ABB i-bus® EIB

4-fold multifunction switch sensor solo®, FM
Type: 6127MF-xx

The application module 4-fold switch sensor solo® is placed on a flush-mounted bus coupler, switch actuator or switch/dimming actuator.

The 4-fold switch sensor solo® can send e.g. switching, dimming or shutter control telegrams to EIB actuators.

Additional the sensor can be used for storage and/or send out of lightscenes.

The switch sensor has two contacts under the rocker and a light-emitting diode which can light up red or green.

In addition, a cover frame in the chosen colour in either the Solo or future design is required together with a flush-mounted bus coupler and a bus connecting terminal.

Technical Data

Power supply	– EIB	24 V DC, via the bus line
Operating and display elements	– 4 rocker, each with 2 push button contacts	
	– 4 x two-colour LED	red / green
Connections	– Bus coupler FM (6120 U-102-500)	10-pole plug connector
	– Switch actuator FM (6110 U-101-500)	
	– Switch/dimming actuator FM (6114 U-500)	
Type of protection	– IP 20, EN 60 529, placed on a flush-mounted insert	
Ambient temperature range	– Operation	- 5 °C … 45 °C
	– Storage	- 25 °C … 55 °C
	– Transport	- 25 °C … 70 °C
Design	– solo®	– future
Colour	– savanna / ivory davos / studio white manhatten / graphite samoa / light green toscana / crimson red attica / blue-grey	– savanna / ivory davos / studio white manhatten / graphite stone / light grey
Mounting	– latched onto flush-mounted insert	
Dimensions	– 63 x 63 mm (H x W)	
Weight	– 0.04 kg	
Certification	– EIB-certified	
CE norm	– in accordance with the EMC guideline and the low voltage guideline	

| Anwendungsprogramme	Anzahl Kommunikationsobjekte	max. Anzahl Gruppenadressen	max. Anzahl Zuordnungen
For **Bus coupler FM,** **Switch actuator/sensor FM and** **Switch/dimming actuator FM:**			
Switch sensor 4f MF TP/1	22	22	22

Operation with the various flush-mounted devices is defined on the "General" parameter page. If the switch sensor has been placed onto a flush-mounted switch actuator or switch/dimming actuator, it is not necessary to insert a further device from the database in ETS2.

Circuit diagram
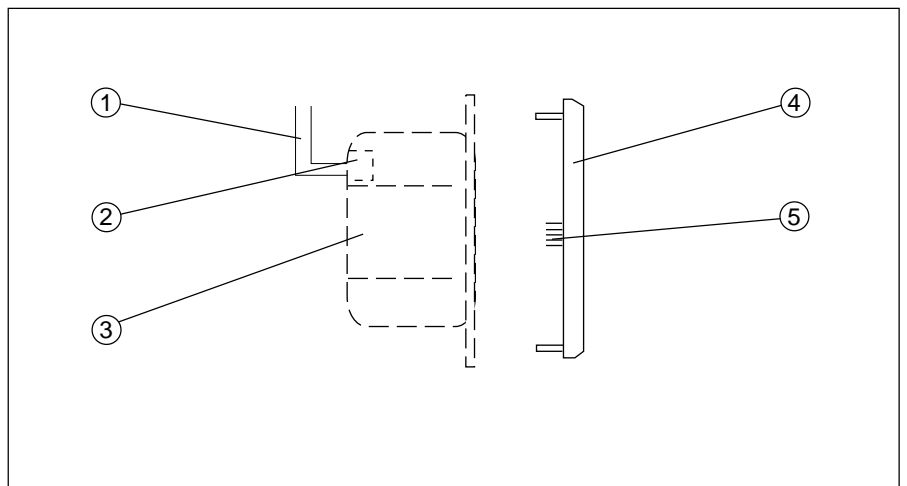
1 Bus cable
2 Bus terminal
3 Bus coupler FM

4 Application module
5 10-pole plug

Switch sensor 4f MF TP/1
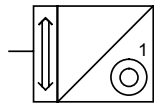
Selection in ETS2

– ABB
  └Push button solo
    └Push button, 4-fold

The 4-fold multifunction switch sensor Solo can be placed on a flush-mounted bus coupler, switch actuator or a switch/dimming actuator. The respective flush-mounted device on which the switch sensor Solo has been placed, must be set first of all on the parameter page "BCU type". Only then are the parameters for the various flush-mounted actuators enabled in the ETS2 program.

The following section describes the functions of the rocker. These functions are always identical, regardless of the flush-mounted device that is used.

Switch sensor

If the operation mode of the rocker is defined as "Switch sensor", the switch sensor sends "ON" or "OFF" telegrams via the relevant 1 bit object "Rocker - Switch".

In the default setting, the switch sensor sends "TOGGLE" telegrams when the right or left rocker is pressed. This means that an "ON" command is sent first followed by an "OFF" command after a push button action and then an "ON" command if the rocker is pressed again.

Via the parameter "Working mode of rocker", the rockers can also be set so that the right rocker sends "ON" commands and the left rocker sends "OFF" commands or vice versa.

Dimming sensor

In the operation mode "Dimming sensor", an "ON" or "OFF" command is sent to the 1 bit communication object "Rocker - Switch" when one of the rockers is pressed briefly. If the rocker is pressed for a longer period, the switch sensor sends commands for dimming brighter or darker to the 4 bit object "Rocker - Dimming". If the rocker is released after a long push button action, the switch sensor sends the command "Stop dimming".

In the default setting, the switch sensor sends "TOGGLE" telegrams after a short operation of the right or left rocker. A long operation of the left rocker dims down the brightness level while a long operation of the right rocker dims up the brightness level.

This behaviour is adapted if required via the parameter "Working mode of rocker".

Shutter sensor

In the operation mode "Shutter sensor", the switch sensor has the 1 bit communication objects "Move shutter" and "Adjust shutter". After a long operation of the rocker, the switch sensor sends telegrams to the connected shutter actuators to raise or lower the shutter. After a short operation, it sends telegrams to stop the shutter movement or for louvre adjustment.

The setting "Working mode of rocker" defines whether the shutter is raised or lowered after operation of the right or left rocker.

Flexible assignment

With the application "Flexible assignment", the right and the left side of the rocker of the switch sensor each have their own 1 bit communication object "Rocker - Switch" available. It is possible to send "ON", "OFF" or "TOGGLE" telegrams on the EIB via this object.

Each pulse edge of the rockers can therefore be set individually. The switch sensor can thus be adapted to a wide variety of applications. If e.g. inching mode should be implemented, the setting "rising = ON, falling = OFF" should be selected.

With the parameter setting "no reaction", it is possible to completely deactivate a rocker.

LED

The relevant LED of the rocker can display the current status of the object "Rocker ..." or serve as an orientation light.

If the LED is used for status display, the colour changes when the object value changes. It can freely selected whether the LED lights up "green" or "red" in the OFF state or "red" or "green" in the ON state.

The LED can light up "green" or "red" as an orientation light.

On the parameter page "Status LED", it is possible to enable a further 1 bit communication object "Status LED - Switch". It is now possible to activate or deactivate the status LEDs via this object with an "ON" command. This means that the LED changes colour or serves as an orientation light only if the object "Status LED - Switch" has the value "1" (a "0"), as defined in the rocker settings.

Example:
In a bedroom (hotel room), the occupant could be disturbed during the night by the status LEDs of the switch sensor Solo. The function of the status LEDs can be deactivated from 22:00 onwards via the object "Status LED - Switch" by means of a time switch.

Lightscene sensor

In the operation mode "Lightscene sensor", the switch sensor sends a 1 byte value via the relevant object "Rocker ... - Lightscene number". This value is assigned to a specific lightscene. 8 different lightscenes per 4-fold switch sensor can be stored and retrieved.

If two lightscenes are stored in the switch sensor, it is possible to recall the lightscene via a 1 bit object. Switch sensors without multifunctions can thus be integrated into lightscene control. The toggling of the bit size is carried out via the setting "Lightscene retrieval".

Two different lightscenes per rocker can be stored and recalled. The parameter setting "Recall lightscene number for left push button" and "Recall lightscene number for right push button" specifies which lightscene is recalled by the respective push button.

If the common group address is linked with a "Lightscene number" object of a rocker of another 4-fold multifunction switch sensor, two lightscenes can also be retrieved by this rocker. A prerequisite is that the application 'Lightscene sensor" has been set for this rocker as well as the correct lightscene number.

It is important that the lightscene numbers that have been set for a rocker are also set on the "Lightscene" parameter page as this is the only way that the lightscene number that is sent by the rocker can recall the corresponding lightscene in the switch sensor.

The lightscene is saved via a long push button action, provided that the parameter "Store lightscenes via long push button action" has been set accordingly. All the actuators are dimmed or switched to the required brightness value before saving the scene. A long operation (approx. 4 s) takes place of the left or right push button of the rocker which should recall the corresponding lightscene.

Note:
To save the lightscenes, the read flag (R flag) must be set in the corresponding communication objects of the actuators.

The status LED of the corresponding rocker flashes while the lightscene is being saved.

If the lightscene storage should be carried out in the switch sensor Solo, the parameter "Lightscenes stored in the device" should be activated.

The parameter "Lightscene number for lightscene ..." defines which lightscenes can be saved by the switch sensor. A maximum of 8 lightscenes per EIB-Solo multifunction switch sensor can be stored. The number of lightscenes is specified with the setting "Number of lightscenes". If more lightscenes are required, a further EIB-Solo multifunction switch sensor must be used. If an additional switch sensor is used, the parameters "Lightscene number" must be changed accordingly so that the same lightscenes are not used twice.

The "Lightscene number" object of the rocker (e.g. object no. 14) is linked with "Lightscene - Number" object no. 8 via a common group address. If the group address of the "Lightscene - Number" object (no. 8) is received, it sends telegrams to switch or dimming actuators via the objects "Actuator group A" to "Actuator group E".
The actuator groups can be set as 1 bit or 1 byte.

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The preselection of the lightscene values is carried out on the "Lightscene ..." parameter page. This can be "OFF/UP" or "ON/DOWN" for 1 bit values. In the case of 1 byte values, it can be set between 0% and 100% in steps of 10%.

Switch sensor value

The operation mode "Switch sensor value" causes the switch sensor to send 1 byte value telegrams via the relevant object "Rocker - Value".

By default, the value "1" is sent when the left rocker is pressed while the value "0" is sent when the right rocker is pressed.

The values that should be sent can be defined via the parameters "Left push button sends value" and "Right push button sends value". These values can range between 0 and 255.

It is thus possible e.g. to switch on a dimming actuator with a specific brightness value or if it is already switched on, to change the brightness level to a specific value.

LED (for switch sensor value)

In the operation mode "Switch sensor value", the status LED of the respective rocker displays the current status of the value object. If a telegram with a value $\geq$ "1" is sent or received, the LED lights up red. If a telegram with the value "0" is received, it lights up green. This behaviour can be inverted via the parameter "Colour of the LED".

Alternatively, the LED can also serve as an orientation light. To do so, the parameter "Colour of the LED" must be set accordingly.

Actuator functions

The following section describes the actuator functions of the flush-mounted switch actuator and the switch/ dimming actuator.

Switch actuator FM (6110 U-101-500)

The switch actuator has a 1 bit communication object "Output - Switch" which is used to switch the relay. In the default setting, the output switches on following the receipt of a telegram with the value "1" and switches off after a telegram with the value "0". If the parameter "Behaviour of contact" is set to "normally closed contact", the relay is closed following the receipt of a telegram with the value "0" and opened after a telegram with the value "1".

The relay contact is opened on bus voltage failure. The behaviour of the relay contact on mains voltage recovery can be set. By default, the relay is "opened". Further options are "closed" or "restore previous state". If the output should carry out defined switching on/off, the actuator takes into account the parameter "Switching behaviour".

Logic (Switch actuator FM, 6110 U-101-500)

With the parameter "Logic operation", it is possible to set an AND or an OR function. In both cases, the ETS2 program displays a further 1 bit communication object "Output - ... function" for the output. The output links the values of communication objects no. 0 and no. 1 and switches the relay according to the result.

A corresponding parameter is available for preselecting a defined input signal on bus voltage recovery.

Status (Switch actuator FM, 6110 U-101-500)

If the parameter "Status response" is set to "yes", the ETS2 program displays a further 1 bit communication object "Output - Status response". This communication object sends a telegram each time the actuator is switched. The value "1" means that the relay has adopted the active state in accordance with the parameter "Behaviour of contact".

Staircase lighting function (Switch actuator FM, 6110 U-101-500)

In the operation mode "Staircase lighting function", the output is switched on immediately following the receipt of an

"ON" telegram. Once the period that was set in the time base and factor parameters has elapsed, the relay is automatically opened. If the output receives further "ON" telegrams before the period has elapsed, the time restarts.

If the staircase lighting function and the logic operation are activated, the time setting only has an effect if the actuator is switched via object no. 0 "Output - Switch".

In addition to the staircase lighting function, it is also possible to activate an ON delay. The corresponding parameter must be activated. The ON delay is again defined with a time base and factor.

Timing function
(Switch actuator FM, 6110 U-101-500)

With the operation mode "Timing function", it is possible to activate an ON and/or OFF delay. The two periods can be of varying lengths and are defined with a time base and factor.

The delay periods only influence the switch object. If e.g. an OR function has been selected in addition to an ON delay, the time delay is only active if an ON command is received via the switch object. If the ON command is however sent directly to the logic object, the actuator switches directly to the state that was preselected in the parameter "Behaviour of contact".

Switch/Dimming actuator FM
(6114 U-500)

The output of the switch/dimming actuator FM can be switched on and off via the 1 bit communication object no. 0 "Output - Switch". The same communication object also sends a telegram if the output changes its state because e.g. the 4 bit object no. 1 "Dimmer - Rel. dimming" or the 1 byte object no. 2 "Dimmer - Brightness value" has received a telegram.

If the output objects of several dimming actuators/sensors use the same group addresses, the parameter "Mode for parallel operation ....." must be taken into account. Only one device may then be set to "master". The other devices must use the setting "slave". If this is not observed, the devices may send telegrams continually to each other.

The brightness value which the flush-mounted switch/dimming actuator uses when switching on, is defined in the parameters. Either a constant value between 10 % brightness and 100 % brightness can be selected or the actuator stores the value of the object "Brightness value" at the point when it was switched off via the switch object. When the device is switched on again, the value is restored.

Dimming
(Switch/dimming actuator FM, 6114 U-500)

With the 4 bit communication object "Dimmer - Rel. dimming", the connected luminaire can be dimmed in accordance with EIS 2. If the actuator is switched off, it can be dimmed on via the 4 bit object.

The period for passing through the dimming range can be defined with the two parameters "Time base …" and "Factor ...". The actuator uses the formula
$Total time = Base * Factor$.

With the 1 byte communication object no. 2 "Dimmer - Brightness value", the luminaire can be preassigned one of 256 brightness values which range from 0 = switched off to 255 = full brightness. Via the parameter "Behaviour on change in the brightness value", it is defined whether the new value should be set immediately ("jump to value") or at the selected dimming rate ("dim to value").

Status (Switch/dimming actuator FM, 6114 U-500)

If the parameter "Status response" is set to "yes", the ETS2 software displays a further 1 bit object "Status response". As soon as the switch/dimming actuator is switched on, a telegram with the value "1" is sent, regardless of the brightness value. If the actuator is switched off again, a "0" is sent.

Logic (Switch/dimming actuator FM,
6114 U-500)

With the parameter "Logic operation", it is possible to set an AND or an OR function. In both cases, the ETS2 program displays a further 1 bit communication object for the output. The actuator links the values of communication object no. 0 "Output - Switch" and no. 3 "Output - ... function" and then switches the output. In this case, the parameter "Status response" also enables precise monitoring of the actual output state.

Staircase lighting function
(Switch/dimming actuator FM,
6114 U-500)

In the operation mode "Staircase lighting function", the output is switched on immediately following the receipt of an "ON" telegram. Once the period that was set in the time base and factor parameters has elapsed, the relay is automatically opened. If the output receives further "ON" telegrams before the period has elapsed, the time restarts. In the case of the flush-mounted switch/dimming actuator, it is also possible to integrate an extension of the staircase lighting function.

If the staircase lighting function and the logic operation are activated, the time setting only has an effect if the actuator is switched via object no. 0 "Output - Switch".

In addition to the staircase lighting function, it is also possible to activate an ON delay. The corresponding parameter must be activated. The ON delay is again defined with a time base and factor.

Timing function
(Switch/dimming actuator FM,
6114 U-500)

With the operation mode "Timing function", it is possible to activate an ON and/or OFF delay. The two periods can be of varying lengths and are defined with a time base and factor.

If e.g. an OR function has been selected in addition to an ON delay, the time delay is only active if an ON command is received via the switch object. If the ON command is however sent directly to the logic object, the actuator switches directly to the state that was preselected in the parameter "Behaviour of contact".

Read-only memory
(Switch/dimming actuator FM,
6114 U-500)

The actuator has an additional 1 bit communication object "Read-only memory ...". Two values can therefore be set using the possible object values "0" and "1". The parameters "Value for read-only memory ..." are used for this purpose. The number of read-only memory devices that are actually used is defined with the parameters "Number of objects" and "Behaviour on receipt of an OFF telegram".

Bus voltage failure/recovery
(Switch/dimming actuator FM,
6114 U-500)

On bus voltage failure, the flush-mounted switch/dimming actuator switches off the connected luminares. On bus voltage recovery, the luminaires normally remain switched off. It is however also possible to set the minimum or maximum brightness or the last stored brightness value before the voltage failure.

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Communication objects when used as a switch sensor	**No.**	**Type**	**Object name**	**Function**
	14	1 bit	Rocker 1	Switch
	16	1 bit	Rocker 2	Switch
	18	1 bit	Rocker 3	Switch
	20	1 bit	Rocker 4	Switch

Communication objects when used as a dimming sensor	**No.**	**Type**	**Object name**	**Function**
	14	1 bit	Rocker 1, short	Switch
	15	4 bit	Rocker 1, long	Dimming
	16	1 bit	Rocker 2, short	Switch
	17	4 bit	Rocker 2, long	Dimming
	18	1 bit	Rocker 3, short	Switch
	19	4 bit	Rocker 3, long	Dimming
	20	1 bit	Rocker 4, short	Switch
	21	4 bit	Rocker 4, long	Dimming

Communication objects when used as a shutter sensor	**No.**	**Type**	**Object name**	**Function**
	14	1 bit	Rocker 1, long	Move shutter
	15	1 bit	Rocker 1, short	Adjust shutter
	16	1 bit	Rocker 2, long	Move shutter
	17	1 bit	Rocker 2, short	Adjust shutter
	18	1 bit	Rocker 3, long	Move shutter
	19	1 bit	Rocker 3, short	Adjust shutter
	20	1 bit	Rocker 4, long	Move shutter
	21	1 bit	Rocker 4, short	Adjust shutter

Communication objects with flexible assignment of the rockers	**No.**	**Type**	**Object name**	**Function**
	14	1 bit	Rocker 1, right	Switch
	15	1 bit	Rocker 1, left	Switch
	16	1 bit	Rocker 2, right	Switch
	17	1 bit	Rocker 2, left	Switch
	18	1 bit	Rocker 3, right	Switch
	19	1 bit	Rocker 3, left	Switch
	20	1 bit	Rocker 4, right	Switch
	21	1 bit	Rocker 4, left	Switch

Communication objects when used as a lightscene push button	**No.**	**Type**	**Object name**	**Function**
	14	1 bit	Rocker 1	Lightscene number
	16	1 bit	Rocker 2	Lightscene number
	18	1 bit	Rocker 3	Lightscene number
	20	1 bit	Rocker 4	Lightscene number

Communication objects when used as a switch sensor value	**No.**	**Type**	**Object name**	**Function**
	14	1 byte	Rocker 1	Value
	16	1 byte	Rocker 2	Value
	18	1 byte	Rocker 3	Value
	20	1 byte	Rocker 4	Value

Communication objects when used with flush-mounted switch sensor, AND function and status response	**No.**	**Type**	**Object name**	**Function**
	1	1 bit	Output	Switch
	2	1 bit	Output	AND function
	3	1 bit	Output	Status response
	…			

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Communication objects
when used with flush-mounted switch
actuator, OR function and status
response

No.	Type	Object name	Function
1	1 bit	Output	Switch
2	1 bit	Output	OR function
3	1 bit	Output	Status response
…			

Communication objects
when used with flush-mounted
dimming actuator, logic operation,
status response and preset objects

No.	Type	Object name	Function
1	1 bit	Output	Switch
2	4 bit	Dimmer	Rel. dimming
3	1 byte	Dimmer	Brightness value
4	1 bit	Output	… function
5	1 bit	Dimmer	Status response
6	1 bit	Dimmer	Preset
7	1 bit	Dimmer	Preset
…			

Communication objects
with switch object for status LED

No.	Type	Object name	Function
0	1 bit	Status LED	Switch
…			

Communication objects
with sending of lightscenes
(1 bit actuator group)

No.	Type	Object name	Function
…			
8	1 byte	Lightscenes	Number
9	1 bit	Telegr. switch	Actuator group A
10	1 bit	Telegr. switch	Actuator group B
11	1 bit	Telegr. switch	Actuator group C
12	1 bit	Telegr. switch	Actuator group D
13	1 bit	Telegr. switch	Actuator group E
…			

Communication objects
with sending of lightscenes
(1 byte actuator group)

No.	Type	Object name	Function
…			
8	1 byte	Lightscenes	Number
9	1 byte	Telegr. brightness value	Actuator group A
10	1 byte	Telegr. brightness value	Actuator group B
11	1 byte	Telegr. brightness value	Actuator group C
12	1 byte	Telegr. brightness value	Actuator group D
13	1 byte	Telegr. brightness value	Actuator group E
…			

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Parameters The default setting for the values is **printed in bold type.**	BCU type:	
	Bus coupler / flush-mounted actuator	**Flush-mounted bus coupler (6120 U-102)** Flush-mounted switch actuator (6110 U-101) Flush-mounted dimming actuator (6114 U)
	Parameters of rocker 1:	
	– Operation mode of rocker	**Switch sensor** Dimming sensor Shutter sensor Flexible assignment Lightscene sensor Switch sensor value
Parameters when used as a switch sensor. The default setting for the values is **printed in bold type.**	Only for switch sensor:	
	– Working mode of rocker	**TOGGLE** left = OFF, right = ON left = ON, right = OFF
	– Operation mode of LED	**indicates value of object "Rocker"** orientation light
	Only if the value is displayed: – Colour of the LED	**OFF = green, ON = red** OFF = red, ON = green
	Only if orientation light is selected: – Colour of the LED	**always green** always red
Parameters when used as a dimming sensor. The default setting for the values is **printed in bold type.**	Only for dimming sensor:	
	– Working mode of rocker	**left = darker/TOGGLE, right = brighter TOGGLE** links = brighter/TOGGLE, right = darker/TOGGLE left = darker/OFF, right = brighter/ON left = brighter/ON, right = darker/OFF
	– Operation mode of LED	**indicates value of object "Rocker, short"** orientation light
	Only if the value is displayed: – Colour of the LED	**OFF = green, ON = red** OFF = red, ON = green
	Only if orientation light is selected: – Colour of the LED	**always green** always red
Parameters when used as a shutter sensor. The default setting for the values is **printed in bold type.**	Only for shutter sensor:	
	– Working mode of rocker	**left = UP, right = DOWN** left = DOWN, right = UP
	– Operation mode of LED	indicates value of object "Rocker, long" **orientation light**
	Only if the value is displayed: – Colour of the LED	**UP = green, DOWN = red** UP = red, DOWN = green
	Only if orientation light is selected: – Colour of the LED	**always green** always red

Parameters for flexible assignment.
The default setting for the values
is **printed in bold type.**

Only for flexible assignment:	
– Reaction on right rocker	**TOGGLE** defined switching
Only for defined switching:	
– Switch function of right rocker	**no reaction** rising = OFF falling = OFF rising = OFF, falling = OFF rising = ON falling = OFF rising = ON, falling = OFF rising = OFF, falling = ON rising = ON, falling = ON
– Reaction on left rocker	**TOGGLE** defined switching
Only for defined switching:	
– Switch function of left rocker	**no reaction** rising = OFF falling = OFF rising = OFF, falling = OFF rising = ON falling = OFF rising = ON, falling = OFF rising = OFF, falling = ON rising = ON, falling = ON
– Operation mode of rocker	**indicates value of object "Rocker, left"** orientation light
Only if the value is displayed:	
– Colour of the LED	**UP = green, DOWN = red** UP = red, DOWN = green
Only if orientation light is selected:	
– Colour of the LED	**always green** always red

Parameters when used as a
lightscene sensor. The default setting
for the values is **printed in bold type.**

Only for lightscene sensor:	
– Recall lightscene number for right push button	1 / **2** / 3 / … / 32
– Recall lightscene number for left push button	**1** / 2 / 3 / … / 32
– Store lightscenes via long push button action	**not possible** possible
– Lightscenes stored in the device	**no** yes
Only if "yes" is selected:	
– Number of lightscenes	**2** / 4 / 6 / 8
Only if 2 lightscenes are selected:	
– Lightscene retrieval	**1…32 with saving (1 byte)** "OFF"=1,"ON"=2, without saving (1 bit)
– Lightscene number for lightscene 1+2	**1+2**
Separate for all lightscenes:	
– Lightscene number for lightscene …	**1+2** / 3+4 / 5+6 / 7+8 / … / 31+32
Separate for all actuator groups:	
– Type of actuator group …	**Switch or shutter actuator (1 bit)** Dimming actuator (8 bit)
Separate for each lightscene:	
Only for 1 bit actuator groups:	
– Preset option for actuator group …	**OFF / UP** ON / DOWN
Only for 1 byte actuator groups:	
– Preset option for actuator group …	OFF / 10 % / … / **40 %** / … / 100 %

Parameters for switch sensor value. The default setting for the values is **printed in bold type.**	Only for switch sensor value:	
	– Left push button sends value	**1**
	– Right push button sends value	**0**
	– Operation mode of LED	**indicates value of object "Rocker"**
		orientation light
	Only if the value is displayed:	
	– Colour of the LED	**0=green, >0=red**
		0=red, >0=green
	Only if orientation light is selected:	
	– Colour of the LED	**always green**
		always red
		OFF
Parameters for the status LED. The default setting for the values is **printed in bold type.**	Status LED	
	– Status LED	**indicates object value**
		switched
	Only if switched:	
	– Status LED	if ON, status LED = OFF
		if ON, status LED = ON
	– Behaviour of status LED on bus voltage recovery	**ON**
		OFF

Parameters
The default setting for the values
is **printed in bold type.**

Additional parameters when used with switch actuator FM (6110 U-101):

Switch actuator - General:

– Behaviour of contact	**normally open contact**
	normally closed contact
– Contact on mains voltage recovery	**opened**
	closed
	restore previous state

Switch actuator - Operation modes:

– Operation mode	**Normal operation**
	Staircase lighting function
	Timing function
Only for staircase lighting function:	
– ON delay	**no**
	yes
Only if "yes" is selected:	
– Time base for ON delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for ON delay (2…127)	**10**
– Time base for staircase lighting function	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for staircase lighting function (2…127)	**10**
Only for timing function:	
– ON delay	**no**
	yes
Only if "yes" is selected:	
– Time base for ON delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for ON delay (2…127)	**10**
– OFF delay	**no**
	yes
Only if "yes" is selected:	
– Time base for OFF delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for OFF delay (2…127)	**10**
– Logic operation	**no logic operation**
	AND function
	OR function
Only if a logic operation is selected:	
– Value of logic operation on mains voltage recovery	**OFF "0"**
	ON "1"
– Status response	**no**
	yes

Parameters
The default setting for the values
is **printed in bold type.**

Additional parameters when used with dimming actuator FM (6114 U):

Dimming actuator - General:

– Behaviour on change in the brightness value	**jump to value** dim to value
– Brightness value for ON telegram	final value **parameterised value**
Only for parameterised value:	
– Initial brightness value	OFF / 10 % / … / 90 % / **100 %**
– Brightness value on mains voltage recovery	10 % brightness 100 % brightness final value **OFF**
– Mode for parallel operation of several flush-mounted dimming actuators	**master** slave

Dimming actuator - Operation modes:

– Operation mode	**Normal operation** Staircase lighting function Timing function
Only for staircase lighting function:	
– ON delay	**no** yes
Only for ON delay:	
– Time base for ON delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for ON delay (2…127)	**10**
– Time base for staircase lighting function	**approx. 130 ms** / … / approx. 4.2 s / … / approx. 1.2 h
– Factor for staircase lighting function (2…127)	**43**
– Enable time extension	**no** yes
Only if "yes" is selected:	
– ON delay	**no** yes
Only if "yes" is selected:	
– Time base for ON delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for ON delay (2…127)	**10**
– OFF delay	**no** yes
Only if "yes" is selected:	
– Time base for OFF delay	**approx. 130 ms** / … / approx. 520 ms / … / approx. 1.2 h
– Factor for OFF delay (2…127)	**10**
– Logic operation	**no logic operation** AND function OR function
– Status response	**no** yes

Parameters
The default setting for the values
is **printed in bold type.**

Dimming rate:	
– Time base for passing through the dimming range	**approx. 0.5 ms** approx. 8.0 ms approx. 130 ms approx. 2.1 s approx. 33 s
– Factor for passing through the dimming range	**20**
– Note: Time base * Factor * 255	

Read-only memory:	
– Number of objects	**none** 1
Only if "1" is selected:	
– Behaviour on receipt of an ON telegram	**set preselected brightness value**
– Brightness value for read-only memory (object no. 5 = ON)	OFF / 10 % / … / **30 %** / … / 100 %
– Behaviour on receipt of an OFF telegram	**no reaction** set preselected brightness value
Only for preselected brightness value:	
– Brightness value for read-only memory (object no. 5 = OFF)	**OFF** / 10 % / 20 % / … / 100 %