parameter "Load Check monitoring" is set to "exceedance of load check limit value" or "both." The parameter "change status cyclically" is only displayed for shortfall of load check limit value if the parameter "Load Check monitoring" is set to "shortfall of load check limit value" or "both."</p>	
<b>Load Check offset below limit (mA)</b>	<b>15</b> [0...65535]
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter is used to define the difference between the load check normal value and the lower limit of the range allowed. If the value of the load check falls below this limit, a communication object "Load Check - shortfall of load check limit value" is set to "On." When learning a new normal value during operation, this difference is retained. Hence, the new normal value results in a new lower limit that is once again optimally adapted to the normal value.</p> <p><b>Note:</b> If too large a negative offset value has been configured and the limit is therefore in the negative range, the value "0" is used as the limit instead.</p> <p><b>Availability:</b> The parameter "Load Check hysteresis below limit (mA)" is only displayed if the parameter "Load Check monitoring" is set to "shortfall of load check limit value" or "both."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Load Check hysteresis below limit (%)	10 [0...100]
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter is used to define by what percentage the load check has to exceed the lower limit of the allowed range so that the communication object "Load Check - shortfall of load check limit value" is set to "Off" once again.</p> <p><b>Availability:</b> The parameter "Load Check hysteresis below limit (%)" is only displayed if the parameter "Load Check monitoring" is set to "shortfall of load check limit value" or "both."</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> <li>➤ 6.7.2 Load Check monitoring</li> <li>➤ 6.7.2.1 Diagram illustrating load check monitoring</li> <li>➤ 6.7.2.2 Example of exceedance of load check limit value and shortfall of load check limit value</li> </ul>	
Normal value recall	Disable Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> The parameter "Normal value recall" can be used to activate that the currently valid normal value can be queried and/or changed (via an additionally displayed communication object). This makes it possible, for example, to store the currently measured current value. The normal value corresponds to the setpoint for threshold monitoring. The defined distances (offset values) of the upper and lower limit refer to this value.</p> <p><b>Availability:</b> The parameter "Normal value recall" is only displayed if the parameter "Load Check monitoring" is set to "Exceedance of load check limit value," "shortfall of load check limit value" or "both."</p> <p><b>Other parameters:</b> If the parameter "Normal value recall" is set to "enable," additional parameters for sending the status of the normal value are displayed.</p> <p><b>Communication objects:</b> If the parameter "Normal value recall" is set to "enable," the communication objects "Load Check-Normal value store" and "Load Check-Normal value recall" are displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➤ 6.7 Load check</li> </ul>	

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Send status on request</b>	<b>Disable</b> Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the status of the communication object "Load Check-Normal value recall" is sent on request or whether requests for the status value will be rejected. The request is triggered via the communication object "send status values."</p> <p><b>Availability:</b> The communication object "send status on request" is only displayed if the parameter "Normal value recall" is set to "enable."</p>	
<b>Send status on change of status</b>	<b>Disable</b> Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the value of the communication object "Load Check-Normal value recall" is automatically sent after each value change. The value is changed by saving the current measured load check value via the communication object "Load Check-Normal value store."</p> <p><b>Note:</b> If the value has been changed via the communication object "Load Check-Normal value," but the new value has not been sent, this is a hint that the new normal value has not been accepted.</p> <p><b>Availability:</b> The communication object "send status on status change" is only displayed if the parameter "Normal value recall" is set to "enable."</p>	

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Send status cyclically	00:00:00 [00:00:00...18:12:15]
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set the time interval at which the value of the communication object "Load Check-Normal value recall" is sent cyclically. If this is set to "00:00:00," cyclic sending is deactivated.</p> <p><b>Availability:</b> The communication object "send status cyclically" is only displayed if the parameter "Normal value recall" is set to "enable."</p>	
Contact Failure	Disable Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> If the parameter "Contact Failure" is set to "enable," a communication object can be used to query whether there is a contact failure on the relay. There is a contact failure if a current is measured even though the relay contact should be open.</p> <p><b>Note:</b> After opening the relay contact, the flow of current must have fallen to "0" within a second so that no contact failure is reported. The dead time of one second is fixed and cannot be changed.</p> <p><b>Other parameters:</b> If the parameter "Contact Failure" is set to "enable," additional parameters for sending the status of the contact failure are displayed.</p> <p><b>Communication object:</b> If the parameter "Contact Failure" is set to "enable," the communication object "Load check contact failure" is also displayed.</p> <p><b>More information:</b></p> <ul style="list-style-type: none"> <li>➔ 6.7 Load check</li> <li>➔ 6.7.4 Contact Failure</li> </ul>	



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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>Send status on request</b>	Disable Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the status of the communication object "Load check contact failure" is sent upon request of whether requests for the status value will be rejected. The request is triggered via the communication object "send status values."</p> <p><b>Availability:</b> The communication object "send status on request" is only displayed if the parameter "Contact Failure" is set to "enable."</p>	
<b>Send status on change of status</b>	Disable Enable
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set whether the value of the communication object "Load Check - Contact Failure" is automatically sent after each value change.</p> <p><b>Availability:</b> The communication object "send status on change of status" is only displayed if the respective parameter "Contact Failure" is set to "enable."</p>	
<b>Send status cyclically</b>	00:00:00 [00:00:00...18:12:15]
<p><b>Information:</b> Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b> This parameter can be used to set the time interval at which the value of the communication object "Load Check - Contact Failure" is sent cyclically. If this is set to "00:00:00," cyclic sending is deactivated.</p> <p><b>Availability:</b> The communication object "send status cyclically" is only displayed if the respective parameter "Contact Failure" is set to "enable."</p>	

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- 07 B0 A12 Switching Actuator 12-fold 9A0303
- 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.8 Counting of switching cycles

The counting of switching cycles is used to monitor the connected load and thus helps improve the reliability of the connected devices. For example, if maintenance is due on a connected device after a certain number of switch on/off transactions, this number can be defined as a threshold value.

The counter is updated with each transition from "on" to "off." If flashing takes place before switching off (see also ↷ 6.10 *Warning before switching Off*), each switch cycle is counted during the flashing. If switching is still ongoing during bus voltage failure and a threshold exceedance occurs, this is transmitted when bus voltage is recovered.

The object "exceedance of threshold for switching cycles" is only sent with an object value change (one-off). So if a new threshold is received or the counter value is reset, the threshold exceedance is only sent if a change to the object for threshold monitoring occurs as a result. If the counter object has reached its maximum value (4 294 967 295), it remains at this value until it is reset.

The reset is executed by writing a value in the object "number of switching cycles (set value)."

In case of bus voltage failure, the values of all three objects of switching cycle counting are saved to enable their recovery when bus voltage is recovered. After a parameter download, the three objects are not reset.

The counting of switching cycles is active even if the parameter "counting of switching cycles" is set to "No." If activated, the valid count at that point in time in the "number of switching cycles" object is used.

### 6.8.1 Process diagram for the counting of switching cycles

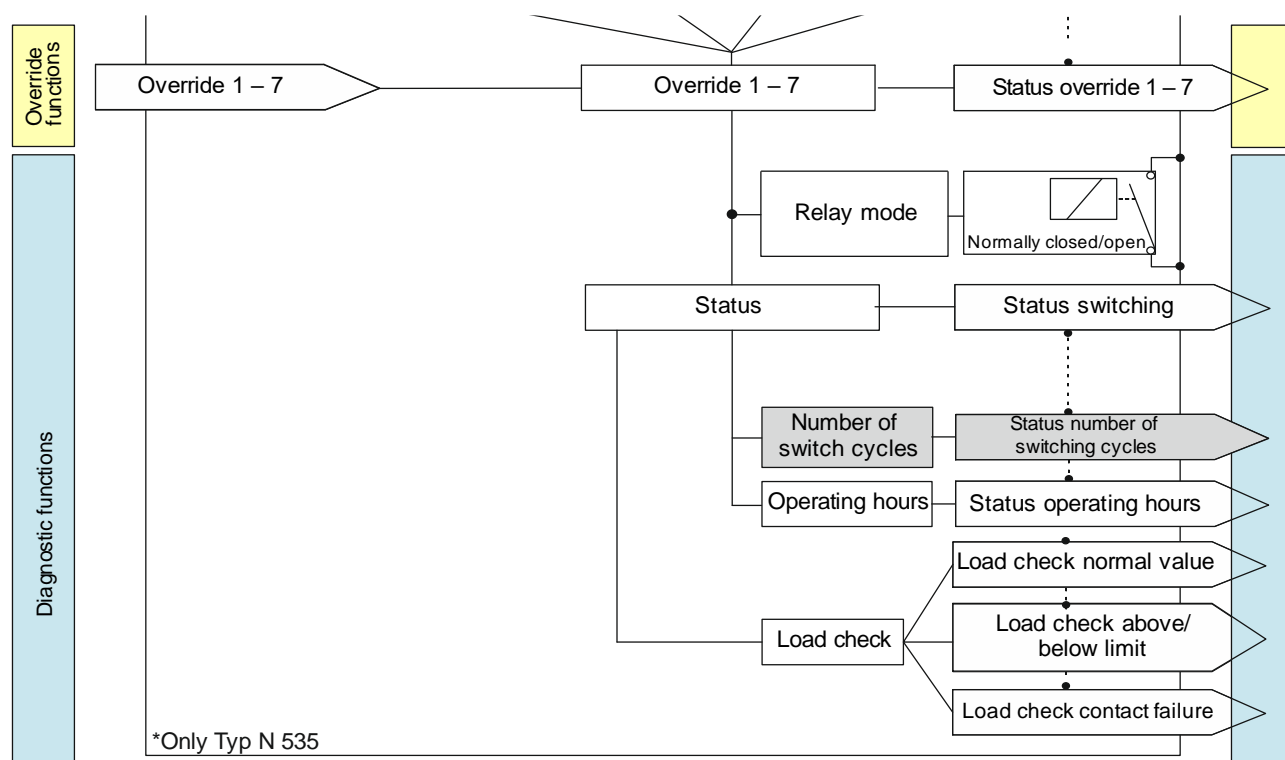


Fig. 26 Counting of switching cycles (overview)

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 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

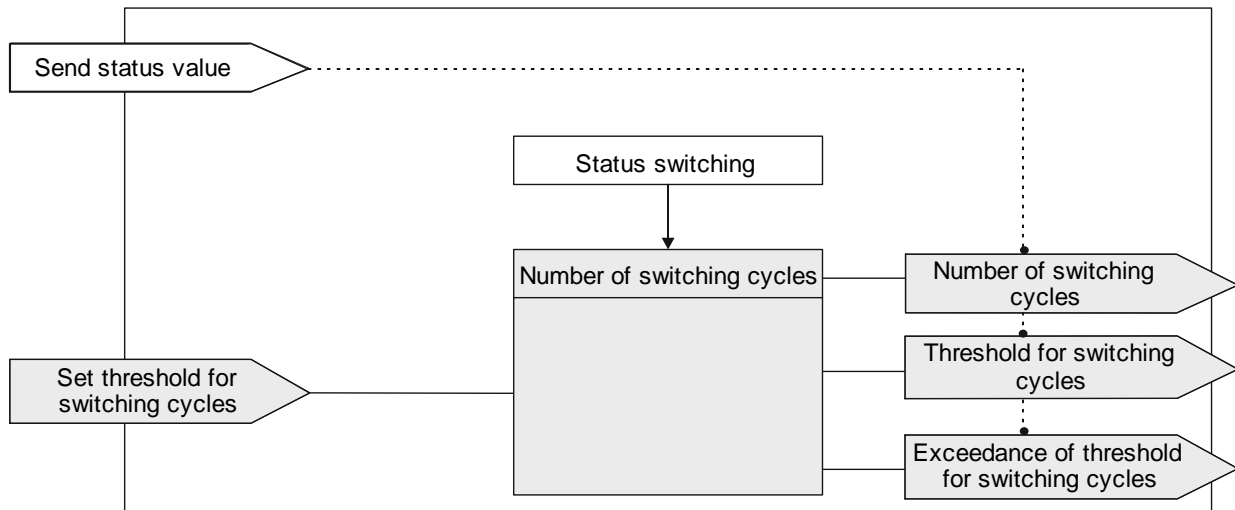


Fig. 27 Counting of switching cycles (details)

### 6.8.2 Communication objects for switching cycle counting

Obj	Object name	Function	Datapoint type	Flag
45	A Number of switching cycles	Value (switch cycles)	12.001 counting impulses (without prefix)	CRT

**Function:**  
 This communication object can be used to request the number of switch cycles of this channel via the bus at any time. The value is increased internally by 1 as soon as the channel has been switched off and back on again. Depending on the setting of the parameter "value change since last sent," the increased value is sent and can then also be retrieved via this communication object.  
 If the parameter "threshold monitoring" ("counting of switching cycles" parameter card) is set to "enabled," a telegram is sent to the bus if the threshold is exceeded.

**Availability:**  
 The communication object "number of switching cycles" is only displayed if the parameter "counting of switching cycles" is set to "enabled" ("functions, objects" parameter card).

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 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
46	A Number of switching cycles	Set value (switch cycle)	12.001 counting impulses (without prefix)	CW
<p><b>Function:</b>            This communication object can be used to set the value for switching cycle counting for the output to an integer value in the range from 0 to 4294967295 via the bus.            The counter can be reset by setting the value to "0."            The change of status is sent to the bus if the parameter "send status on change of status" is set to "enable," and the difference between the new and the old value is greater than the value specified in the parameter "value change since last sent (cycles)."</p> <p><b>Availability:</b>            The communication object "number of switching cycles" is only displayed if the parameter "counting of switching cycles" is set to "enabled" ("functions, objects" parameter card).</p>				
47	A Threshold for switching cycles	Set/request value (switch cycles)	12.001 counting impulses (without prefix)	CRW
<p><b>Function:</b>            This object can be used to read and set the threshold value for switching cycle counting for the output to an integer value in the range from 1 to 4 294 967 295 via the bus.</p> <p><b>Note:</b>            In doing so, the value set using ETS is overwritten. Depending on the setting of the "behavior after download" parameter, the value stored in the device or the value configured in ETS is used after the data has been downloaded from ETS to the device.</p> <p><b>Availability:</b>            The communication object "threshold for switching cycles" is only displayed if the parameter "counting of switching cycles" (on the functions, objects parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the counting of switching cycles parameter card) is set to "enabled."</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
48	A Exceedance of threshold for switching cycles	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for switching cycle counting or to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "switching cycle (set value)" the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for switching cycles" is only displayed if the parameter "counting of switching cycles" (on the functions, objects parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the counting of switching cycles parameter card) is set to "enabled."</p>				

### 6.8.3 Parameters for the counting of switching cycles on the "functions, objects" parameter card

Parameter	Settings
Counting of switching cycles	Disable Enable
<p><b>Function:</b>            This parameter is used to activate the counting of switching cycles for the respective output (i.e. how frequently an output was switched on and off). The counting of switching cycles is used to monitor the connected load.</p> <p><b>Other parameter cards:</b>            If the parameter "counting of switching cycles" is set to "enabled," the parameter card "counting of switching cycles" is displayed.</p> <p><b>Communication object:</b>            If the parameter "counting of switching cycles" is set to "enabled," the communication objects "number of switching cycles – value (in cycles)" and "number of switching cycles – set value (in cycles)" are displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.8.4 Parameters for the counting of switching cycles on the "counting of switching cycles" parameter card

Parameter	Settings
Send status on request	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the status of the communication object "number of switching cycles" is sent upon request or whether requests for the status value will be rejected.            The request is triggered via the communication object "send status values."</p>	
Send status on change of status	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the value of the communication object "number of switching cycles" is automatically sent after each value change. With the selection of "enabled," an additional parameter is displayed through which it can be defined how many switch cycles there have to have been since the last transmission for the value to be sent again.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "send status on change of status" is set to "enabled," the parameter "value change since last sent (cycles)" is also displayed.</p>	
"Value change since last sent (cycles)"	1 [0...4 294 967 295]
<p><b>Function:</b>            If the parameter "send status on change of status" is set to "enabled," this parameter is used to define the change in value since the last transmission of the value of the communication object "number of switching cycles" required to trigger a new transmission of the value.</p> <p><b>Note:</b>            The configurable value "0" is interpreted as "1."</p> <p><b>Availability:</b>            The parameter "value change since last sent (cycles)" is only displayed if the parameter "send status on change of status" is set to "enabled."</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Send status cyclically	00:00:00 [00:00:00...18:12:15]
<b>Function:</b> This parameter can be used to set the time interval at which the value of the communication object "number of switching cycles" is sent cyclically.	
Threshold monitoring	Disable Enable
<b>Function:</b> This parameter can be used to activate threshold monitoring of switch cycles.  <b>Other parameters:</b> If the parameter "threshold monitoring" is set to "enable," the parameter "threshold for switching cycles" and parameters for sending the status of the threshold are also displayed. ➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"  <b>Communication objects:</b> If the parameter "threshold monitoring" is set to "enabled," the communication objects "threshold for switching cycles" and "exceedance of threshold for switching cycles" are additionally displayed.	
Threshold for switching cycles	1000 [0...4 294 967 295]
<b>Function:</b> This parameter can be used to configure a threshold for the number of switching cycles. If the parameter "threshold monitoring" is set to "enabled," when the threshold is reached or exceeded, a telegram is sent to the bus via the communication object "exceedance of threshold for switching cycles."  <b>Availability:</b> The communication object "threshold for switching cycles" is only displayed if the parameter "threshold monitoring" is set to "enabled."	

- 07 B0 A4 Switching Actuator 4-fold 9A0103
- 07 B0 A4 Switching Actuator 4-fold 9A0803
- 07 B0 A8 Switching Actuator 8-fold 9A0203
- 07 B0 A8 Switching Actuator 8-fold 9A0903
- 07 B0 A12 Switching Actuator 12-fold 9A0303
- 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.9 Counting of operating hours

The counting of operating hours is used to monitor the connected load and thus helps improve the reliability of the connected devices. For example, if maintenance work is due to be performed on a connected device after a specific number of operating hours (“preventative maintenance”), this number can be defined as the limit.

The operating hours are recorded as long as the switch status of the channel is “on.” For switching actuators with load current detection (type N 535) you have the option to set that operating hours are only counted if the channel is switched on and there is a flow of current at the same time.

Only whole seconds are recorded. After 3600 counted seconds, the object value of the operating hours is raised by one.

The object “exceedance of threshold for operating hours” is only sent with an object value change (one-off). Hence, if a new threshold is received or the counter value is reset by writing to the object, then the threshold exceedance is only sent, if a change to the object for threshold monitoring occurs as a result. If the counter object has reached its maximum value (4 294 967 295), it remains at this value until it is reset.

In case of bus voltage failure, counting of operating hours cannot be continued.

In case of bus voltage failure, the values of all three objects for counting of operating hours are saved to enable their recovery when bus voltage is recovered. The values of the three objects are not reset by loading the configuration with the ETS.

The counting of operating hours is active even if the parameter “counting of operating hours” is set to “disable.”

### 6.9.1 Process diagram for counting of operating hours

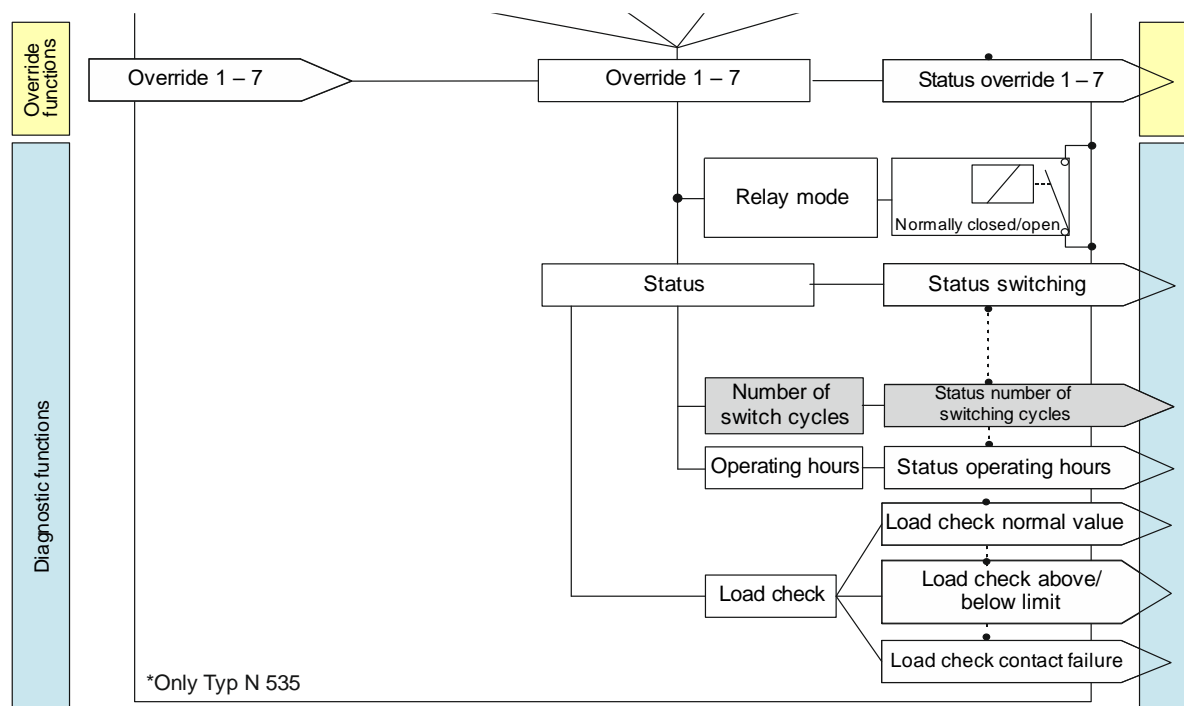


Fig. 28 Counting of operating hours (overview)



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

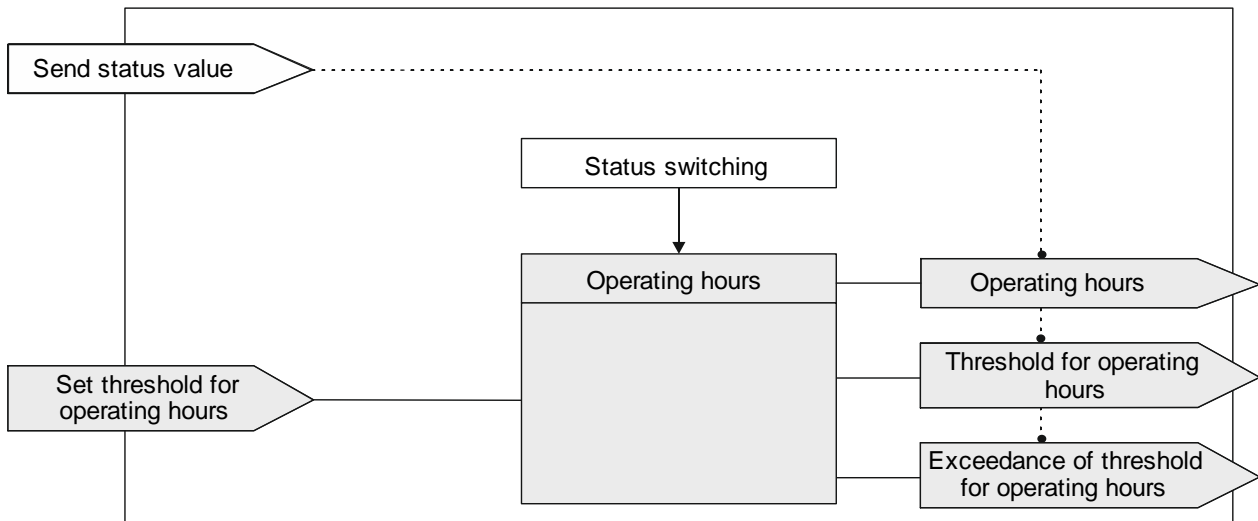


Fig. 29 Counting of operating hours (details)

### 6.9.2 Communication objects for counting of operating hours

Obj	Object name	Function	Datapoint type	Flag
49	A Operating hours	Value (in hours)	12.001 counting impulses (without prefix)	CRT
<p><b>Function:</b>                      This object can be used to query the current operating duration of the output via the bus in hours at any time. That is, it is possible to query how many hours the output was switched on, or, depending on the setting (only for switching actuators with load current detection, N 535), how many hours the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>                      The communication object "operating hours" is only displayed if the parameter "counting of operating hours" is set to "enabled" (on the "functions, objects" parameter card) and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "hours."</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
50	A Operating hours	Value (in seconds)	13.100 time difference (s)	CRT
<p><b>Function:</b>            This object can be used to query the current operating duration of the output via the bus in seconds at any time. That is, it is possible to query how many seconds the output was switched on, or, depending on the setting (only switching actuators with load current detection, type N 535), how many seconds the output was switched on and there was a flow of current.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "counting of operating hours in" (on the "operating hours" parameter card) is set to "seconds."</p>				
51	A Operating hours	Set value	12.001 counting impulses (without prefix)	CW
<p><b>Function:</b>            This object can be used to set the value for counting of operating hours for the output to an integer value in the range from 0 to 4294967295 via the bus.            This value is always set in hours, irrespective of the configured operating hours setting for the output in seconds or hours.</p> <p><b>Note:</b>            When a new value is set, the current value of the counting of operating hours is overwritten; that is, currently recorded minutes and seconds are deleted.</p> <p><b>Availability:</b>            The communication object "operating hours" is only displayed if the parameter "counting of operating hours" is set to "enabled" ("functions, objects" parameter card).</p>				
52	A Threshold for operating hours	Set/request value	12.001 counting impulses (without prefix)	CRW
<p><b>Function:</b>            This object can be used to send to the switching actuator and read the threshold value for counting of operating hours for the output to an integer value in the range from 1 to 4 294 967 295 via the bus.            The threshold is transmitted in whole hours.</p> <p><b>Availability:</b>            The communication object "threshold for operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the "operating hours" parameter card) is set to "enabled."</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Obj	Object name	Function	Datapoint type	Flag
53	A Exceedance of threshold for operating hours	On/Off	1.002 Boolean	CRT
<p><b>Function:</b>            This object is used to report the hitting or exceeding of the respective threshold value for counting of operating hours or to query via the bus whether the threshold value has been exceeded.</p> <p><b>Note:</b>            If after setting a value via the communication object "operating hours," the value falls below the threshold, the status of this communication object is set to "Off." If the parameter "send status on change of status" is set to "enabled," the change of status is sent to the bus.</p> <p><b>Availability:</b>            The communication object "exceedance of threshold for operating hours" is only displayed if the parameter "counting of operating hours" (on the "functions, objects" parameter card) is set to "enabled" and additionally the parameter "threshold monitoring" (on the "operating hours" parameter card) is set to "enabled."</p>				

### 6.9.3 Parameters for the counting of operating hours on the "functions, objects" parameter card

Parameter	Settings
Counting of operating hours	Disable Enable
<p><b>Function:</b>            The operating hours counter is used to record the operating hours of the channel, i.e. how many hours (or seconds) the channel has been on. With the corresponding setting (only for switching actuators with load current detection, type N 535), it can alternatively be recorded how long the channel is switched on while a current flow was present at the same time.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "counting of operating hours" is set to "enabled," the parameter card "operating hours" is displayed.</p> <p><b>Communication objects:</b>            If the parameter "counting of operating hours" is set to "enabled," the communication objects "counting of operating hours" and "counting of operating hours – set value" are displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

#### 6.9.4 Parameters for the counting of operating hours on the "operating hours" parameter card

Parameter	Settings
Counting of operating hours in	Hours Seconds
<p><b>Function:</b>            This parameter is used to set the counting of operating hours in hours or seconds. Internally, counting take place in seconds, irrespective of this setting.</p> <p><b>Communication objects:</b>            If the parameter "counting of operating hours in" is set to "seconds," the communication object "operating hours – value (in seconds)" is displayed instead of the communication object "operating hours – value (in hours)."</p>	
Send status on request	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the status of the communication object "counting of operating hours" is sent upon request of whether requests for the status value will be rejected.            The request is triggered via the communication object "send status values."</p>	
Send status on change of status	Disable Enable
<p><b>Function:</b>            This parameter can be used to set whether the value of the communication object "counting of operating hours" is automatically sent after each value change. With the selection of "enabled," an additional parameter is displayed through which it can be defined how much time has to have passed since the last transmission for the value to be sent again.</p> <p><b>Other parameters/parameter cards:</b>            If the parameter "send status on change of status" is set to "enabled," the parameter "value change since last sent (hours)" is also displayed. With counting of operating hours in seconds, the parameter "value change since last sent (seconds)" is displayed.</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
"Value change since last sent (hours)"	<b>1</b> [0...4 294 967 295]
"Value change since last sent (seconds)"	<b>3600</b> [0...4 294 967 295]
<p><b>Function:</b>            If the parameter "send status on change of status" is set to "enabled," this parameter is used to define the change in value since the last transmission of the value of the communication object "operating hours" required to trigger a new transmission of the value.</p> <p><b>Availability:</b>            The parameter "value change since last sent (hours)" is only displayed if the parameter "counting of operating hours in" is set to "hours" and the parameter "send status on change of status" is set to "enabled."            The parameter "value change since last sent (seconds)" is only displayed if the parameter "counting of operating hours in" is set to "seconds" and the parameter "send status on change of status" is set to "enabled."</p>	
<b>Send status cyclically</b>	<b>00:00:00</b> [00:00:00...18:12:15]
<p><b>Function:</b>            This parameter can be used to set the time interval at which the value of the communication object "operating hours" is sent cyclically.</p>	
<b>Measure if load current flow</b>	<b>Disable</b> Enable
<p><b>Information:</b>            Only for switching actuators with load current detection (type N 535)</p> <p><b>Function:</b>            This parameter can be used to set when the operating hours are to be counted on active load detection. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>"Enable":</b>              The operating hours are counted when the channel is switched on and current is flowing.</li> <li>• <b>"Disable":</b>              The operating hours are counted when the channel is switched on (irrespective of whether current is flowing).</li> </ul>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
Threshold monitoring	Disable Enable
<p><b>Function:</b>            This parameter can be used to active threshold monitoring of operating hours.</p> <p><b>Other parameters:</b>            If the parameter "threshold monitoring" is set to "enabled," the parameter "threshold for operating hours" and the parameters for sending the status of the threshold value are also displayed.</p> <p>➔ 6.6.3 Parameters that are visible if the parameter "status ..." is set to "enabled"</p> <p><b>Communication object:</b>            If the parameter "threshold monitoring" is set to "enabled," the communication objects "threshold for operating hours" and "exceedance of threshold for operating hours" are additionally displayed.</p>	
Threshold for operating hours	1000 [0...4 294 967 295]
<p><b>Function:</b>            This parameter can be used to configure a threshold value for the respective output.            If the parameter "threshold monitoring" is set to "enabled," when the threshold is reached or exceeded, a telegram is sent to the bus via the communication object "exceedance of threshold for operating hours."</p> <p><b>Note:</b>            The threshold is specified in whole hours, even if the parameter "counting of operating hours in" is set to "seconds."</p> <p><b>Availability:</b>            The communication object "threshold for operating hours" is only displayed if the parameter "threshold monitoring" is set to "enabled."</p>	

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 6.10 Warning before switching Off

### 6.10.1 Communication object for "warning before switching off"

No.	Object name	Function	Datapoint type	Flags
14	A Pre-warning expiration of timer period	On/Off	1.001 switching	CRT
<p><b>Operating modes:</b></p> <ul style="list-style-type: none"> <li>• Normal mode (if the parameter "night mode" is set to "enabled")</li> <li>• Timer mode</li> </ul> <p><b>Function:</b></p> <p>This communication object is used to signal the elapse of the timer period in timer mode or night mode. This can be used to switch on a warning lamp, for example.</p> <p>The communication object for "warning before switching Off" works for warning in night mode and also for timer mode in day mode.</p> <p><b>Availability:</b></p> <p>The communication object "pre-warning expiration of timer period" is only displayed if the parameter "warning before switching off" is set to "via communication object" or "via briefly switching on - off via communication object."</p>				

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 6.10.2 Parameters for warning before switching off on the parameter card "normal mode" or "timer mode"

On the parameter card "normal mode," the parameter "warning before switching off" is only displayed if the parameter "night mode" is set to "enable."

Parameter	Settings
Warning before switching Off	<b>No</b> Via briefly switching on - off Via communication object Via briefly switching on - off and via communication object
<p><b>Function:</b></p> <p>This parameter can be used to set whether, after the elapse of the ON time, the channel should immediately be switched off permanently or a warning should be issued before switching off. The following settings are possible:</p> <ul style="list-style-type: none"> <li>• <b>"No":</b> The output is immediately switched off without a warning.</li> </ul> <p>With the following parameter settings, the output is not permanently switched off immediately but an additional warning period is appended to the regular delay period. If the output for the lighting control is used, a user is pre-warned and has enough time to extend the ON time of the lighting or to turn it back on.</p> <ul style="list-style-type: none"> <li>• <b>"Via briefly switching on - off":</b> The output is switched off for the configurable warning signal period (default: 1 s) and then switched back on for a configurable period (difference: parameter "warning period" – parameter "warning signal period"). If the output is switched back on within the warning period, e.g. via the object "switching," the timer re-starts. Otherwise the output switches off. <b>Note: The warning signal period must be greater than the warning period as otherwise no warning is issued!</b></li> <li>• <b>"Via communication object":</b> This object is used to display the communication object "pre-warning expiration of timer period" via which a pre-warning, e.g. to switch on a warning lamp, can be sent to the bus. The elapse of the ON time of the timer is signaled via the communication object. At the same time a warning period begins whose duration is defined by the parameter "warning period." The object value for the warning period is "1." If within the warning period the output is switched back on e.g. via the object "switching," the timer begins again. Otherwise the output switches off. <b>Note: The warning signal period must be greater than the warning period as otherwise no warning is issued!</b></li> <li>• <b>"Via briefly switching on - off and via communication object:"</b> This option combines the options "via briefly switching on - off" and "via communication object."</li> </ul> <p><b>Other parameters/parameter cards:</b></p> <p>Depending on the selected option, the following parameters "warning period" and "warning signal period" are also displayed.</p> <p><b>Communication object:</b></p> <p>If the parameter "warning before switching off" is set to the option "via communication object, "via briefly switching on - off and via communication object," the communication object "pre-warning expiration of timer period" is displayed.</p>	



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Parameter	Settings
<b>More information:</b> ➤ 7.2 Switching behavior if the timer and night mode are activated ➤ 7.2.4 Behavior in timer mode with setting "warning before switching off" = "short switch off/on" and "retriggering possible" = "1."	
<b>Warning period</b>	<b>12:00:30 AM</b> [12:00:01 AM...18:12:15]
<b>Function:</b> This parameter is used to set the warning period during which the output remains switched of after elapse of timer mode. <b>More information:</b> ➤ 7.2 Switching behavior if the timer and night mode are activated	
<b>Warning signal period</b>	<b>12:00:01 AM</b> [00:00:00...18:12:15]
<b>Function:</b> This parameter is used to set that after elapse of the ON time, the output is not immediately switched off permanently but rather initially just for the warning signal period (default: 1 second) and then switched back on for a configurable period (difference: parameter "warning period" – parameter "warning signal period"). After the elapse of this warning period, the output is permanently switched off. If the output for the lighting control is used, a user is pre-warned and has enough time to extend the ON time of the lighting or to turn it back on. <b>Note:</b> The warning signal period must be greater than the warning period as otherwise no warning is issued! <b>More information:</b> ➤ 7.2 Switching behavior if the timer and night mode are activated	

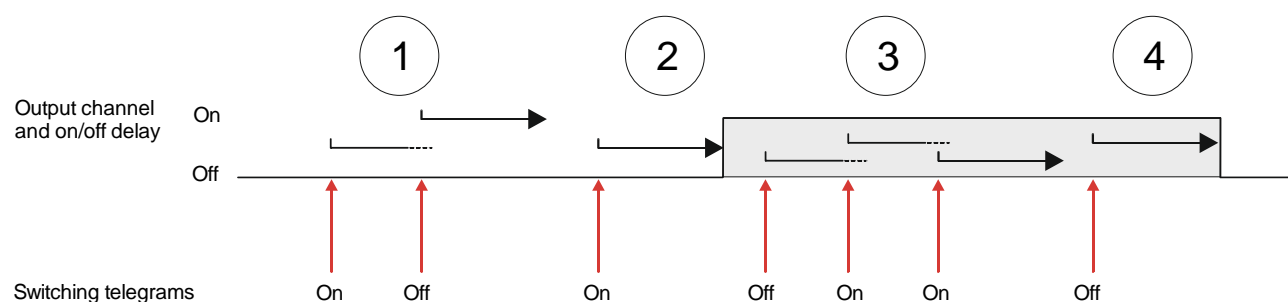
07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 7 Graphic representation of output behavior of a channel with different parameter configurations

### 7.1 Switching behavior when a delay has been configured for switching on and off

The following graphic shows the behavior of the switching actuator if a delay has been configured for switching on and off. The following parameters are used for this:

- ON delay
- OFF delay



Switching behavior when a delay has been configured for switching on and off

- (1) The ON delay starts after receiving the "On" switching telegram. If the switching telegram "Off" is received before the end of the ON delay, the switch on operation terminates and the OFF delay starts. The channel remains switched off.
- (2) If no switch off telegram is received before the end of the ON delay, the channel is switched on.
- (3) The OFF delay starts after receiving the "Off" switching telegram. If the switching telegram "On" is received before the end of the OFF delay, the switch on operation terminates and the ON delay starts. The channel remains switched on. If another switch on telegram is received, the switch on delay starts. However, since the channel is already switched on, this has no effect.
- (4) If no switch on telegram is received before the end of the OFF delay, the channel is switched off.

#### Note on scene commands:

The ON and OFF delays do not apply to the switching on/off by means of scene telegrams. Current ON/OFF delays are deleted by triggered scene values and the scene values are configured according to their parameters.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

## 7.2 Switching behavior if the timer and night mode are activated

### 7.2.1 Behavior in timer mode with the setting "retriggering possible" = "0"

The following graphic shows the behavior of the switching actuator if the timer function is configured without the option of retriggering.

The following parameters are used for this:

- Operating mode (setting: timer mode)
- ON time 1 in day mode
- Retriggering possible (setting: 0)

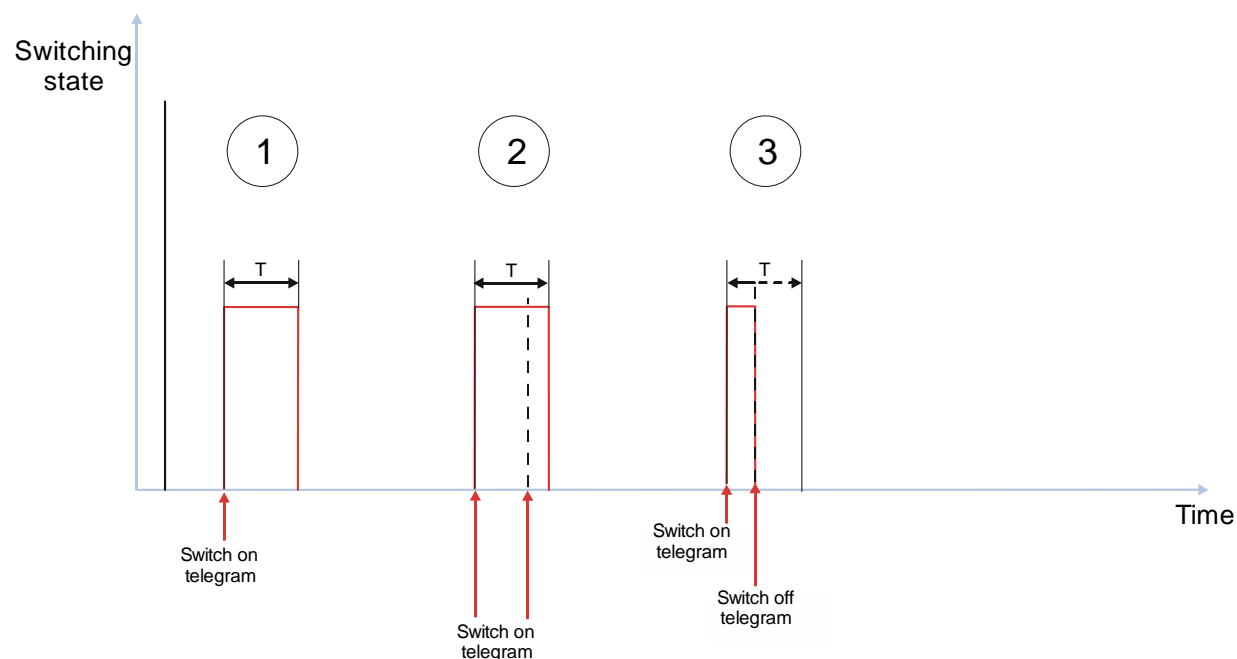


Fig. 30 Behavior in timer mode with the setting "retriggering = 0"

- (1) The timer is started after receiving the switch on telegram and the time counter (delay time) (T) starts.  
At the end of the time configured in the timer, the channel is switched off.
- (2) The timer is started after receiving the switch on telegram and the time counter (delay time) (T) starts. Switch on telegrams received during the delay time are ignored.  
At the end of the time configured in the timer, the channel is switched off.
- (3) The timer is started by the switch on telegram and time counting (delay time) (T) starts.  
During the delay time, a switch off telegram is received. Following that, the channel is switched off prematurely.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 7.2.2 Behavior in timer mode with the setting “retriggering possible” = “1”

The following graphic shows the behavior of the switching actuator if the timer function is configured with the option of retriggering.

The following parameters are used for this:

- Operating mode (setting: timer mode)
- ON time 1 in day mode
- Retriggering possible (setting: 1)

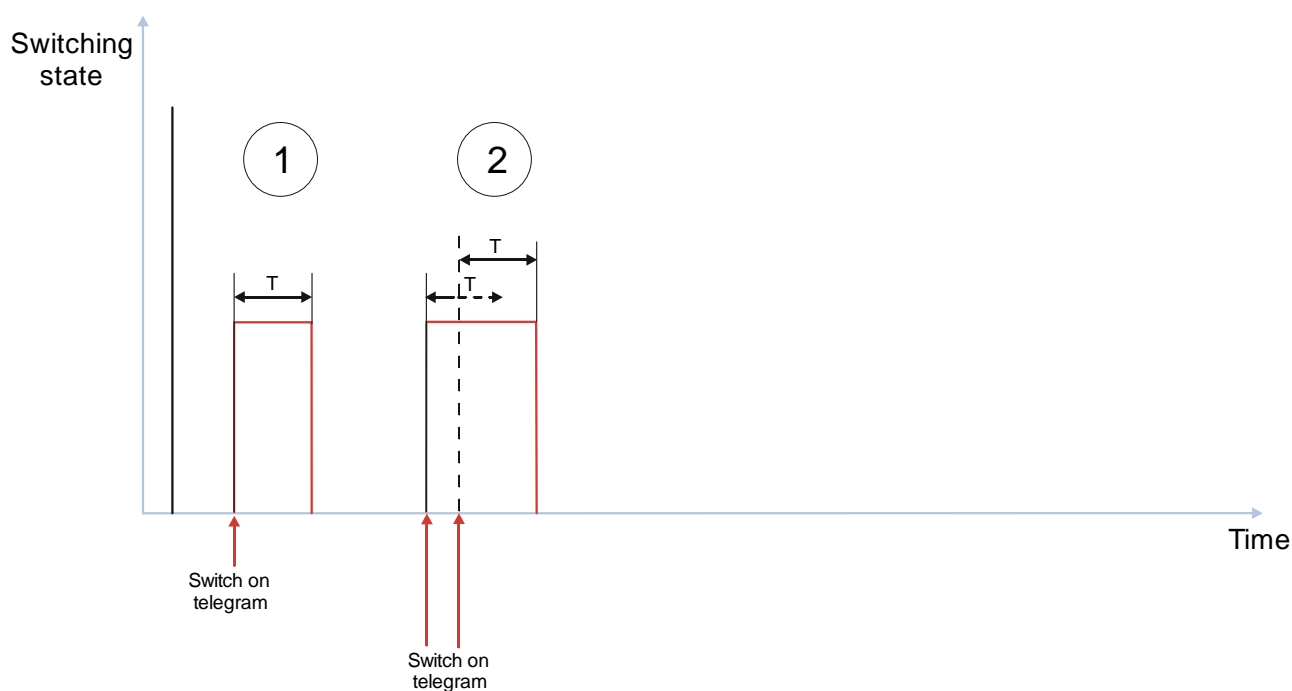


Fig. 31 Behavior in timer mode with the setting “retriggering = 1”

- (1) The timer is started by the switch on telegram and time counting (delay time) (T) starts.  
At the end of the time configured in the timer, the channel is switched off.
- (2) The timer is started by the switch on telegram and time counting (delay time) (T) starts.  
During the delay time, a switch on telegram is received. This has the effect that the residual delay time is discarded. The timer is restarted with the configured delay time.  
Even in case of switching on several times, only the delay time of the last received switching telegram applies.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 7.2.3 Behavior in timer mode with the setting "retriggering possible" = "2"

The following graphic shows the behavior of the switching actuator if the timer function is configured with the option of retriggering multiple times.

Setting the parameter "retriggering possible" to parameters "3", "4" or "5" results in a response analogous to the principle for setting to "2", which is described here.

The following parameters are used:

- Operating mode (setting: timer mode)
- ON time 1 in day mode
- Retriggering possible (setting: 2)

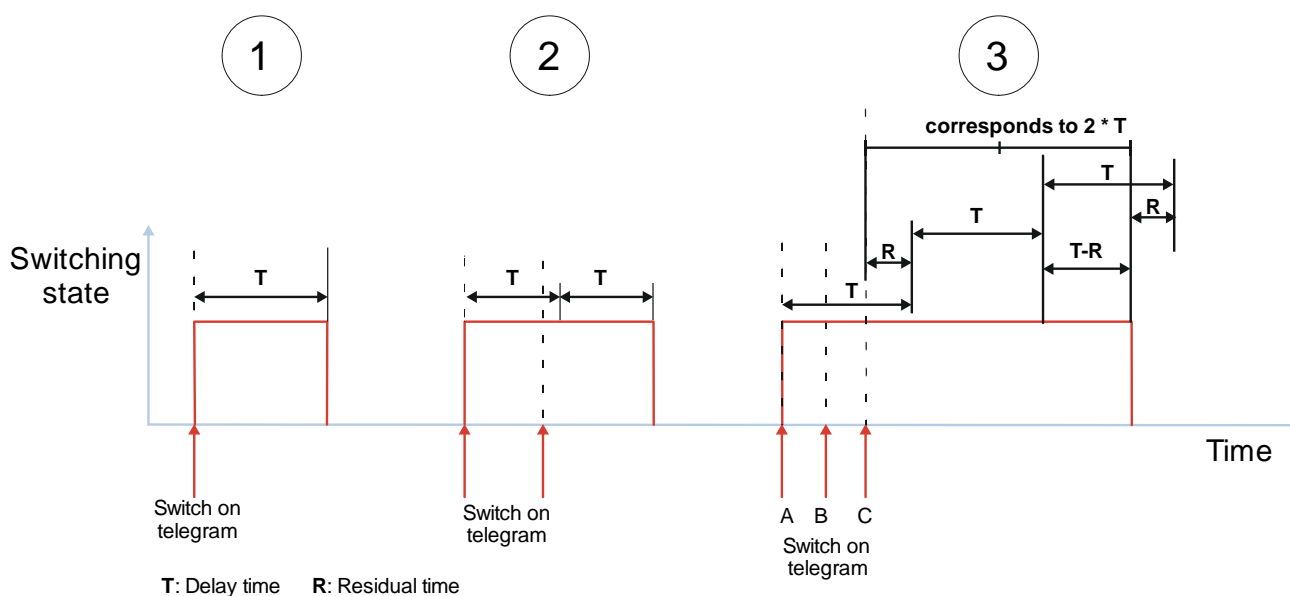


Fig. 32 Behavior in timer mode with the setting "retriggering possible" = "2"

- (1) The timer is started by the switch on telegram and time counting (delay time) ( $T$ ) starts.  
At the end of the time configured in the timer, the channel is switched off.
- (2) The timer is started by the switch on telegram and time counting (delay time) ( $T$ ) starts.  
During the delay time, another switch on telegram is received. Since the parameter "retriggering possible" has been configured with "2", the delay time of the newly received switch on telegram is appended to the first delay time, i.e. the delay time is extended.
- (3) The timer is started by the switch on telegram (A) and the time counter (delay time) ( $T$ ) starts.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

During the delay time, a second switch on telegram (B) is received. Since the parameter "retriggering possible" has been configured with "2", the delay time of the newly received switch on telegram is appended to the first delay time, i.e. the delay time is extended.

Before the end of the first delay time, a third switch on telegram (C) is received. Since the parameter "retriggering possible" has been configured as "2" and there is still a residual time (R) from the first delay time, any further appending of the delay time would exceed the permissible total delay time ( $2 * T$ ). Hence, not the entire delay time is appended in this case. Instead, the residual time of the first delay time is deducted from the third delay time; i.e. the total delay time is  $R + T + T - R = 2 * T$ .

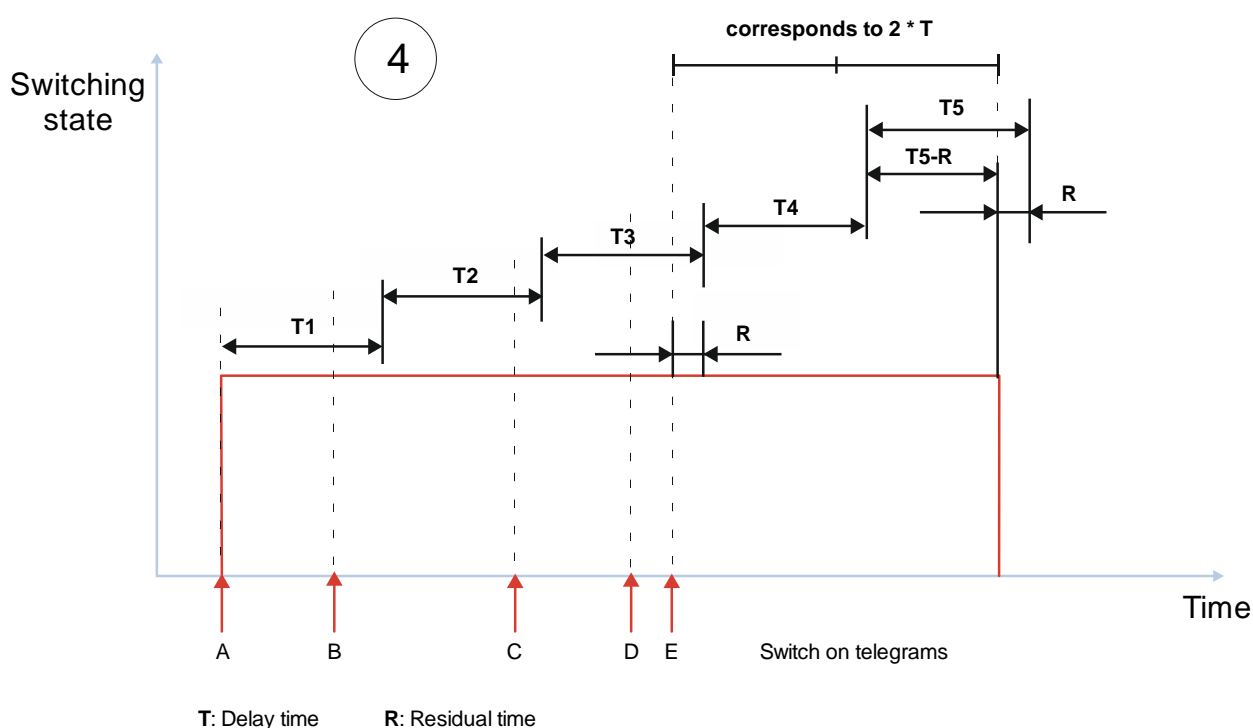


Fig. 33 Behavior in timer mode with the setting "retriggering possible" = "2"

- (4) The timer is started by the switch on telegram (A) and the time counter (delay time) ( $T_1$ ) starts.

During the delay time ( $T_1$ ), a second switch on telegram (B) is received. Since the parameter "retriggering possible" has been configured with "2", the delay time ( $T_2$ ) of the newly received switch on telegram is appended to the first delay time, i.e. the delay time is extended.

During the delay time ( $T_2$ ), a third switch on telegram (C) is received. Since the parameter "retriggering possible" has been configured with "2" and the first delay time ( $T_1$ ) has already expired, the delay time ( $T_3$ ) of the newly received switch on telegram is appended to the second delay time, i.e. the delay time is extended.

During the delay time ( $T_3$ ), a fourth switch on telegram (D) is received. Since the parameter "retriggering possible" has been configured with "2" and the first two delay times ( $T_1$  and  $T_2$ ) have already expired, the delay time ( $T_4$ ) of the newly received switch on telegram is appended to the third delay time, i.e. the delay time is extended.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Before the end of the third delay time ( $T_3$ ), a fifth switch on telegram (E) is received. Since the parameter "retriggering possible" has been configured as "2" and there is still a residual time (R) from the third delay time, any further appending of the delay time would exceed the permissible total delay time ( $2 \cdot T$ ). Hence, not the entire delay time is appended in this case. Instead, the residual time of the third delay time (R) is deducted from the fifth delay time; i.e. the total delay time from the time of the fifth switch on telegram (E) is  $R + T + T - R = 2 \cdot T$ .

### 7.2.4 Behavior in timer mode with setting "warning before switching off" = "short switch off/on" and "retriggering possible" = "1."

The following graphic shows the behavior of the switching actuator if the timer function is configured with a warning before switching off with the option of retriggering.

The following parameters are used:

- Operating mode (setting: timer mode)
- Switch on at value (setting: switch on value according to parameter)
- Warning before switching off (setting: via briefly switching on - off)
- Warning period
- Warning signal period
- ON time 1 in day mode
- Retriggering possible (setting: 1)

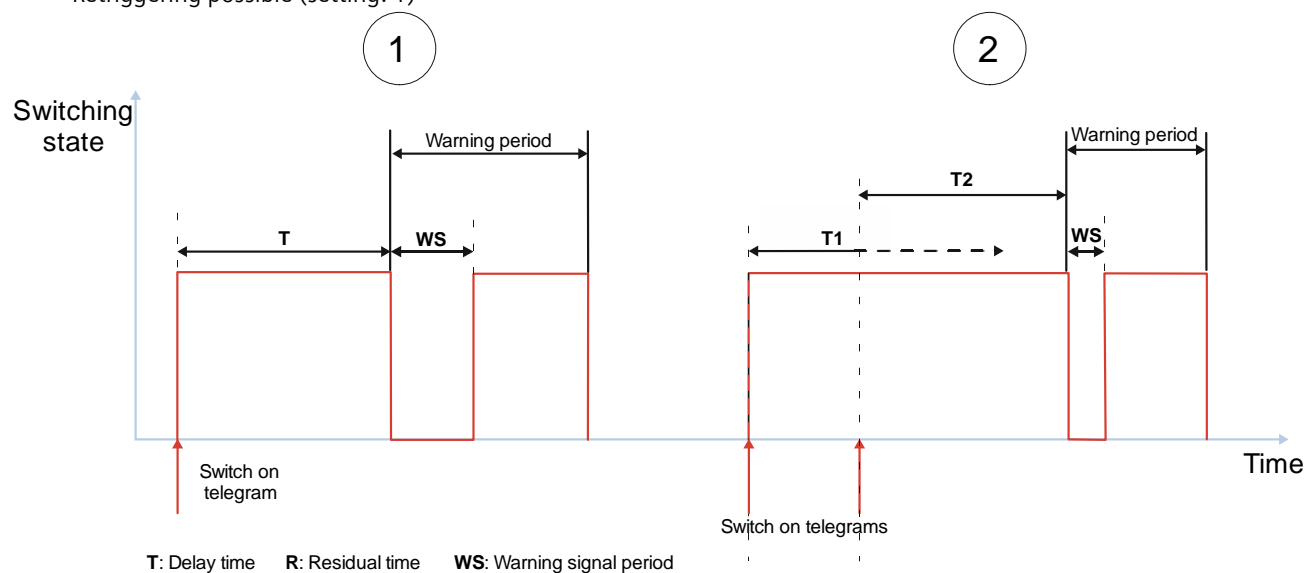


Fig. 34 Behavior in timer mode with setting "warning before switching off" = "short switch off/on" and "retriggering possible" = "1."

- (1) After receiving the switch on telegram, the timer is started and time counting (delay time) ( $T$ ) starts. The channel is switched on.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

The warning period starts at the end of the delay time (T). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

- (2) After receiving the switch on telegram, the timer is started and time counting (delay time) (T) starts. The channel is switched on.

During the delay time (T1), a second switch on telegram is received. Following that, the residual delay time of T1 is discarded and the delay time is re-started (T2).

The warning period starts at the end of the delay time (T2). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

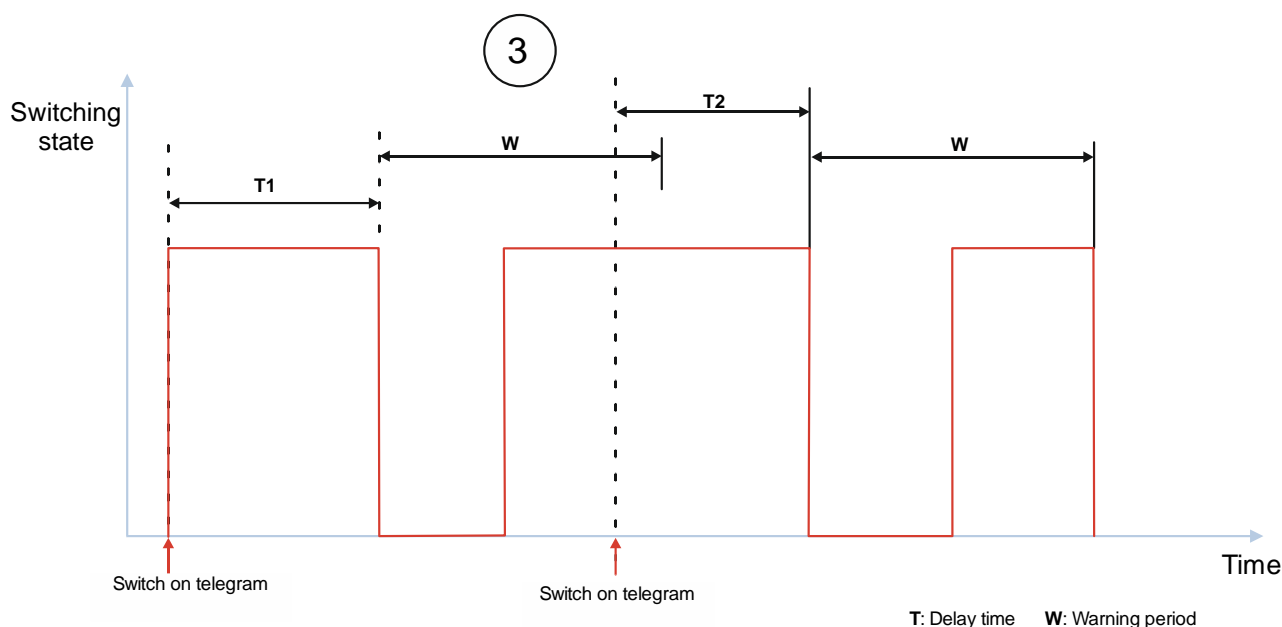


Fig. 35 Behavior in timer mode with setting “warning before switching off” = “short switch off/on” and “retriggering possible” = “1.”

- (3) After receiving the switch on telegram, the timer is started and time counting (delay time) (T1) starts. The channel is switched on.

The warning period starts at the end of the delay time (T1). At the start of the warning period, the channel is briefly switched off and then on again.

During the warning period, a second switch on telegram is received. Following that, the residual warning period is discarded and the delay time is restarted (T2).

The warning period starts at the end of the delay time (T2). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

#### Example:

Staircase timer:



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

Somebody enters the staircase, switches on the light by pressing the button, the timer runs.

The timer expires. To ensure people do not have to climb the stairs in the dark, a short interruption of the light indicates that the light will soon be switched off completely.

Pressing the button in the staircase again restarts the timer, giving the persons enough time to reach the next floors.

### 7.2.5 Behavior on activation and deactivation of night mode in normal mode

The following graphic shows the behavior of the switching actuator on activation and deactivation of night mode in normal mode.

The following parameters are used:

- Operating mode (setting: normal mode)
- Night mode (setting: enabled)
- ON time during night mode
- Retriggering possible (setting: 1)

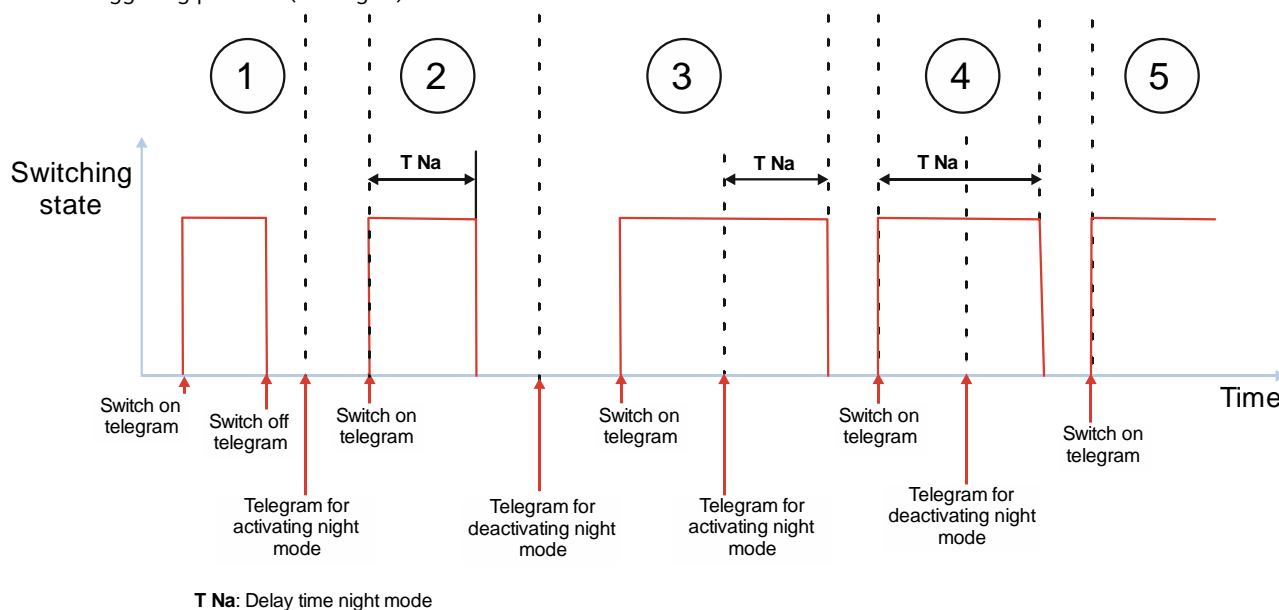


Fig. 36 Behavior on activation and deactivation of night mode in normal mode

- (1) After receiving the switch on telegram, the channel is switched on.  
 After receiving the switch off telegram, the channel is switched off.  
 Once the channel has been switched off, night mode is activated. No reaction happens.
- (2) After receiving the switch on telegram, the channel is switched on, the timer for night mode is started and time counting for night mode delay time ( $T_{Na}$ ) starts.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

At the end of the time configured in night mode, the channel is switched off.

Once the channel has been switched off, night mode is deactivated. No reaction happens.

- (3) After receiving the switch on telegram, the channel is switched on. Since night mode is deactivated, there is no time limit.

Night mode is activated during regular operation. Following this, the delay time for night mode (T Na) commences.

At the end of the time configured in night mode, the channel is switched off. Night mode remains activated.

- (4) After receiving the switch on telegram, the timer for night mode is started and time counting for night mode delay time (T Na) starts.

During the delay time, night mode is deactivated. The delay time continues as normal and is not stopped. At the end of the delay time, the channel is switched off. Night mode remains deactivated.

- (5) After receiving the switch on telegram, the channel is switched on.

Since night mode has been deactivated, no automatic switching off takes place.

### 7.2.6 Behavior on activation and deactivation of night mode in timer mode

The following graphic shows the behavior of the switching actuator on activation and deactivation of night mode in timer mode with a warning prior to switching off in both cases.

The following parameters are used:

- Operating mode (setting: timer mode)
- ON time 1 in day mode
- Retriggering possible (day mode) (setting: 3)
- Warning before switching off (day mode) (setting: via briefly switching on - off)
- Warning period (day mode)
- Night mode (setting: enabled)
- ON time during night mode
- Retriggering possible (night mode) (setting: 2)
- Warning before switching off (night mode) (setting: via briefly switching on - off)
- Warning period (night mode)
- Warning signal period (night mode)

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

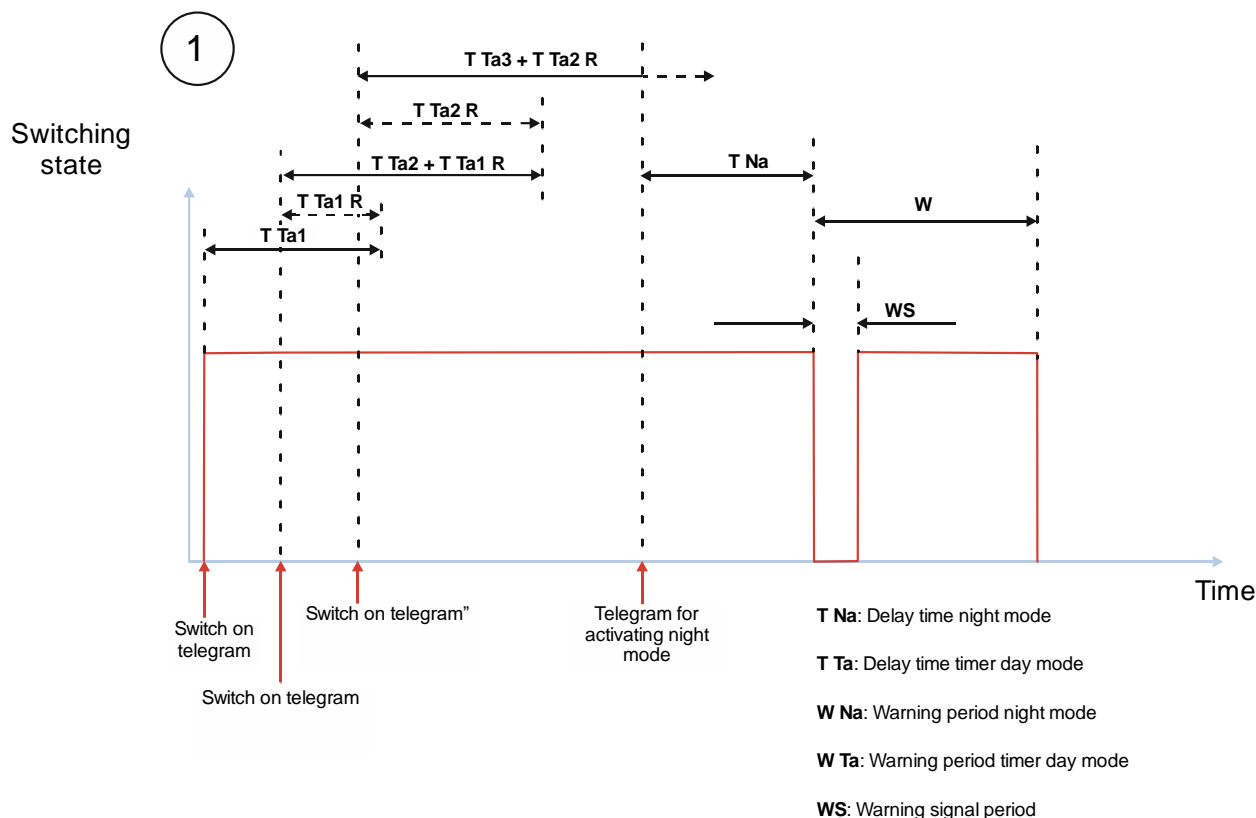


Fig. 37 Behavior on activation and deactivation of night mode in timer mode

(1) Night mode is deactivated.

After receiving the switch on telegram, the timer (day) is started and time counting (delay time) ( $T_{Ta1}$ ) starts. The channel is switched on.

During the delay time ( $T_{Ta1}$ ), a switch on telegram is received. Since retriggering is possible, the new delay time ( $T_{Ta2}$ ) is added to the remaining time of the first delay time ( $T_{Ta1}$ ). That is, the delay time is extended.

During the delay time, another switch on telegram is received. Since retriggering is possible, the new delay time ( $T_{Ta3}$ ) is added to the remaining time of the current delay time ( $T_{Ta2}$ ). That is, the delay time is extended again.

During the delay time, a telegram for activating night mode is received. Following this, the delay time for night mode ( $T_{Na}$ ) commences. The current delay time of the timer for day mode is discarded.

The warning period starts ( $W$ ) at the end of the night mode delay time ( $T_{Na}$ ). At the start of the warning period, the channel is briefly switched off and then on again (warning signal period) (night mode).

At the end of the warning period, the channel is switched off. Night mode remains activated.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 7.2.7 Behavior on configured ON delay in normal mode and night mode

The following graphic shows the behavior of the switching actuator if an ON delay has been configured in normal mode and night mode.

The following parameters are used:

- Operating mode (setting: normal mode)
- ON delay (normal mode) (setting: > 00:00:00)
- OFF delay (normal mode) (setting: 00:00:00)
- Night mode (setting: enabled)
- ON time during night mode
- Warning before switching Off (night mode) (setting: No)

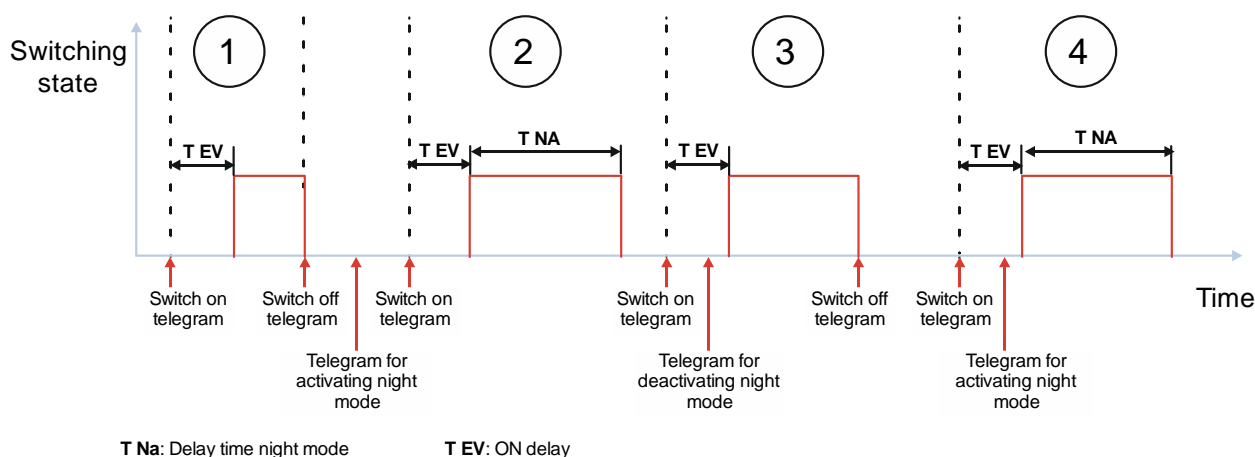


Fig. 38 Behavior on configured ON delay in normal mode and night mode.

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

- (1) After receiving the switch on telegram, the ON delay starts with the configured time. At the end of the ON delay, the channel is switched on.  
After receiving the switch off telegram, the channel is switched off.
- (2) Night mode is activated. This does not lead to any switch reaction.  
After receiving the switch on telegram, the ON delay starts with the configured time. At the end of the ON delay, the channel is switched on. Since night mode is active, the delay time of night mode (T<sub>Na</sub>) starts.  
At the end of the delay time, the channel is switched off. Night mode remains activated.
- (3) After receiving the switch on telegram, the ON delay starts with the configured time.  
During the ON delay, night mode is deactivated.  
At the end of the ON delay, the channel is switched on. Since night mode is already deactivated at this point in time, no delay time starts and the channel is not automatically switched off.  
After receiving the switch off telegram, the channel is switched off.
- (4) After receiving the switch on telegram, the ON delay starts with the configured time.  
During the ON delay, night mode is activated.  
At the end of the ON delay, the channel is switched on. Since night mode is active, the delay time of night mode (T<sub>Na</sub>) starts.  
At the end of the delay time, the channel is switched off. Night mode remains activated.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 7.3 Switching behavior in case of activated overrides

#### 7.3.1 Behavior of the channel's overrides when "switching on/off" (e.g. with override "manual ON")

The following graphic shows the behavior of the switching actuator during switch on/off when the "manual ON" override is configured.

The following parameter is used:

- Behavior on override deactivation (setting: updated value)

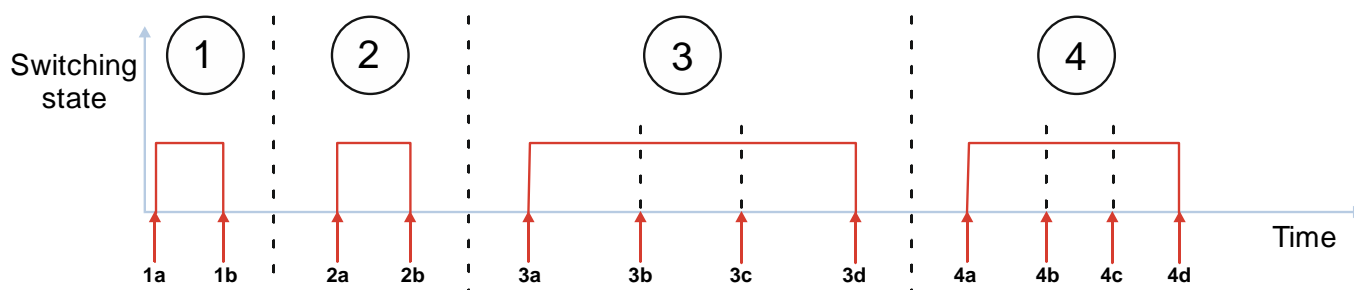


Fig. 39 Behavior of the channel's overrides when "switching on/off" (e.g. with override "manual ON")

- |  |  |
|--|--|
| 1a: Switch on telegram                 | 3c: Telegram for deactivating override |
| 1b: Switch off telegram                | 3d: Switch off telegram                |
| 2a: Telegram for activating override   | 4a: Switch on telegram                 |
| 2b: Telegram for deactivating override | 4b: Telegram for activating override   |
| 3a: Switch on telegram                 | 4c: Switch off telegram                |
| 3b: Telegram for activating override   | 4d: Telegram for deactivating override |

- (1) After receiving the switch on telegram, the channel is switched on.  
After receiving the switch off telegram, the channel is switched off.
- (2) After the receipt of the telegram for activation of the override, the channel is switched on.  
After the receipt of the telegram for deactivation of the override, the channel is switched off because the last received telegram was a switch off telegram.
- (3) After receiving the switch on telegram, the channel is switched on.  
During operation, a telegram for activating the override is received.  
After the receipt of the telegram for deactivation of the override, the channel remains switched on.  
After receiving the switch off telegram, the channel is switched off.

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

(4) After receiving the switch on telegram, the channel is switched on.

Receipt of the telegram for activating the override does not affect the switching state since the channel has already been switched on.

The receipt of the switch off telegram has no effect because the override is active.

After the receipt of the telegram for deactivation of the override, the channel is switched off.

### 7.3.2 Behavior of the switching actuator in timer mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override

The following graphic shows the behavior of the switching actuator in timer mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.

The following parameters are used:

- Operating mode (setting: timer mode)
- Override (setting: forced control)
- Retriggering possible (day mode) (setting: 1)
- Warning before switching off (day mode) (setting: via briefly switching on - off)
- Behavior on override deactivation (setting: no change)
- Restart timer on deactivation of override (setting: enabled)

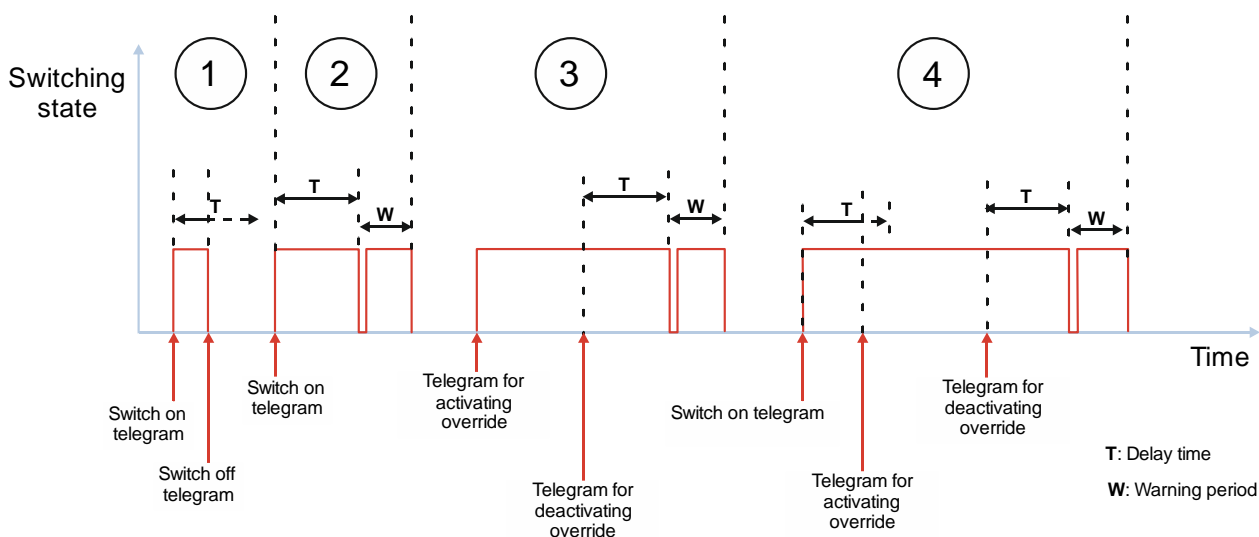


Fig. 40 Behavior of the switching actuator in timer mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

- (1) After receiving the switch on telegram, the channel is switched on, the timer (day) is started and time counting (delay time) (T) starts.

After receiving the switch off telegram, the channel is switched off. The residual delay time of the timer is discarded.

- (2) After receiving the switch on telegram, the channel is switched on, the timer is started and time counting (delay time) (T) starts.

The warning period (W) starts at the end of the delay time (T). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

- (3) After the receipt of the telegram for activation of the override (forced "ON"), the channel is switched on.

After receiving the telegram for deactivating the override, the inbox of the override no longer has a switch on telegram; hence the timer for day mode is started and time counting (delay time) (T) commences.

The warning period (W) starts at the end of the delay time (T). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

- (4) After receiving the switch on telegram, the channel is switched on, the timer (day) is started and time counting (delay time) (T) starts.

During the delay time, a telegram for activating the override is received (forced "ON"). The delay time continues in the background. Since the override is active at the end of the delay time, no warning period is started and the channel remains switched on.

After receiving the telegram for deactivating the override, the inbox of the override no longer has a switch on telegram; hence the timer for day mode is started and time counting (delay time) (T) commences.

The warning period (W) starts at the end of the delay time (T). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

#### Example 1:

The regular timer is used for lighting in rooms that are used infrequently or in hallways. Lighting is set to manual when required. The warning function provides the option to switch the light back on before the timer expires and the light is turned off to avoid being left in the dark.

#### Example 2:

In case of an alarm (e.g. smoke alarm), all people must leave the building, hence the override function is activated for all light channels in the entire building.

When the all-clear is given, people can return to the building. If the alarm is deactivated in the process, this would result in all persons in hallways or corresponding spaces being suddenly left in the dark. When the alarm is deactivated, the timer is automatically triggered once again for the affected channel. This ensures that people are not left in the dark once the alarm is deactivated. At the end of the automatic timer, the warning function is activated again to inform people in the affected areas that they have to manually extend the time.



07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

### 7.3.3 Behavior of the switching actuator in timer mode with night mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.

The following graphic shows the behavior of the switching actuator in timer mode with night mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.

The following parameters are used:

- Operating mode (setting: timer mode)
- Override (setting: forced control)
- ON time 1 in day mode
- Retriggering possible (day mode) (setting: 1)
- Warning before switching off (day mode) (setting: via briefly switching on - off)
- Warning period (day mode)
- Night mode (setting: enabled)
- ON time during night mode
- Retriggering possible (night mode) (setting: 1)
- Warning before switching off (night mode) (setting: via briefly switching on - off)
- Warning period (night mode)
- Behavior on override deactivation (setting: no change)
- Restart timer on deactivation of override (setting: enabled)

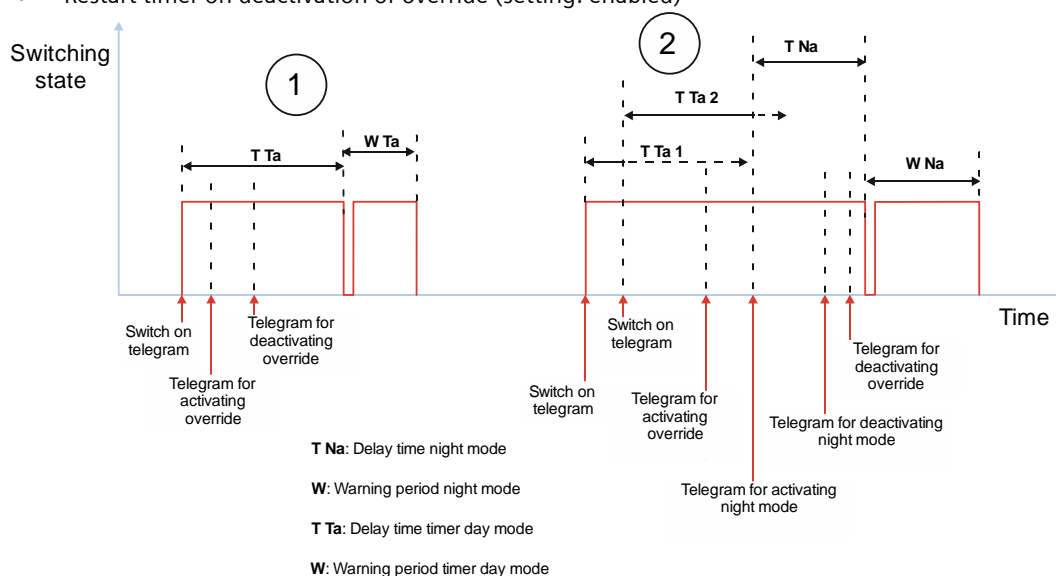


Fig. 41 Behavior of the switching actuator in timer mode with night mode if the override (forced control) is configured and there is a specification for restarting the timer on deactivation of override.

**07 B0 A4 Switching Actuator 4-fold 9A0103**  
**07 B0 A4 Switching Actuator 4-fold 9A0803**  
**07 B0 A8 Switching Actuator 8-fold 9A0203**  
**07 B0 A8 Switching Actuator 8-fold 9A0903**  
**07 B0 A12 Switching Actuator 12-fold 9A0303**  
**07 B0 A12 Switching Actuator 12-fold 9A0A03**

- (1) Night mode is deactivated. After receiving the switch on telegram, the timer (day) is started and time counting (delay time) (T Ta) starts. The channel is switched on.

During the delay time, a telegram for activating the override is received (forced "ON"). The delay time continues in the background.

After the receipt of the telegram for deactivation of the override, the override no longer specifies a value. The delay time of the timer for day mode is therefore active again.

The warning period (W Ta) starts at the end of the delay time (T Ta). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

- (2) Night mode is deactivated. After receiving the switch on telegram, the timer (day) is started and time counting (delay time) (T Ta 1) starts. The channel is switched on.

During the delay time (T Ta 1), a switch on telegram is received. Since retriggering is set to "1," the residual time is then discarded and the delay time (T Ta 2) re-started.

During delay time (T Ta 2), a telegram for activating the override is received. The delay time continues in the background.

During delay time (T Ta 2), a telegram for activating the night mode is also received. Following that, the residual day mode delay time is discarded and the delay time is restarted (T Na).

During the delay time (T Na), night mode is deactivated. The delay time continues as normal and is not stopped.

During the delay time (T Na), a telegram for deactivating the override is also received. Since the delay time of night mode is still running and there is thus a signal for another switch on at the inbox of the override block, it is not necessary to automatically retrigger the timer.

The warning period (W Na) starts at the end of the delay time (T Na). At the start of the warning period, the channel is briefly switched off and then on again. At the end of the warning period, the channel is switched off.

Night mode remains deactivated. Switching it on again would start the timer and the delay time for day mode.

07 B0 A4 Switching Actuator 4-fold 9A0103  
07 B0 A4 Switching Actuator 4-fold 9A0803  
07 B0 A8 Switching Actuator 8-fold 9A0203  
07 B0 A8 Switching Actuator 8-fold 9A0903  
07 B0 A12 Switching Actuator 12-fold 9A0303  
07 B0 A12 Switching Actuator 12-fold 9A0A03

## 7.4 Central switching with time delay

To avoid load spikes when switching several channels together, the “central switching” function can be used to configure a time delay for switching each individual channel on an off.

The following graphic shows the behavior of the different channels on switching on/off separately and on switching on/off together via the “central switching” function.

The following parameters are used:

- Channels A, B and C: Operating mode (setting: normal mode or flashing)
- Channels A, B and C: central switching (setting: enabled)
- Channel A: ON delay (central switching) (setting: 00:00:00)
- Channel B: ON delay (central switching) (setting: > 00:00:00)
- Channel C: ON delay (central switching) (setting: greater than setting of channel B)
- Channel A: OFF delay (central switching) (setting: 00:00:00)
- Channel B: OFF delay (central switching) (setting: > 00:00:00)
- Channel C: OFF delay (central switching) (setting: greater than setting of channel B)

07 B0 A4 Switching Actuator 4-fold 9A0103  
 07 B0 A4 Switching Actuator 4-fold 9A0803  
 07 B0 A8 Switching Actuator 8-fold 9A0203  
 07 B0 A8 Switching Actuator 8-fold 9A0903  
 07 B0 A12 Switching Actuator 12-fold 9A0303  
 07 B0 A12 Switching Actuator 12-fold 9A0A03

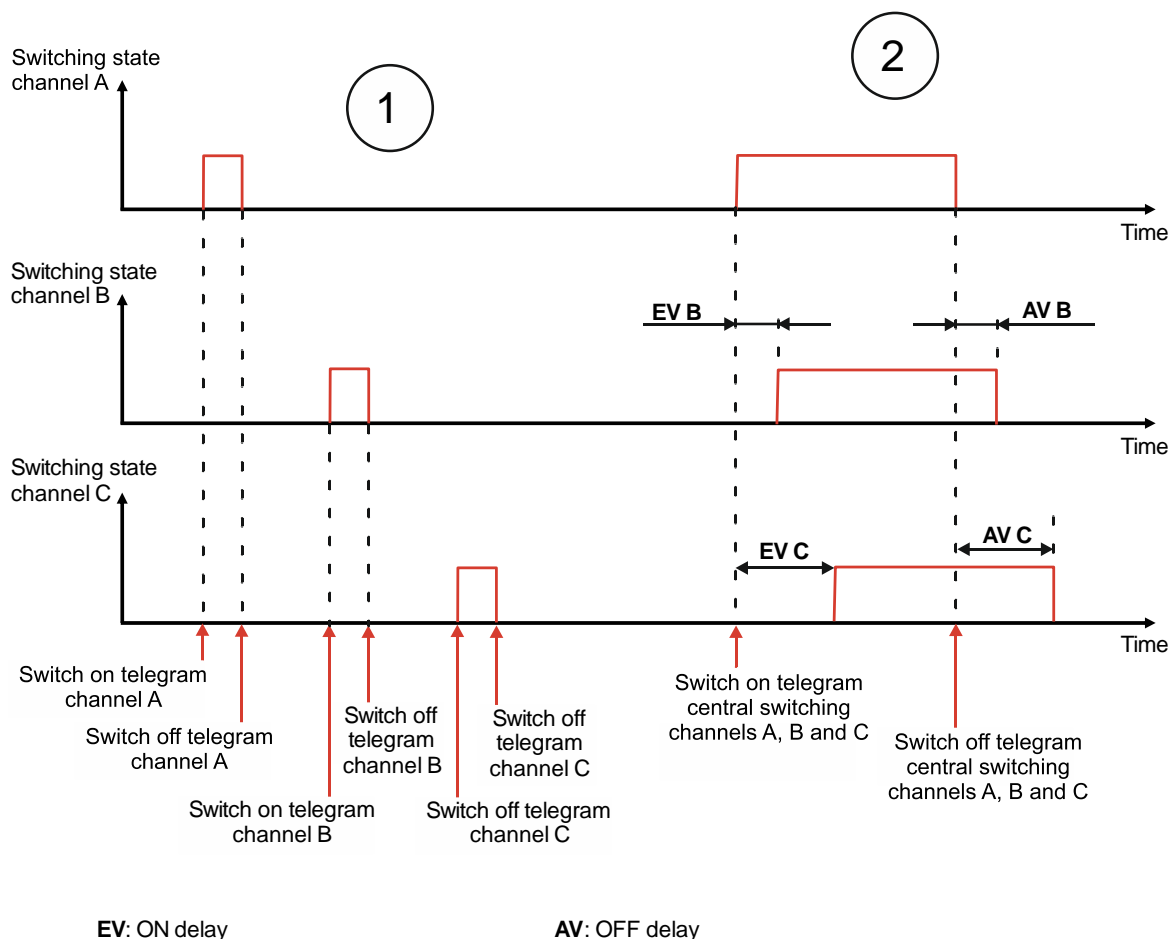


Fig. 42 Behavior of the channels when switching via the communication object "central switching" with time delay

- (1) Channels A, B and C are switched separately via the switching objects and without a time function. The channels respond immediately and are switched on or off immediately after receiving the telegram.
- (2) The channels are switched together via the "central switching" communication objects (each central object of a channel has been assigned the same group address). For channel A, no switch on delay and no switch off delay have been configured; hence, the channel is switched on and off immediately. For channels B and C, a switch on delay and an off delay have been configured. These channels are switched at the end of this period.