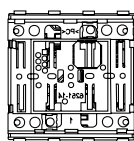


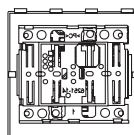
Push-button module System M/System Design



Push-button module Art. no.

System M, 1-gang 625199

System M, 2-gang 625299

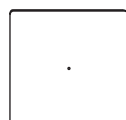


Push-button module Art. no.

System Design, 1-gang 626199

System Design, 2-gang 626299

Rockers for System M push-button module

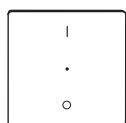


Rocker, 1-gang

Art. no.

6251..

6191..

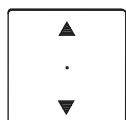


Rocker, 1-gang 1/0

Art. no.

6254..

6193..

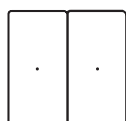


Rocker, 1-gang up/down

Art. no.

6255..

6194..

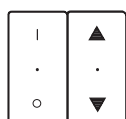


Rocker, 2-gang

Art. no.

6252..

6192..

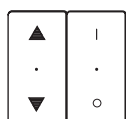


Rocker, 2-gang 1/0, up/down

Art. no.

6256..

6195..

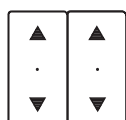


Rocker, 2-gang up/down, 1/0

Art. no.

6257..

6196..



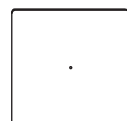
Rocker, 2-gang up/down

Art. no.

6258..

6197..

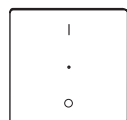
Rockers for System Design push-button module



Rocker, 1-gang

Artikel-Nr.

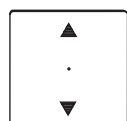
6261..



Rocker, 1-gang 1/0

Artikel-Nr.

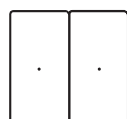
6264..



Rocker, 1-gang up/down

Artikel-Nr.

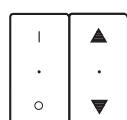
6265..



Rocker, 2-gang

Artikel-Nr.

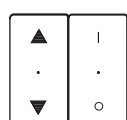
6262..



Rocker, 2-gang 1/0, up/down

Artikel-Nr.

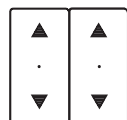
6266..



Rocker, 2-gang up/down, 1/0

Artikel-Nr.

6267..



Rocker, 2-gang up/down

Artikel-Nr.

6268..

Table of Contents

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5.	Settings in the EIB Tool Software (ETS)	4
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6.1	Switch.Dim.Bli.Scene.Status 1911/1.0	5

1. Function

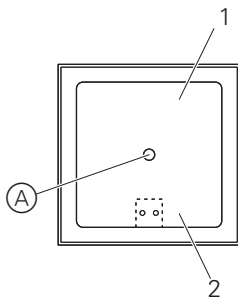
The Merten push-button module provides you with the following:

- one button/two operating surfaces in the case of a 1-gang push-button
- two buttons/four operating surfaces in the case of the 2-gang push-button

The push-buttons can be set to perform various functions, allowing you, for example, to switch lighting on and off or dim it, to control the blinds or to retrieve stored scenes.

Operating and display elements:

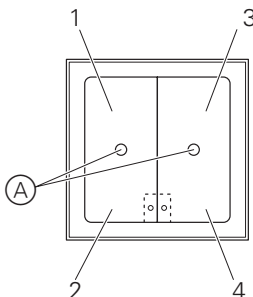
Push-button, 1-gang



(A) Status LED

1-2 Numbering of the operating surfaces

Push-button, 2-gang



(A) Status LED

1-4 Numbering of the operating surfaces

2. Installation



All work carried out on the unit may only be performed by qualified electricians. Observe the regulations valid in the country of use, as well as the valid EIB guidelines.

How to set up the push-button module

- ① Load the physical address into the push-button module from the ETS via the EIB.

- ② Set the desired configuration for the push-button module in the ETS, and transfer the configuration into the push-button module via the EIB.



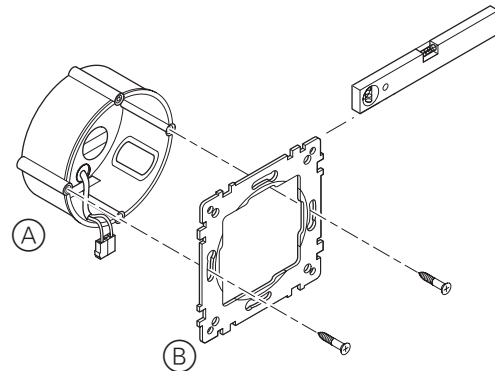
Make a note of the assignment in the "Push-button assignment" table in the operating instructions.

How to install the push-button module

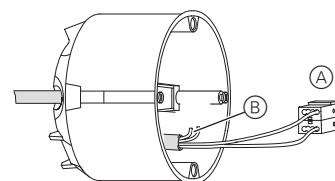
To install the push-button module, you need a frame for the 1-gang- and 2-gang- push-buttons from the Merten System M or System Design ranges.

The description which follows shows the installation of the 2-gang System M push-button module. Installation of the 1-gang push-button module is carried out in the same way, as is the installation of the System Design push-button modules.

- ① Mount the retaining ring (B) on the mounting box (A).

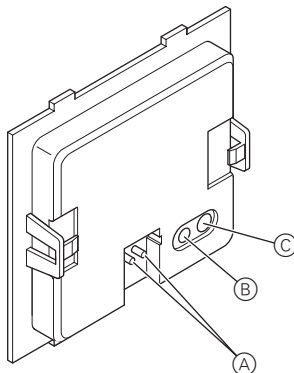


- ② Connect the red bus wire to the red terminal (+) of the bus terminal and the black one to the dark grey terminal (A) of the bus terminal.



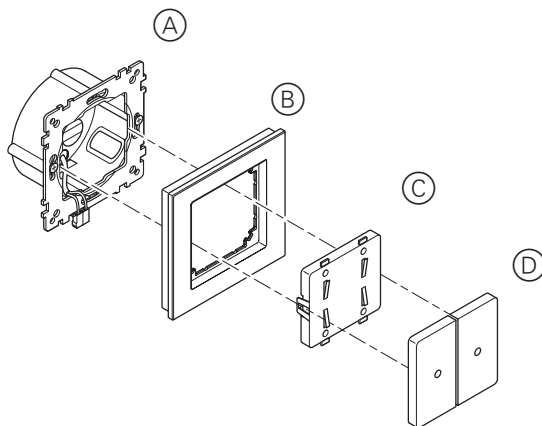
- ③ The screen and the stability wire, as well as the white and yellow cores of the bus line (B), are not required. Insulate the screen and stability wires and both cores and accommodate them in the mounting box.

- ④ Insert the bus terminal into the connection of push-button (A).



- (B) Programming LED
(C) Programming button

- ⑤ Push the rockers (D) onto the push-button module (C).
⑥ Insert push-button module (C) into the frame (B).



- ⑦ Insert the push-button module (C) with its frame (B) onto the retaining ring (A). Make sure that the push-button clicks into place.

3. Operation

What you need to know about the keypad

Each button of the push-button module can be parameterised individually.

4. Technical Data

Initialisation:	Due to telegram rate limitations, at least 17 seconds must elapse after initialisation before a telegram can be generated.
Display elements:	1 Status LED (art. no. 625199 and 626199) 2 Status LEDs (art. no. 625299 and 626299)
Operating elements:	1 button/2 operating surfaces (art. no. 625199 and 626199) 2 buttons/4 operating surfaces (art. no. 625299 and 626299)
Ambient temperature:	
Operation:	-5 °C to +45 °C
Storage:	-25 °C to +55 °C
Transport:	-25 °C to +70 °C
Max. humidity:	93 % relative humidity, no moisture condensation
Type of protection:	IP 20

5. Settings in the EIB Tool Software (ETS)

Selection in the product database

Manufacturer: Merten
 Product family: 2.1 Push Button, 1-gang, 1fach
 Product type: 2.1.17 Push-button module
 Name of range: Switch.Dim.Bli.Scene.Status 1911/1.0
 Media type: Twisted Pair
 Product name: INSTABUS push-button module 1-gang, System M
 Order number: 625199
 Product name: INSTABUS push-button module 1-gang System Design
 Order number: 626199

Manufacturer: Merten
 Product family: 2.2 Push Button, 2-gang, 1fach
 Product type: 2.2.17 Push-button module
 Name of range: Switch.Dim.Bli.Scene.Status 1911/1.0
 Media type: Twisted Pair
 Product name: INSTABUS push-button module 2-gang, System M
 Order number: 625299
 Product name: INSTABUS push-button module 2-gang System Design
 Order number: 626299

The application is ETS3-compatible.



To guarantee the full functionality of the applications under ETS2, the ETS2 program from version 1.2 onwards and Service Release A or higher should be used. If you have any queries, please contact the Merten infoline.



If the wrong application is loaded unintentionally, the status LED(s) begins/begin to flash on restarting.

6. Application overview

The following applications can be selected for operation with the push-button module:

Application	Vers.	Function
Switch.Dim.Bli.Scene. Status 1911/1.0	1	Send 1/8 bit switching commands via 1 object
		Send dimming commands with parameterisable dimming level
		Send blind control commands
		Send scene commands
		Status response

6.1 Switch.Dim.Bli.Scene.Status 1911/1.0

General information

With this application, two objects are available per button.

The "push-button pair" concept is not applied here - in other words, you can parameterise each button in such a way that it functions independently of the other buttons. Previously, one switch object would appear in the ETS per "push-button pair" when a switching function was applied, for example. In order to realise the same function with this software, you must connect two switch objects belonging to the two buttons in question in the ETS.

Group addresses are managed dynamically. Maximum no. of group addresses and associations: 140.

Device selection:



First you must adapt the application to the hardware used (1-gang push-buttons or 2-gang push-buttons). When the device selection is toggled, parameter settings and connected group addresses are changed by the ETS. For this reason, you should set the device selection before parameterisation.

Parameters

General	
Parameters	Setting
Push-button module	1-gang
	2-gang

● Push-button information

The push-button information lets you see which designations are used in the ETS for the buttons on the push-button module. The designations cannot be changed.

● Send 1/8 bit switching commands

Depending on the parameterisation, one of the following will be sent via the switch/value object whenever a push-button is pressed:

- an ON or OFF telegram
- 1 byte values (0 % - 100 % in steps)
- 1 byte values (0 - 255) infinitely sent via the switch/value object

Status response

The status LED may do one of the following:

- light up when buttons 1, 3 are activated,
- be switched on or off continuously,
- flash,
- display the status of the switch/value object. When a 1 byte object type is used, the LED lights up when the value is greater than zero.

Communication objects

You can select the following communication objects:

Per button:

Function	Object name	Type	Prio	Flags	Behaviour
Button X	Switch object A	1 bit	low	WCT	Send/receive
Button X	Value object A	1 byte	low	WCT	Send/receive
Button X	Status feedback object	1 bit	low	WC	Receive

Parameters

Button X	
Parameters	Setting
Functional selection	Switching
Triggering of status LED	switched on
	switched off
	from switch/value object A
	from status feedback object
	operation = ON / release = OFF
	prolonged operation = ON / release = OFF
	flashes
	flashes if switch/value object A not equal to 0
	flashes if switch/value object A equal to 0
	flashes if status feedback object equal to 1
	flashes if status feedback object equal to 0
	operation = flash / release = OFF
	prolonged operation = flash / release = OFF
Object A	1 bit
	1 byte in steps 0 % -100 %
	1 byte infinitely 0 - 255
Value (only with "1 bit" object)	ON telegram
	OFF telegram
Value (only with object "in steps 0 % - 100 %")	100 %
	adjustable in steps of ten as well as 25% and 75%
Value (only with object "infinitely 0 - 255")	255
	adjustable in single steps

● Dimming

You can use the dimming function for the following:

- dim brighter **and** darker via **one button** (single-surface dimming)
- either dim brighter **or** darker. You need a second button to dim in the other direction (dual-surface dimming)

Common parameters for single-surface and dual-surface dimming

You can use the corresponding button to switch the light on or off (press push-button briefly) or dim it (press push-button for a longer period, the exact period can be parameterised). When switching takes place, an ON/OFF telegram is sent via the switch object. When dimming, dimming up or dimming down is carried out via the 4-bit dimming object; the dimming levels can be parameterised. In addition, you can also transmit the corresponding dimming level cyclically for a period of time which can be set as required.

Button X	
Parameters	Setting
Functional selection	Dimming
Detection of prolonged operation from 100 ms * Factor (4-250)	4 - 250, 6 Default option
Triggering of status LED	switched on
	switched off
	from switch/value object A
	from status feedback object
	operation = ON / release = OFF
	prolonged operation = ON / release = OFF
	flashes
	flashes if switch/value object A not equal to 0
	flashes if switch/value object A equal to 0
	flashes if status feedback object equal to 1
	flashes if status feedback object equal to 0
	operation = flash / release = OFF
	prolonged operation = flash / release = OFF
Dimming direction	brighter
	darker
	brighter and darker
Cyclical sending of the dimming levels	yes
	no
<i>only with cyclical sending of the dimming levels:</i> Base for cyclic interval	0.1 second
	1 second
	1 minute
	1 hour
	1 day
<i>only with cyclical sending of the dimming levels:</i> Factor for cyclic interval (3-255)	3 - 255, 8 Default option

Additional parameters for single-surface dimming

You can dim lighter or darker and also switch on or off using a single button.

The current switching or dimming direction is always dependent on the previous action, i.e. if switched off, a brief push of the button will switch the light on and vice versa, and if the light has been dimmed up, prolonged operation of the button will dim the light down again. On release after prolonged operation, a stop telegram will be sent via the 4-bit dimming object, thus terminating the dimming procedure in the dimming actuator.

An update or change to the switch/object value is possible via the bus when another sensor switches or dims the actuator (e.g. via a two-way circuit or a central command). To prevent the "wrong" switching/dimming activity, you must load the status of the actuator in the push-button. To do this, connect the group address of the second sensor to the switch/dimming object of the push-button module.

A single command is sufficient to cycle through the dimming range. This dimming procedure can be used for most applications. The other possible dimming

levels (1/2 - 1/64 brighter or darker) dim brighter or darker by the level set. For example, to dim from min. to max. brightness, you would need to push the button for a prolonged period four times in succession if the level set is 1/4.

Dimming	
Parameters	Setting
Dimming direction	brighter and darker
dimming levels (brighter)	to max. brightness
	1/2 brighter
	1/4 brighter
	1/8 brighter
	1/16 brighter
	1/32 brighter
	1/64 brighter
dimming levels (darker)	to min. brightness
	1/2 darker
	1/4 darker
	1/8 darker
	1/16 darker
	1/32 darker
	1/64 darker

Additional parameters for dual-surface dimming

These are used to dim either brighter or darker and to either switch on or off using a single button. Therefore, you must parameterise a second button for the opposite direction.

You can set whether a stop telegram is to be sent when the button is released. When you have enabled the sending of a stop telegram, a stop telegram will be sent via the 4-bit dimming object after prolonged operation of the button, thus terminating the dimming procedure in the dimming actuator.

A single command is sufficient to cycle through the dimming range. This dimming procedure can be used for most applications. The other possible dimming levels (1/2 - 1/64 brighter or darker) dim brighter or darker by the level set. For example, to dim from min. to max. brightness, you would need to push the button for a prolonged period four times in succession if the level set is 1/4.

Dimming	
Parameters	Setting
Dimming direction	brighter darker
<i>only in the dimming direction "brighter":</i> dimming levels (brighter)	to max. brightness
	1/2 brighter
	1/4 brighter
	1/8 brighter
	1/16 brighter
	1/32 brighter
	1/64 brighter
<i>only in the dimming direction "darker":</i> dimming levels (darker)	to min. brightness
	1/2 darker
	1/4 darker
	1/8 darker
	1/16 darker
	1/32 darker
	1/64 darker
Stop telegram after release	enabled disabled

Status response

The status LED may do one of the following:

- display the status of the switch object,
- light up when buttons 1, 3 are activated,
- be switched on or off continuously,
- flash,
- display the status of the status feedback object.

Communication objects

You can select the following communication objects:

Function	Object name	Type	Prio	Flags	Behaviour
Button X	Switch object	1 bit	low	WCT	Send/receive
Button X	Dimming object	4 bit	low	WCT	Send/receive
Button X	Status feedback object	1 bit	low	WC	Receive

● Blind control

With the blind control function, you can raise the blinds / adjust the slats using a single button and lower the blinds / adjust the slats using a second button (dual-surface blind operation).

Button X	
Parameters	Setting
Functional selection	Blinds
Triggering of status LED	switched on
	switched off
	from status feedback object
	when activated On /when released Off (default setting for direction of movement with positioning values)
	only with the direction of movement up, down, or up and down:
	ON after movement telegram
	flashes
	flashes if status feedback object equal to 1
	flashes if status feedback object equal to 0
	operation = flash / release = OFF
	prolonged operation = flash / release = OFF

Blind function "up" or "down" with one button (dual-surface blind operation)

After the corresponding button is pressed for a short time, a stop/step telegram will be sent; after the button is pressed for a prolonged period (exact period can be parameterised), a movement telegram will be sent. In the case of this function, you must parameterise a second button with the corresponding settings for blind movement in the opposite direction. Both push-buttons must be given the same group addresses.

Blinds	
Parameters	Setting
Detection of prolonged operation from 100 ms * Factor (4-250)	4 - 250, 6 Default option
Direction of movement	up
	down

Status response

The status LED may do one of the following:

- flash,
- light up when buttons 1, 3 are activated and be extinguished when they are released,
- be switched on or off continuously,
- light up when a movement telegram is sent,
- display the status of the status feedback object.

Communication objects

You can select the following communication objects:

Function	Object name	Type	Prio	Flags	Behaviour
Button X	Stop/step object	1 bit	low	WCT	Send/receive
Button X	Movement object	1 bit	low	WCT	Send/receive
Button X	Status feedback object	1 bit	low	WC	Receive

● Retrieve scenes

Retrieving scenes by push-buttons enables external access to the bus via communications objects.

With the standard scene function, a scene is called up by pressing the button briefly while prolonged operation of the button is used to save a scene. You merely have to set the time after which a push-button action is detected as a long operation, the triggering of the status LED and the scene number.

Button X	
Parameters	Setting
Functional selection	Scene
Detection of prolonged operation from 100 ms * Factor (4-250)	4 - 250 in single steps, 30 default setting
Triggering of status LED	switched on
	switched off
	from status feedback object
	operation = ON / release = OFF
	prolonged operation = ON / release = OFF
	flashes
	flashes if status feedback object equal to 1
	flashes if status feedback object equal to 0
	operation = flash / release = OFF
	prolonged operation = flash / release = OFF
Scene value (0-63)	0 - 63 in single steps

Status response

The status LED may do one of the following:

- flash,
- light up when buttons 1, 3 are activated for a longer period and be extinguished when they are released,
- be switched on or off continuously,
- display the status of the status feedback object.

Communication objects

You can select the following communication objects:

Function	Object name	Type	Prio	Flags	Behaviour
Button X	Object A	1 byte	low	WCT	Send/ receive
Button X	Status feedback object	1 bit	low	WC	Receive

● Behaviour when bus voltage is applied/restored or fails

Behaviour when bus voltage is applied/restored

Depending on the setting,

- the status LEDs may be switched on or may flash.

Behaviour on failure of the bus voltage

Any status LEDs which were lit will be switched off.