



Technical Guide 1.0

Index

1	Article codes overview and explanation.....	P04
2	Product Bulletins	P07
	2.1 Switches.....	P07
	2.1.1 24 Volt Push Buttons	P07
	2.1.2 24 Volt + LED Push Buttons	P08
	2.1.3 Technical info LED's.....	P09
	2.1.4 250 Volt Push Buttons.....	P10
	2.1.5 Illume.....	P11
	2.1.6 KNX/EIB version	P12
	2.2 Frames.....	P13
	2.2.1 Bticino	P13
	2.2.2 Vimar	P14
	2.2.3 Legrand/Hager/Peha.....	P15
	2.3 Other.....	P16
	2.3.1 QLB/QLW.....	P16
	2.3.2 Q-light.....	P17
	2.3.3 RGB Controller	P18
	2.3.4 Vacuum sockets	P19
	2.4 Micromodules/Transfo's.....	P20
	2.4.1 Yokis.....	P20
	2.4.2 Eltako / Transfo's	P21
3	Domotics overview	P22
4	Wiring Diagrams	P23
	4.1 24 Volt Push Buttons.....	P23
	4.2 24 Volt Push Buttons + LED	P23
	4.3 RGB Controller	P23
	4.4 24 Volt Illume.....	P23
	4.5 250 Volt Push Buttons	P23
5	Dimensions	P24
	5.1 Depth.....	P24
	5.1.1 24 Volt Push Buttons	P24
	5.1.2 250 Volt Push Buttons.....	P24
	5.1.3 KNX	P24
	5.2 Single frame	P25
	5.2.1 SB1T	P25
	5.2.2 SBMK / SBETP	P25
	5.3 Double frame.....	P26
	5.3.1 SB44T.....	P26
	5.3.2 SBMMG	P26
	5.4 Triple frame	P26
6	Wall boxes	P27
	6.1 Dimensions	P27
	6.2 Bticino Wall Boxes	P28
	6.3 Overview Legrand Wall boxes.....	P29
	6.4 Overview Kaiser Wall boxes.....	P30
7	Installation manual	P32
	7.1 Manual general	P32
	7.2 Manual plasterkit.....	P33
	7.3 Overview mouting parts	P34
	7.4 De-mounting.....	P35
8	Compatible modules.....	P36

Addendum

1 Article codes overview and explanation

Explanation of Lithoss article codes - SELECT:

Example : Li13203b

The first two digits “LI”, characterize the initials of a product created by the brand “LITHOSS”.

The next two digits, “13”, represent the product number :

11	SB1T	18	SB2TMGR	26	SBRGB-CV	36	SBB22M
12	SB2T	19	SB2TMGL	30	SB4MT	37	SBQLW
13	SB4T	20	SB4TMG	31	SBMG	38	SBQLB
14	SB11T	21	SB42T	32	SBMMG	39	SBETP
15	SB22T	22	SB3T	33	SBMK	40	SQLITE
16	SB44T	23	SBMMM	34	SB3MT		
17	SB1TMG	25	SBRGB-CC	35	SBB2M		

In this case the number “13” stands for the product SB4T.

The next digit, “2”, represents the frame type:

0	Not applicable		
1	24V push buttons	5	Bticino frame
2	24V push buttons + LED	6	Legrand/Hager/Peha frame
3	250V push buttons	7	Vimar frame
8	KNX		
9	KNX+LED white		

For the SB3MT and SB4MT only a Bticino and Vimar frame are available.

For the SB1TMG, SB2TMGR, SB2TMGL and SB4TMG, please use following grid:

Frame	Frame	Frame	Frame
Type of buttons	Bticino	L/H/P	Vimar
24V push buttons	A	G	M
24V push buttons + LED	B	H	N
250V push buttons	C	I	O
KNX	E	K	Q
KNX+LED white	F	L	R

In this case “2” stands for the frame type 24V + LED.

4

The next 2 digits “03” represent the type of finishing:

						*	only available on request
01	Inox	05	Nickel Satiné	10	Soft Touch RAL9010	11	Soft Touch Custom RAL
02	RAL9010	06	Laiton	13	Textured RAL9010	*15	Textured Custom RAL
03	Fusain	08	Chrome	14	Textured RAL9011	99	Custom RAL
04	Bronze						

In this case “03” stands for the finishing Fusain.

The next letter “b” stands for the colour of the LED :

o	LED orange	w	LED white	b	LED blue	r	LED red
---	------------	---	-----------	---	----------	---	---------

The result is the product SB4T with 24V push buttons + blue LED in a Fusain finishing.

1 Article codes overview and explanation

Explanation of Lithoss article codes - IMMIX :

Example : LIM17Co603

The first three digits “LIM”, characterize the initials of a product created by the brand “LITHOSS” - product group IMMIX.

The next two digits, “17”, represent the product number:

11	SB1T	18	SB2TMGR	26	SBRGB-CV	36	SBB22M
12	SB2T	19	SB2TMGL	30	SB4MT	37	SBQLW
13	SB4T	20	SB4TMG	31	SBMG	38	SBQLB
14	SB11T	21	SB42T	32	SBMMG	39	SBETP
15	SB22T	22	SB3T	33	SBMK		
16	SB44T	23	SBMMM	34	SB3MT		
17	SB1TMG	25	SBRGB-CC	35	SBB2M		

In this case the number “17” stands for the product SB1TMG.

The next digit, “C”, represents the frame type:

0	Not applicable		
1	24V push buttons	5	Bticino frame
2	24V push buttons + LED	6	Legrand/Hager/Peha frame
3	250V push buttons	7	Vimar frame
8	KNX		
9	KNX+LED white		

For the SB3MT and SB4MT only a Bticino and Vimar frame is available.

For the SB1TMG, SB2TMGR, SB2TMGL and SB4TMG, please use following grid:

Frame	Frame	Frame	Frame
Type of buttons	Bticino	L/H/P	Vimar
24V push buttons	A	G	M
24V push buttons + LED	B	H	N
250V push buttons	C	I	O
KNX	E	K	Q
KNX+LED white	F	L	R

In this case “C” stands for the tension 250V in combination with a Bticino frame.

The next 2 digits “01” represent the type of finishing of the cover plate:

The next 2 digits “03” represent the type of finishing of frame and buttons :

							* only available on request
01	Inox	05	Nickel Satiné	10	Soft Touch RAL9010	11	Soft Touch Custom RAL
02	RAL9010	06	Laiton	13	Textured RAL9010	*15	Textured Custom RAL
03	Fusain	08	Chrome	14	Textured RAL9011	99	Custom RAL
04	Bronze						

In this case “01” stands for the finishing of the cover plate : Inox, and “03” for the finishing of frame and buttons : Fusain

Optional for 24V : the next letter stands for the colour of the LED :

o	LED orange	w	LED white	b	LED blue	r	LED red
---	------------	---	-----------	---	----------	---	---------

The result is the product SB1TMG 250V with Bticino frame mixed with an Inox cover plate and Fusain frame and buttons.

5

1 Article codes overview and explenation

Explanation of Lithoss article codes - ILLUME :

Example : LiL11201w

The first three digits “LIL”, characterize the initials of a product created by the brand “LITHOSS” - product group ILLUME.

The next two digits, “11”, represent the product number:

11	SB1T
12	SB2T
22	SB3T
13	SB4T
24	SBXT

In this case the number “11” stands for the product SB1T.

The next digit, “2”, represent the frame type:

2	24V push buttons + LED
---	------------------------

The next 2 digits “01” represent the type of finishing:

* only available on request					
01	Inox	05	Nickel Satiné	10	Soft Touch RAL9010
02	RAL9010	06	Laiton	13	Textured RAL9010
03	Fusain	08	Chrome	14	Textured RAL9011
04	Bronze			11	Soft Touch Custom RAL
				*15	Textured Custom RAL
				99	Custom RAL

In this case “01” stands for the finishing Inox.

The next letter “w” stands for the colour of the LED :

r	LED red	w	LED white
b	LED blue	o	LED orange

The result is the product SB1T in an Inox finishing with a white uplighting LED Frame.

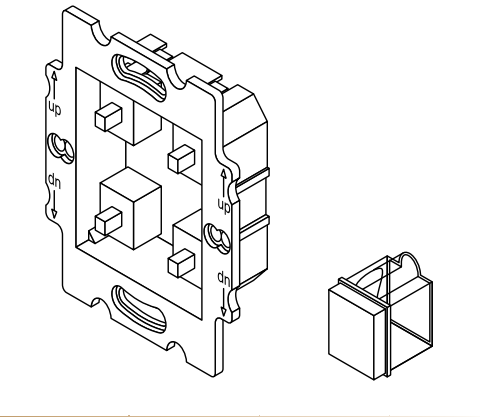
2 Product Bulletins

2.1 Switches

2.1.1 24 Volt Push Buttons

GENERAL DESCRIPTION

The Lithoss 24V pushbuttons are an ideal solution for domotics installations. A simple design and accessible screw terminals make it easy to install them.



TECHNICAL SPECIFICATIONS

Switching function	SPST (ON) - OFF
Maximum load	All buttons are combined on 1 common contact
Dielectric strength	9 W AC - 6 W DC Max. 250 mA / 120 V
Contact material	1000 V RMS
Lifecycle	Silver
Protection value	+ 1.500.000 cycles
Connection method	IP41
Advised wallbox type	PCB mounted screw terminal
	Depth 45mm or deeper, with screws
	Size internal Ø60mm or 50x50mm

APPROVAL

CE	Conform
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Frame with pushbuttons, Mounting frame, Buttons, Hook (removal tool), Installation manual

AVAILABILITY

Switches	SB1T	SB2T	SB3T	SB4T
	SB11T	SB22T	SB44T	SB42T
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG

2 Product Bulletins

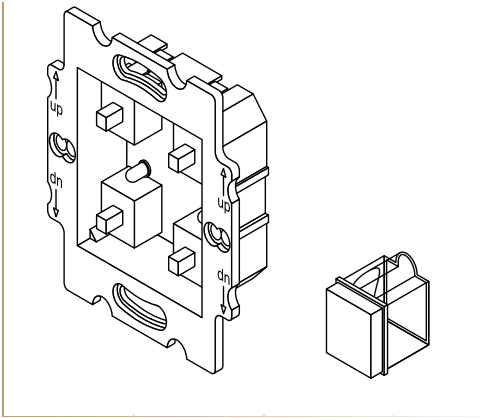
2.1 Switches

2.1.2 24 Volt + LED Push Buttons

GENERAL DESCRIPTION

The Lithoss 24V pushbuttons + LED are very similar to the versions without LED. The LED's are meant as indication and are standard orange. Other colours can be delivered on request.

The LED's are common anode (+) soldered.



TECHNICAL SPECIFICATIONS

Switching function	SPST (ON) - OFF			
Maximum load	All buttons are combined on 1 common contact			
Dielectric strength	9 W AC - 6 W DC Max. 250 mA / 120 V			
Contact material	1000 V RMS			
Lifecycle	Silver			
Protection value	+ 1.500.000 cycles			
Connection method	IP41			
	Pushbuttons	PCB mounted screw terminal		
	LED's	Pin-connector		
LED	Orange (standard)	White	Blue	Red
Uf	2,1 VDC	3,4 VDC	3,65 VDC	2,5 VDC
If (max)	30 mA	20mA	20mA	30mA
Advised wallbox type	Depth	45mm or deeper, with screws		
	Size	internal Ø60mm or 50x50mm		

APPROVAL

CE	Conform
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Frame with pushbuttons, Mounting frame, Buttons, Hook (removal tool), Installation manual
LED-connector with resistor (24VDC), LED-spacer

AVAILABILITY

Switches	SB1T	SB2T	SB3T	SB4T
	SB11T	SB22T	SB44T	SB42T
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG

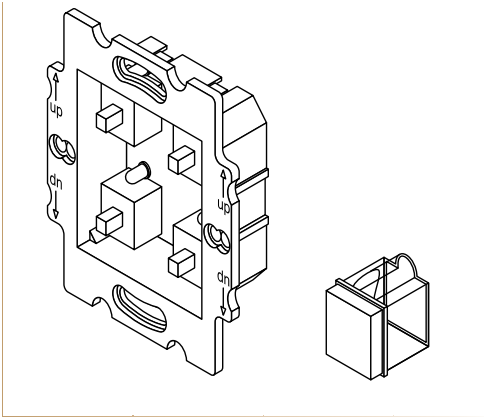
2 Product Bulletins

2.1 Switches

2.1.3 Technical info LED's

GENERAL DESCRIPTION

A LED (Light-Emitting Diode), is a semiconductor light source. LED's are used as indicator lamps in many devices, and are increasingly used for lighting. Lithoss uses LED's that can be used as continious backlights around the buttons, or as indicational light to provide feedback to the user. Lithoss LED's are soldered with a common anode. Specific domotics systems may require an inversed polarization.



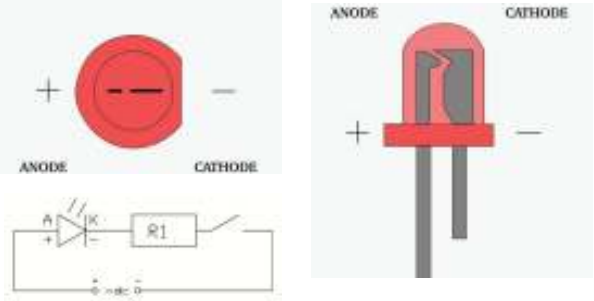
LITHOSS LEDS

Color	Orange (standard)	White	Blue	Red
Uf	2,1 VDC	3,4 VDC	3,65 VDC	2,5 VDC
If (max)	30 mA	20mA	20mA	30mA

EXAMPLE CALCULATIONS

Information needed:	Symbol	Unit	Example	
Voltage of the source	Us	V DC	24	
Forward voltage of the LED	Uf	V DC	2,1 (Orange LED)	
Max. Forward current of the LED	If	A	0,03 (Orange LED)	
Calculation of the resistor value				
Calculated value of serialresistor	R	Ohm	730	$R = (Us - Uf) / If$
Select a common higher resistorvalue	Example 1 820	Example 2 1000	Example 3 1200 Ohm	
Calculate the exact forward current	0,027	0,022	0,018 mA	$If = (Us - Uf) / R$
Calculate the power factor	0,58	0,48	0,40 Watt	$P = (Us - Uf) * If$

DRAWINGS



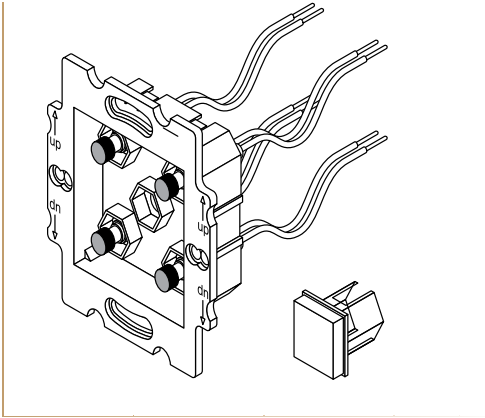
2 Product Bulletins

2.1 Switches

2.1.4 250 Volt Push Buttons

GENERAL DESCRIPTION

The Lithoss 250V pushbuttons are very simple to work with, but are in fact extremely versatile. They can be combined with various micro module's that will determine the buttons function. Timer functions, dim units and store controllers are just some of the many possibilities.



TECHNICAL SPECIFICATIONS

Switching function	SPST (ON) - OFF
Maximum load	1 A - 250 VAC
Dielectric strength	1500 VAC RMS
Contact material	Silver
Lifecycle	+ 50.000 cycles
Protection value	IP41
Connection method	2 x 0,8 mm ² wires
Advised wallbox type	Depth 45mm or deeper, with screws
	Size internal Ø60mm or 50x50mm

APPROVAL

CE	EN 60669-1 (BS004304.106)
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Frame with pushbuttons, Mounting frame, Buttons, Protection pad, Push-wire connectors, Hook (removal tool)
Installation manual

AVAILABILITY

Switches	SB1T	SB2T	SB3T	SB4T
	SB11T	SB22T	SB44T	SB42T
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG

2 Product Bulletins

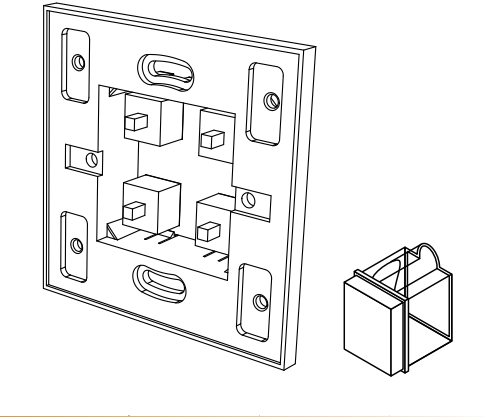
2.1 Switches

2.1.5 Illume

GENERAL DESCRIPTION

ILLUME : bring your vivid imagination to light

Lithoss enlightens your life with the lit-up switches of the ILLUME collection. Thanks to its subtle light this switch becomes a light in the dark! Enjoy a lovely evening with your switch becoming your orientation light!



TECHNICAL SPECIFICATIONS

Buttons

Switching function	SPST (ON) - OFF
	All buttons are combined on 1 common contact
Maximum load	9 W AC - 6 W DC Max. 250 mA / 120 V
Dielectric strength	1000 V RMS
Contact material	Silver
Lifecycle	+ 1.500.000 cycles
Protection value	IP41
Connection method	PCB mounted screw terminal

LED's

Side LED's	Orange	White	Blue	Red
Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Uf (LED's)	4 x 2,0 V	4 x 3,2 V	4 x 3,2 V	4 x 2,0 V
If max (LED's)	30 mA	20 mA	20 mA	30 mA
Resistor	560 Ohm	560 Ohm	560 Ohm	560 Ohm (Included on pcb)

Advised wallbox type	Depth 45mm or deeper, with screws
Size	internal Ø60mm or 50x50mm

APPROVAL

CE	Conform
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Opale mounting frame with pushbuttons, Buttons, Hook (removal tool), Installation manual

AVAILABILITY

Switches	SB1T	SB2T	SB3T	SB4T	SBXT
----------	------	------	------	------	------

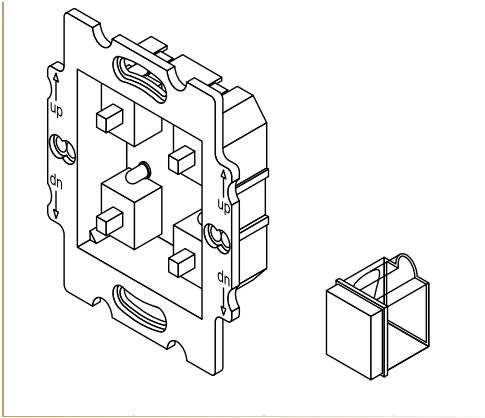
2 Product Bulletins

2.1 Switches

2.1.6 KNX/EIB version

GENERAL DESCRIPTION

The Lithoss 24V pushbuttons (with or without LED's) are now available in a KNX/EIB version. The pushbutton frames are delivered with a plug & play wired KNX/EIB pushbutton interface reducing the installation time to an absolute minimum. All buttons and LED's can then be separately programmed to their own specific function using the ETS software.



TECHNICAL SPECIFICATIONS

Switching functions	Multiple functions including : On/Off, Dimming, Up/Down, Scene's, ... <i>More info can be found in the application software guide.</i>
LED functions	Status indication, or independant output
BUS connection	Twisted Pair - 30 VDC
BUS consumption	max. 15mA
Lifecycle	+ 1.500.000 cycles
Protection value	IP30
Connection method	Red / Black KNX connector
Advised wallbox type	Depth 45mm or deeper, with screws Size internal Ø60mm or 50x50mm

APPROVAL

CE	Conform
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Frame with pushbuttons, Mounting frame, Buttons, Hook (removal tool), LED-spacer (optional), Installation manual
Plug & Play KNX-interface

AVAILABILITY

Switches	SB1T	SB2T	SB3T	SB4T
	SB11T	SB22T	SB44T	SB42T
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG

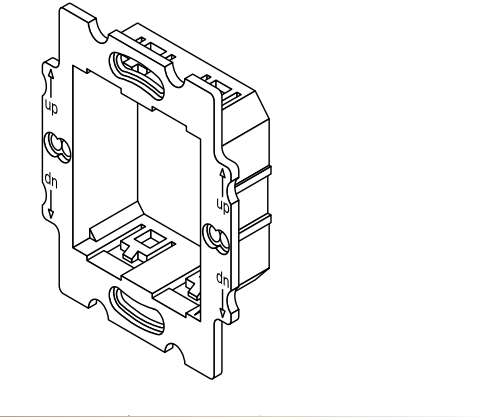
2 Product Bulletins

2.2 Frames

2.2.1 Bticino

GENERAL DESCRIPTION

The Bticino frame makes it possible to integrate the Bticino sockets and outlets in the Lithoss design.
The frame is compatible with three ranges of modules in three different colours.



TECHNICAL SPECIFICATIONS

Compatible modules	Bticino Living Black Bticino Light White Bticino LightTec Grey
Available space	2 modules
*SBMK	2 modules for sockets only
*SB3MT	3 modules (only for Bticino wall boxes 503e / PB503)
*SB4MT	4 modules (only for Bticino wall boxes 504e / PB504)

APPROVAL

Approval dependant on module used

INCLUDED PARTS

Cover plate, Frame for modules, Mounting frame, Protection pad, Hook (removal tool), Installation manual

AVAILABILITY

Modules	SBMG	SBMMG	SBMMM	SBMK	SB3MT
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG	SB4MT

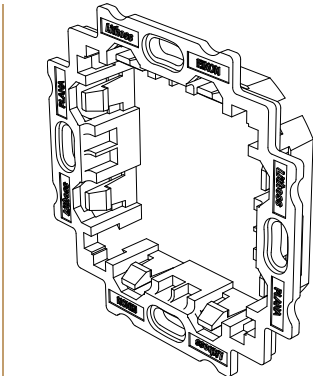
2 Product Bulletins

2.2 Frames

2.2.2 Vimar

GENERAL DESCRIPTION

The Vimar frame is the latest addition to the Lithoss modules range. This frame makes it possible to integrate sockets and outlets from two different Vimar models in the Lithoss design. The frame is compatible with modules out of the Plana range which contains of two colors, and the Eikon range which contains of three colors.



TECHNICAL SPECIFICATIONS

Compatible modules	Vimar Plana	White	Silver	
	Vimar Eikon	Grey	Next	White

Available space	2 modules
-----------------	-----------

*SBMK	2 modules for sockets only
*SB3MT	3 modules (only for Vimar wall boxes V71303(.AU) / V71613)
*SB4MT	4 modules (only for Vimar wall boxes V71304(.AU) / V71614)

APPROVAL

Approval dependant on module used

INCLUDED PARTS

Cover plate, Frame for modules, Mounting frame, Protection pad, Hook (removal tool), Installation manual

AVAILABILITY

Modules	SBMG	SBMMG	SBMMM	SBMK	SB3MT
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG	SB4MT

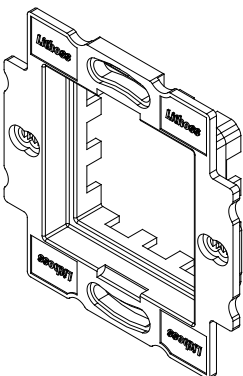
2 Product Bulletins

2.2 Frames

2.2.3 Legrand / Hager / Peha

GENERAL DESCRIPTION

The Legrand/Hager/Peha frame makes it possible to integrate sockets and outlets from three different brands in the Lithoss design. The frame is compatible with modules out of the Mosaic range of Legrand and the Systo range of Hager. Also modules out of the Modul 45 range of Peha can be fitted in this frame.



TECHNICAL SPECIFICATIONS

Compatible modules	Legrand Mosaic	White		
	Hager Systo	White		
	Peha Modul 45	White	Black	Alu Grey

Available space	2 modules
-----------------	-----------

*SBMK	2 modules for sockets only
-------	----------------------------

APPROVAL

Approval dependant on module used

INCLUDED PARTS

Cover plate, Frame for modules, Mounting frame, Protection pad, Hook (removal tool), Installation manual

AVAILABILITY

Modules	SBMG	SBMMG	SBMMM	SBMK
Switches & module	SB1TMG	SB2TMGL	SB2TMGR	SB4TMG

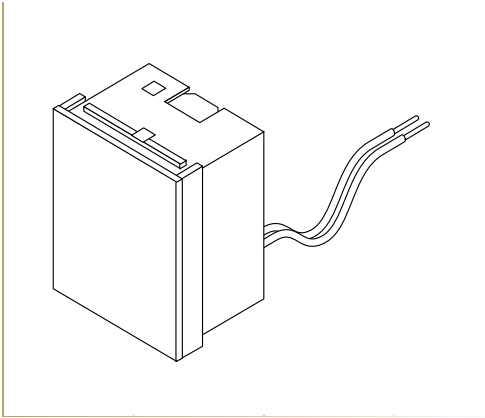
2 Product Bulletins

2.3 Other

2.3.1 QLW / QLB

GENERAL DESCRIPTION

An orientation light that is available standard in 2 colours (cold white and blue). Warm white and other colours are available on availability. These LED-modules fit into our Bticino frame and can be integrated in the MG opening.



TECHNICAL SPECIFICATIONS

Maximum load	0,6 W / 230 VAC	50Hz
Operating temperature	-10°C .. +50°C	
Lifecycle	Presumption of Life Time at 25°C : >100.000h (LEDs) >60.000h (UNIT) Presumption of 50% degradation time at 25°C LEDs : >20.000h (according to Nichia Specifications)	
Protection value	IP40	
Connection method	2x 0,80mm Wire	
Dimensions module	45 x 45 x 32mm	
Advised wallbox type	Depth	45mm or deeper, with screws
	Size	internal Ø60mm or 50x50mm
Suitable for continuous use		

APPROVAL

Approval dependant on module used

INCLUDED PARTS

Cover plate, Frame for modules, Mounting frame, Protection pad, Hook (removal tool), Installation manual

AVAILABILITY

Modules	SBQLW	SBQLB
---------	-------	-------

2 Product Bulletins

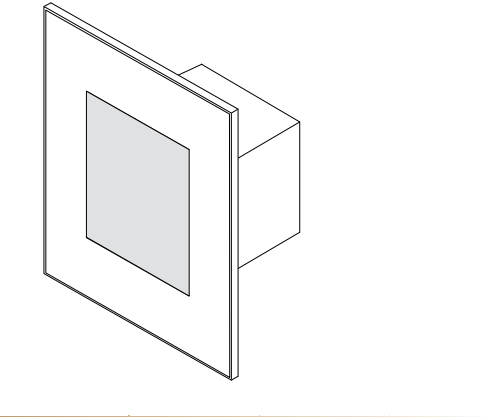
2.3 Other

2.3.2 Q-light

GENERAL DESCRIPTION

The SQLite is an orientation light with uplighting frame. The difference with the SBQLW and the SBQLB is that the light is spread through the different LED's (9 LED module) shining through an opaque cover and at the edges with a plastic frame.

Big advantage : Less than 1 Watt consumption!!



TECHNICAL SPECIFICATIONS

Maximum load	1 W	230 VAC / 50Hz - AC
Operating temperature	-10°C .. +50°C	
Protection value	IP20	
Connection method	2x 0,80mm Wire	
Dimensions module	45 x 45 x 32mm	
Advised wallbox type	Depth	45mm or deeper, with screws
	Size	internal Ø60mm or 50x50mm
Suitable for continuous use		

APPROVAL

Approval dependant on module used

INCLUDED PARTS

Cover plate, Opale Mounting frame, Protection pad, Hook (removal tool), Installation manual

AVAILABILITY

Modules	SQLite
---------	--------

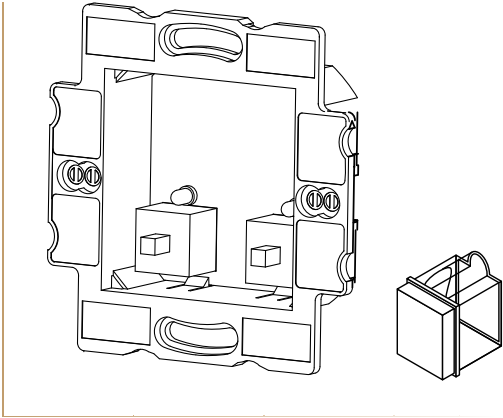
2 Product Bulletins

2.3 Other

2.3.3 RGB Controller

GENERAL DESCRIPTION

RGB systems are very popular and important to create atmosphere. Current controls, however are unnecessarily complex and expensive. That's why we have developed a simple system that “does the job”.



TECHNICAL SPECIFICATIONS

Constant Voltage

LED RGBi Driver DC 2 buttons 12-24V

Converters 12V	Input 12V = Output 12V	max. 50W / Channel
Converters 24V	Input 24V = Output 24V	max. 50W / Channel

Constant Current

Powered RGBi Driver 350mA 2 buttons

Converters 12V	Input 12V = Output 350mA DC	max. 4W / Channel
Converters 24V	Input 24V = Output 350mA DC	max. 8W / Channel
Converters 48V	Input 48V = Output 350mA DC	max. 16W / Channel

Advised wallbox type	Depth	45mm or deeper, with screws
	Size	internal Ø60mm or 50x50mm

APPROVAL

CE	Conform
RoHS	RoHS compatible

INCLUDED PARTS

Cover plate, Frame with pushbuttons, Mounting frame, Buttons, Hook (removal tool), Installation manual

AVAILABILITY

Switches	SB2T
----------	------

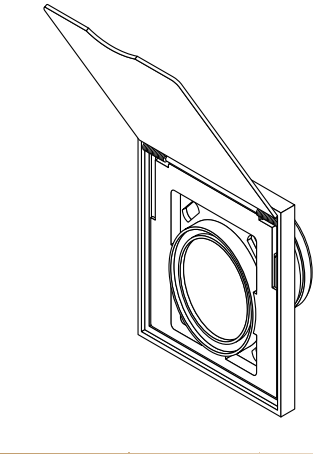
2 Product Bulletins

2.3 Other

2.3.4 Vacuum sockets

GENERAL DESCRIPTION

Elek Trends, manufacturer of the central vacuum system, and Lithoss have joined their forces. Together they have developed a stylish new socket for ET vacuum systems. The new vacuum socket is designed to be a pefect match for the current Lithoss product range, thus enabling interior designers & home owners to add a superior touch in the same classic style.



TECHNICAL SPECIFICATIONS

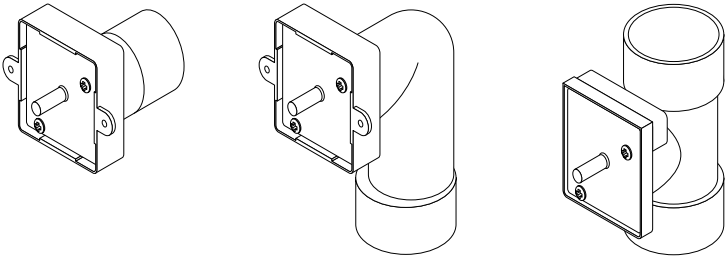
Electrical connection	2 x screw for 12VDC signal
Tube connection	50 mm with double O-rings, allowing variable depth installation in the wall
Dimensions	84 mm x 84 mm x 8,2 mm
Accessories	1.0451.1000 Lithoss elbow fitting 1.0451.1001 Lithoss straight fitting 1.0451.1002 Lithoss tube fitting 1.0451.1003 Extension fitting

INCLUDED PARTS

Frame with cover plate, Vacuum socket frame, Mounting screws, Installation manual

AVAILABILITY

Modules	SBETP
---------	-------



2 Product Bulletins

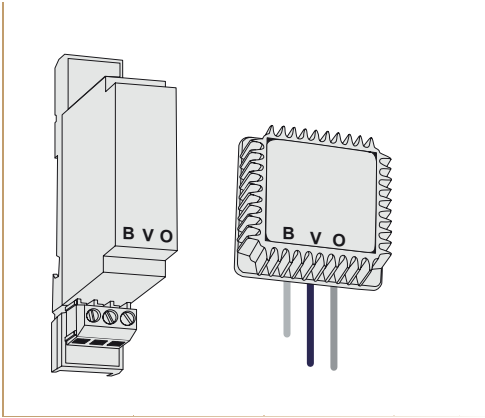
2.4 Micromodules

2.4.1 Yokis

GENERAL DESCRIPTION

Yokis micromodules are available in many different operation possibilities. They are a perfect solution in combination with the Lithoss 250V pushbuttons. It is advisable to confirm the compatibility with the light supplier before starting the installation.

Please find technical sheets in addendum.



TECHNICAL SPECIFICATIONS

Main power line voltage	230 VAC / 50 Hz
Power	Min. 3 VA - Max. 500 VA Unless otherwise specified
Compatible loads	1) Conventional lights bulbs and 220V halogen light bulbs 2) Ferromagnetic, ring and electronic transformers 3) Universal or asynchronous motors 4) Relays or switches > 10 VA 5) Economy light bulb (= add the CHR3W parallel on one of the light bulbs)
Incompatible loads	1) Modules are not suitable for fluorescent lighting 2) Point 5 is not applicable for the MTV500-E module

APPROVAL

CE	Conform Further approval dependant on micromodule used
----	---

INCLUDED PARTS

Micromodule, Manual

AVAILABILITY

MTR500-E	Teleruptor module (on/off) up to a maximum of 500VA - wall box version
MTR500-M	Teleruptor module (on/off) up to a maximum of 500VA - modular version
MTR2000-E	Teleruptor module (on/off) up to a maximum of 2000VA - wall box version
MTR2000-M	Teleruptor module (on/off) up to a maximum of 2000VA - modular version
MTV500-E	Dimmer module - dimming up to a maximum of 500VA - wall box version
MTV500-M	Dimmer module - dimming up to a maximum of 500VA - modular version
MTM500-E	Timer module - programmable for timed lighting - wall box version
MTM500-M	Timer module - programmable for timed lighting - modular version
MTVT500-E	Timed dimmer module - programmable timer with dimmer function
MTK500-E	Multifunctional module - variation of switching, dimming, timer, simulation, ...
MVR500-E	Module for stores and curtains (R12M & D600V not included)
R12M	Add this componant for 2 buttons controle of stores
D600V	Diode to centralise the modules on one pilot wire
CHR3W	Resistive loads for economic light bulbs

2 Product Bulletins

2.4 Micromodules

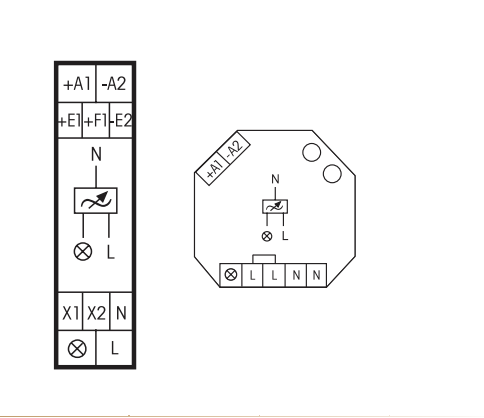
2.4.2 Eltako

GENERAL DESCRIPTION

Eltako micromodules are available in many different operation possibilities. They are a perfect solution in combination with the Lithoss 250V pushbuttons. It is advisable to confirm the compatibility with the light supplier before starting the installation.

The first big difference with Yokis modules is that Eltako contains a master on/off module and can switch on 250V by using a 24V (+LED) pushbutton. The second advantage is that Eltako is compatible with fluorescent lighting.

Please find technical sheets in addendum.



TECHNICAL SPECIFICATIONS

Main power line voltage	Depending on module
Power	Depending on module
Compatible loads	Depending on module
Incompatible loads	Depending on module

APPROVAL

CE	Conform Further approval dependant on micromodule used
----	---

INCLUDED PARTS

Micromodule, Manual

AVAILABILITY

ES12Z-200	Teleruptor module (on/off) UC-2000W with central control function - modular version
ESR61M	Teleruptor module (on/off) UC-2000W - wall box version
EUD12M	Dimmer module - dimming up to a max. of 500VA with central control - modular version
EUD61M	Dimmer module - dimming up to a max. of 500VA - wall box version
LUD12	Slave module for dimmer module EUD12M - modular version
MFZ12DDX	Digital universal module UC-2000W - modular version
SDS12/1-10V	1-10V dimmer 600VA - modular version
SNT12-24VDC-12W	Transfo 230VAC-24VDC - 12W - 0,5A
SNT12-24VDC-24W	Transfo 230VAC-24VDC - 24W - 1,0A

3 Domotics overview

1. STAR KABLING

Lithoss 24V pushbuttons are direct compatible on domotics systems like Duotecno, ...

2. BUS KABLING

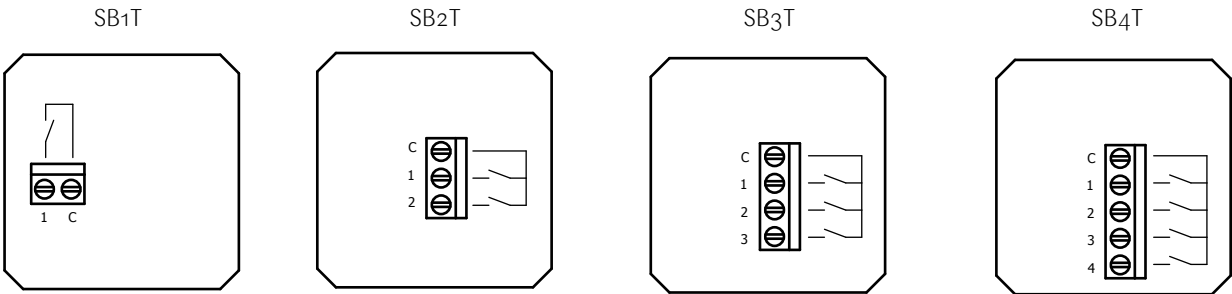
Lithoss 24V pushbuttons are compatible by using an interface. Here under you find some interface modules that can be used in combination with Lithoss switches. Lithoss also has a proper KNX switch, which is direct compatible with the different KNX/EIB systems.

Manufacturer	System	Product Code	# channels	LED	Dimensions
Berker	EIB/KNX	7564 20 01	2	Yes	-
Berker	EIB/KNX	7564 40 01	4	Yes	-
Berker	EIB/KNX	7564 80 01	8	Yes	-
Bticino	My Home	3477	2	No	40,5 x 40,5 x 18 mm
Bush Jaeger	EIB/KNX	US/U 2.2	2	Yes	39 x 40 x 12 mm
Bush Jaeger	EIB/KNX	US/U 4.2	4	Yes	39 x 40 x 12 mm
Clipsal	C-Bus	5104BCL	4	No	55 x 49 x 19 mm
Clipsal	C-Bus	5102BCLEDL	2	Yes	55 x 49 x 19 mm
Crestron	Cresnet	CH-UNI8IO	8	Yes	50 x 42 x 24 mm
Domintell	-	DISMo4	4	Yes	46 x 28 x 15 mm
Domintell	-	DISMo8	8	Yes	46 x 28 x 15 mm
Jung	EIB/KNX	2076-2 T	2	Yes	43 x 28 x 16 mm
Jung	EIB/KNX	2076-4 T	4	Yes	43 x 28 x 16 mm
GIRA	EIB/KNX	1118 00	2	No	43 x 43 x 18 mm
GIRA	EIB/KNX	1119 00	4	No	43 x 43 x 18 mm
Hager	EIB/KNX	TX 302	2	No	38 x 35 x 12 mm
Hager	EIB/KNX	TX 304	4	No	38 x 35 x 12 mm
Hager	EIB/KNX	TX 344	4	Yes	38 x 35 x 12 mm
Lutron	Grafik Eye	GRX-WCI	2	No	dia. 59 mm x 20 mm
Merten	EIB/KNX	KNX 670802	2	Yes	30 x 40 x 12 mm
Merten	EIB/KNX	KNX 670804	4	Yes	30 x 40 x 12 mm
Niko	Nikobus	05-056	2	No	-
Qbus	-	INP02	2	Yes	41 x 40 x 12 mm
Qbus	-	INP04	4	Yes	41 x 40 x 12 mm
Siemens	EIB/KNX	5WG1 220-2AB02	4	No	38 x 43 x 17,6 mm
Siemens	EIB/KNX	5WG1 220-2AB13	2	No	38 x 43 x 17,6 mm
Theben	EIB/KNX	TA 2 496 9 202	2	Yes	37 x 37 x 10 mm
Theben	EIB/KNX	TA 4 496 9 204	4	Yes	37 x 37 x 10 mm
Theben	EIB/KNX	TA 6 496 9 206	6	Yes	(4x) 37 x 37 x 10 mm

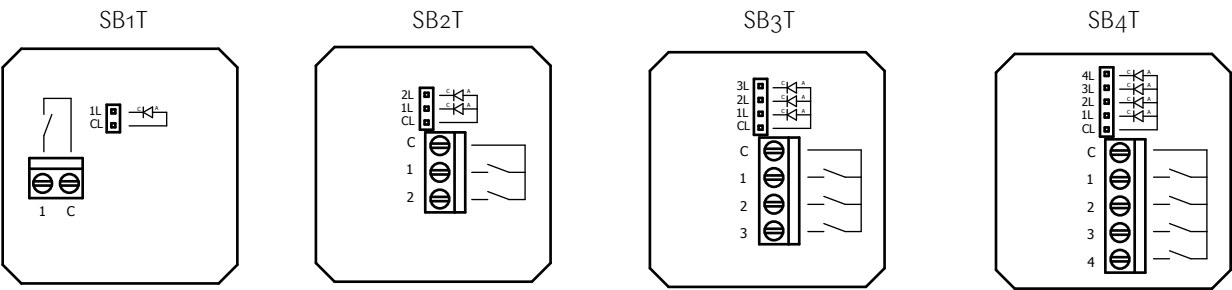
*Note : this list is not complete. For other brands, please contact us.

4 Wiring Diagrams

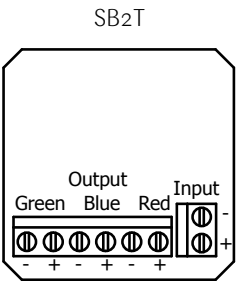
4.1 24 Volt push buttons



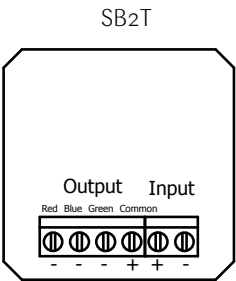
4.2 24 Volt push buttons + LED



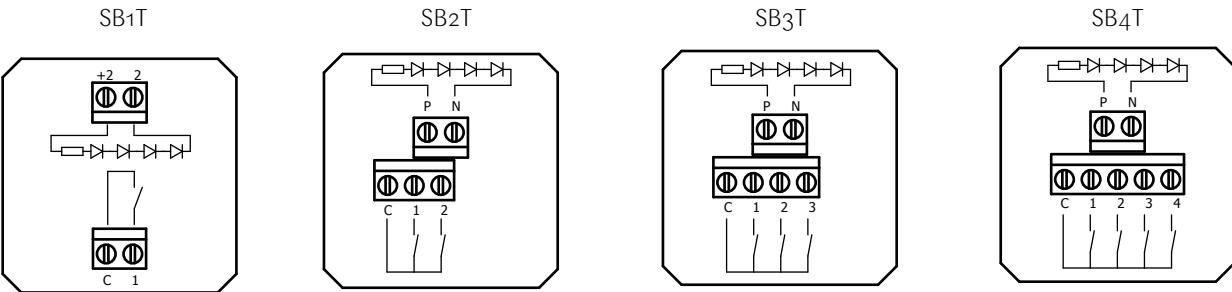
4.3 RGB Constant Current



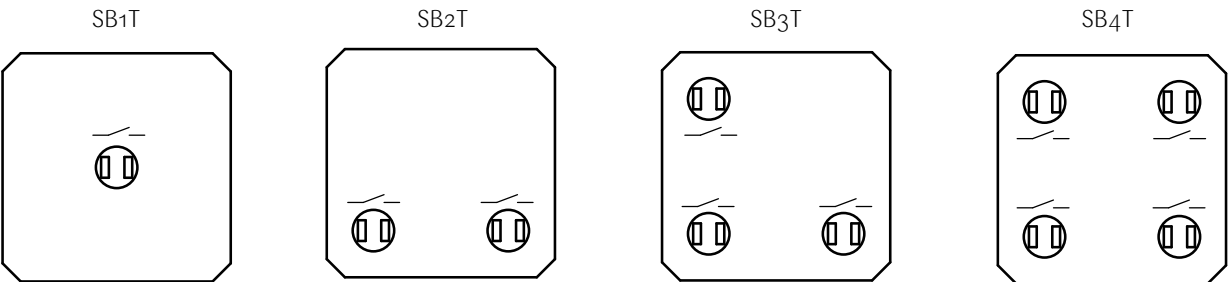
4.3 RGB Constant Voltage



4.4 24 Volt Illume



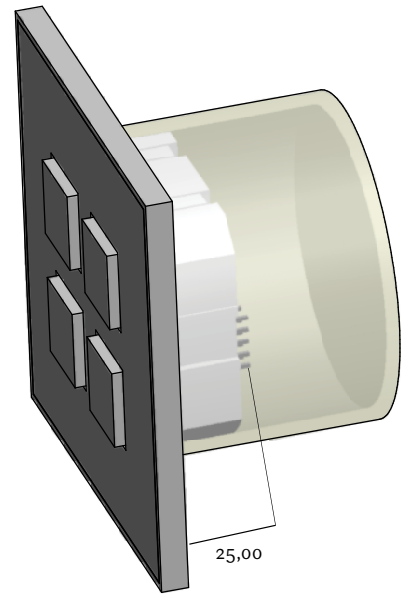
4.5 250 Volt push buttons



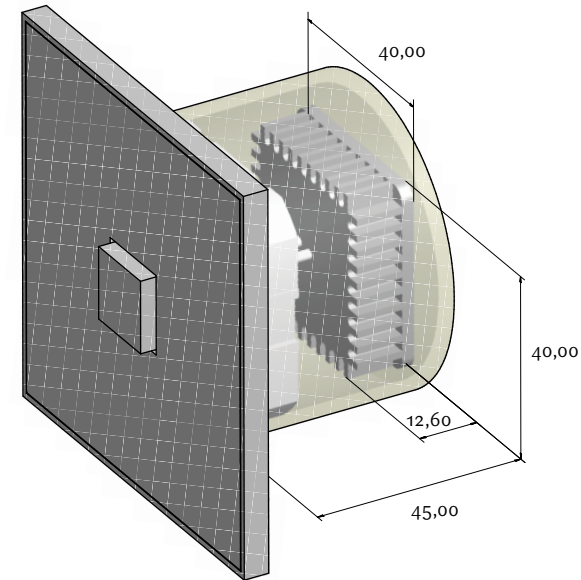
5 Dimensions

5.1 Depth

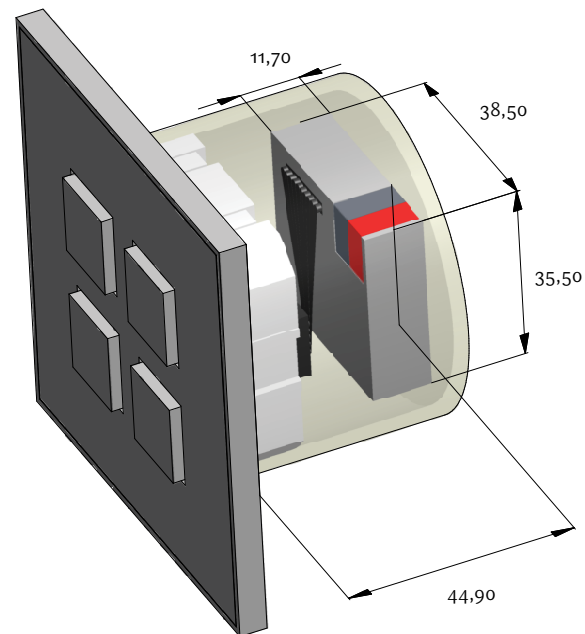
5.1.1 24 Volt Push Buttons



5.1.2 250 Volt Push Buttons



5.1.3 KNX

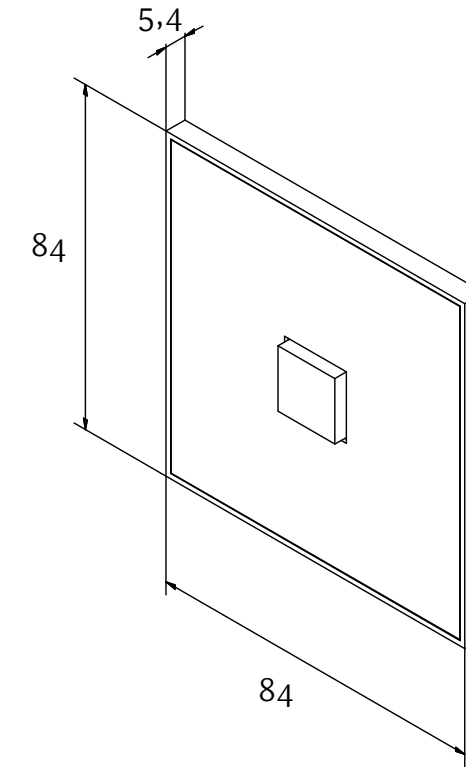


5 Dimensions

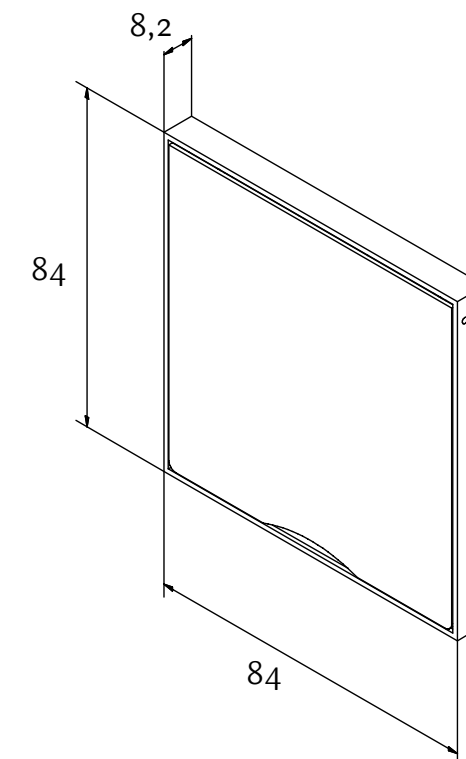
5.2 Single frame

5.2.1 SB1T

Identical for following products : SB1T, SB2T, SB3T, SB4T, SBMG, SBQLW, SBQLB, SQLITE, SBB2M, SBXT



5.2.1 SBMK + SBETP

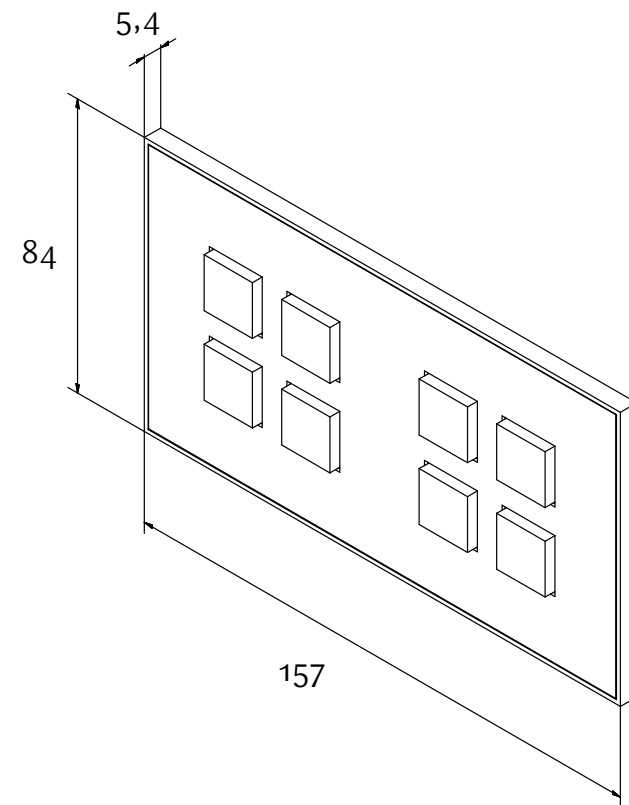


5 Dimensions

5.2 Double frame

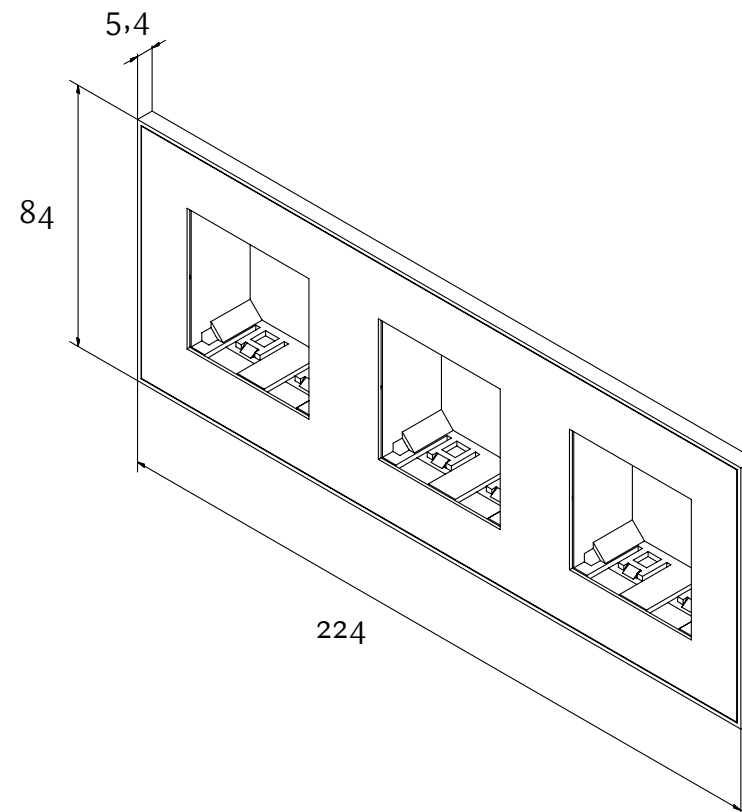
5.2.1 SB44T

Identical for following products : SB11T, SB22T, SB44T, SB42T, SBMMG, SB1TMG, SB2TMG, SB4TMG, SBB22M, SB3MT, SB4MT



5.3 Triple frame

5.3.1 SBMMMG



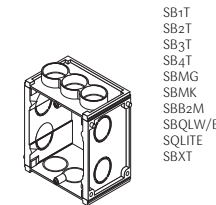
6 Wall Boxes

6.1 Dimensions

Lithoss switches and sockets should be installed on wall boxes with screws (screw distance : 60mm)
Below you find an overview of our wall boxes.

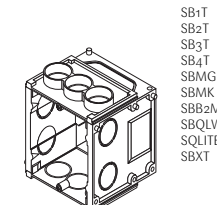
A recent adaptation of the mounting frame has made it possible to install Lithoss products on the KAISER wall boxes (dia 59mm instead of 61mm). See the overview on page 30.

RE0119



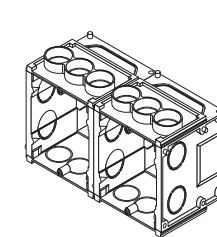
SB1T
SB2T
SB3T
SB4T
SBMG
SBMK
SBB2M
SBQLW/B
SQLITE
SBXT

RE0120



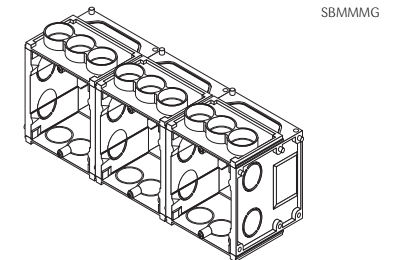
SB1T
SB2T
SB3T
SB4T
SBMG
SBMK
SBB2M
SBQLW/B
SQLITE
SBXT

2 x RE0120



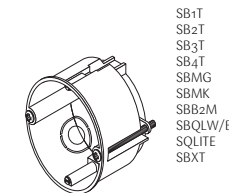
SB11T
SB22T
SB44T
SB42T
SB1TMG
SB2TMG
SB4TMG
SBMMG
SBB22M

3 x RE0120



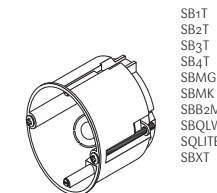
SBMMMG

RE1265



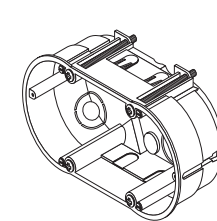
SB1T
SB2T
SB3T
SB4T
SBMG
SBMK
SBB2M
SBQLW/B
SQLITE
SBXT

RE1266



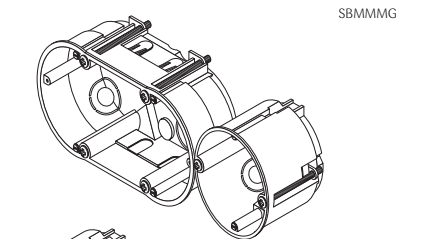
SB1T
SB2T
SB3T
SB4T
SBMG
SBMK
SBB2M
SBQLW/B
SQLITE
SBXT

1 x RE1267



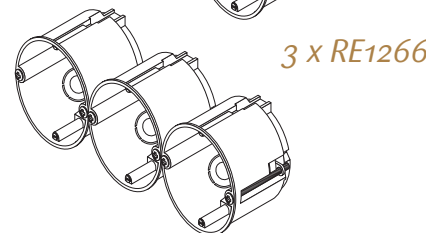
SB11T
SB22T
SB44T
SB42T
SB1TMG
SB2TMG
SB4TMG
SBMMG
SBB22M

1 x RE1267 + 1 x RE1266



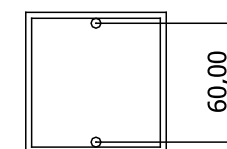
SBMMMG

3 x RE1266

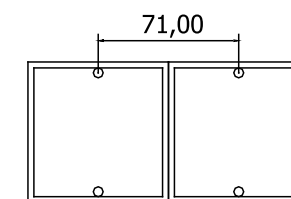


IMPORTANT DISTANCES

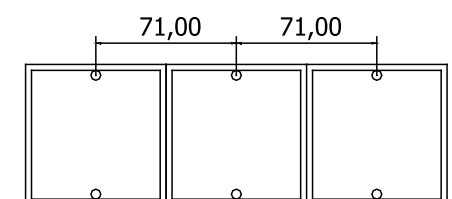
INSTALLATION SINGLE PLATES



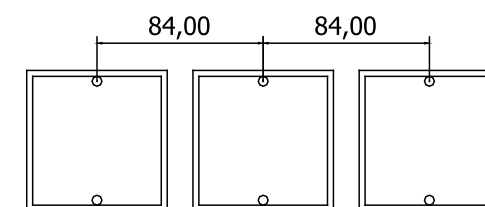
INSTALLATION DOUBLE PLATES



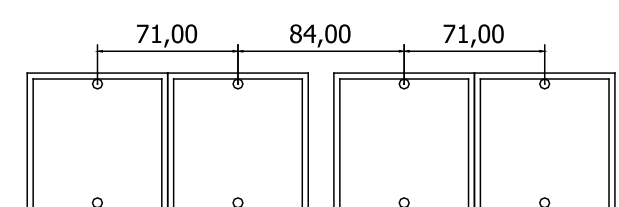
INSTALLATION TRIPLE PLATES



INSTALLATION OF 3 x SINGLE PLATES



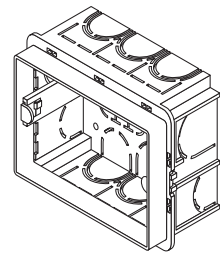
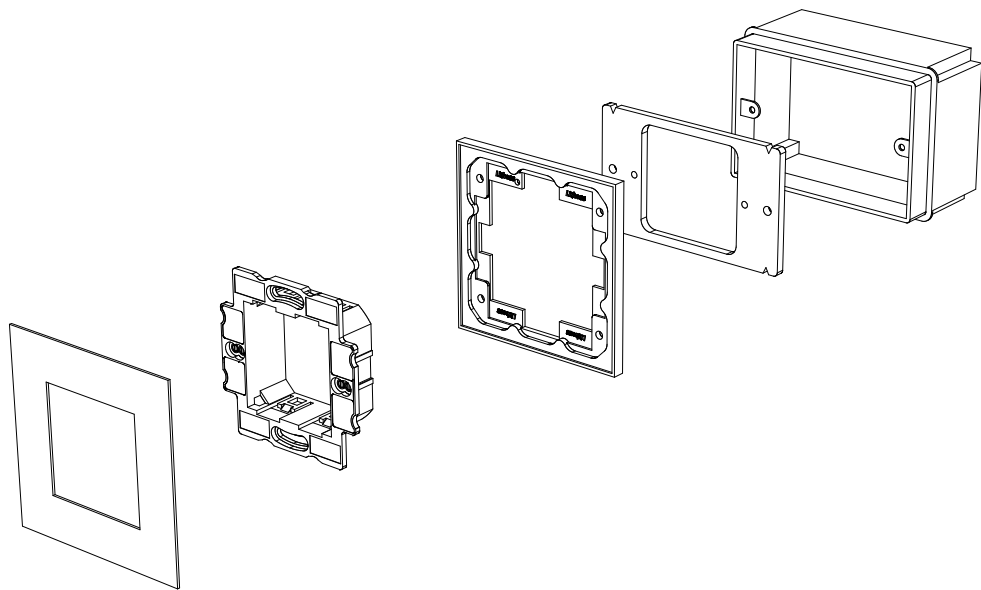
INSTALLATION OF 2 x DOUBLE PLATES



6 Wall Boxes

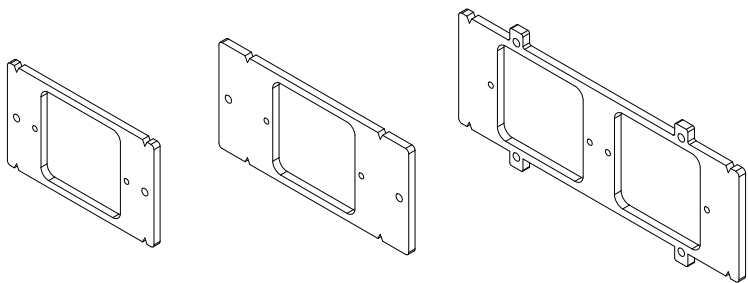
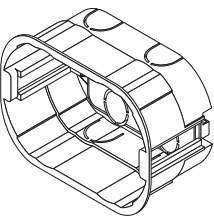
6.2 Bticino Wall Boxes

Lithoss switches and sockets are compatible with Bticino boxes (Italian Standard) by using an adaptation plate.
Some products are direct compatible (see table below).
There will always be a part visible of the adaptation plate that should be plastered over to finish.



503 E	Direct compatible	SB3MT
	with adaptation plate	1T, 2T, 3T, 4T, MG, B2M, QLW, ...
504 E	Direct compatible	SB4MT
	with adaptation plate	1T, 2T, 3T, 4T, MG, B2M, QLW, ...
506 L	with adaptation plate	11T, 22T, 44T, MMG, ...

PB 503	Direct compatible	SB3MT
	with adaptation plate	1T, 2T, 3T, 4T, MG, B2M, QLW, ...
PB 504	Direct compatible	SB4MT
	with adaptation plate	1T, 2T, 3T, 4T, MG, B2M, QLW, ...
PB 506	with adaptation plate	11T, 22T, 44T, MMG, ...



Li44200
Adaptation plate for wall box 503

Li44201
Adaptation plate for wall box 504

Li44202
Adaptation plate for wall box 506

6 Wall Boxes

6.2 Overview Legrand

Ref.	Brand	Serie	Modules	Application	Size / Dia	Core Dist.	Depth	Screws	Compatible
80140	Legrand	Batibox	1	Wallbox	32x70	71	40	2	No
80131	Legrand	Batibox	2	Wallbox	70x70	71	30	2	SBMG
80141	Legrand	Batibox	2	Wallbox	70x70	71	40	2	SBMG
80151	Legrand	Batibox	2	Wallbox	70x70	71	50	2	SBMG
80161	Legrand	Batibox	2	Wallbox	70x70	71	60	2	SBMG
80108	Legrand	Batibox	2	Wallbox	67	-	30/40	2	No
80109	Legrand	Batibox	2	Wallbox	67	-	30/40	0	No
80142	Legrand	Batibox	2+2	Wallbox	145x70	71	40	4	SBMMG
80149	Legrand	Batibox	3	Wallbox	115x70	71	40	2	No
80143	Legrand	Batibox	2+2+2	Wallbox	215x70	71	40	6	SBMMM
80144	Legrand	Batibox	2+2+2+2	Wallbox	285x70	71	40	8	No
89241	Legrand	Batik	2	Wallbox	70x70	57	40	2	SBMG / SBMMG
89251	Legrand	Batik	2	Wallbox	70x70	57	50	2	SBMG / SBMMG
89261	Legrand	Batik	2	Wallbox	70x70	57	60	2	SBMG / SBMMG
80185	Legrand	Batibox	-	Wallbox		-	40	2	No
80155	Legrand	Batibox	-	Wallbox		-	50	2	No
80040	Legrand	Batibox	1	Hollow part.		71	40	2	No
80041	Legrand	Batibox	2	Hollow part.	67	71	40	2	SBMG (*)
80051	Legrand	Batibox	2	Hollow part.	67	71	50	2	SBMG (*)
80061	Legrand	Batibox	2	Hollow part.	67	71	60	2	SBMG (*)
80049	Legrand	Batibox	3	Hollow part.		71	40	2	No
80042	Legrand	Batibox	2+2	Hollow part.	138x67	71	40	4	SBMMG (*)
80052	Legrand	Batibox	2+2	Hollow part.	138x67	71	50	4	SBMMG (*)
80043	Legrand	Batibox	2+2+2	Hollow part.	208x67	71	40	6	SBMMM (*)
80053	Legrand	Batibox	2+2+2	Hollow part.	208x67	71	50	6	SBMMM (*)
80044	Legrand	Batibox	2+2+2+2	Hollow part.	278x67	71	40	8	No
80054	Legrand	Batibox	2+2+2+2	Hollow part.	278x67	71	50	8	No
89352	Legrand	Batibox	2	Hollow part.	122x67	57	50	4	No
89353	Legrand	Batibox	3	Hollow part.		57	50	6	No
89348	Legrand	Batibox	-	Hollow part.	85	-	40	2	No
89358	Legrand	Batibox	-	Hollow part.	85	-	50	2	No
89224	Legrand		2	Wallbox	67	-	40	2	SBMG (*)

(*) Not compatible with L/H/P frames
Switches are compatible

6 Wall Boxes

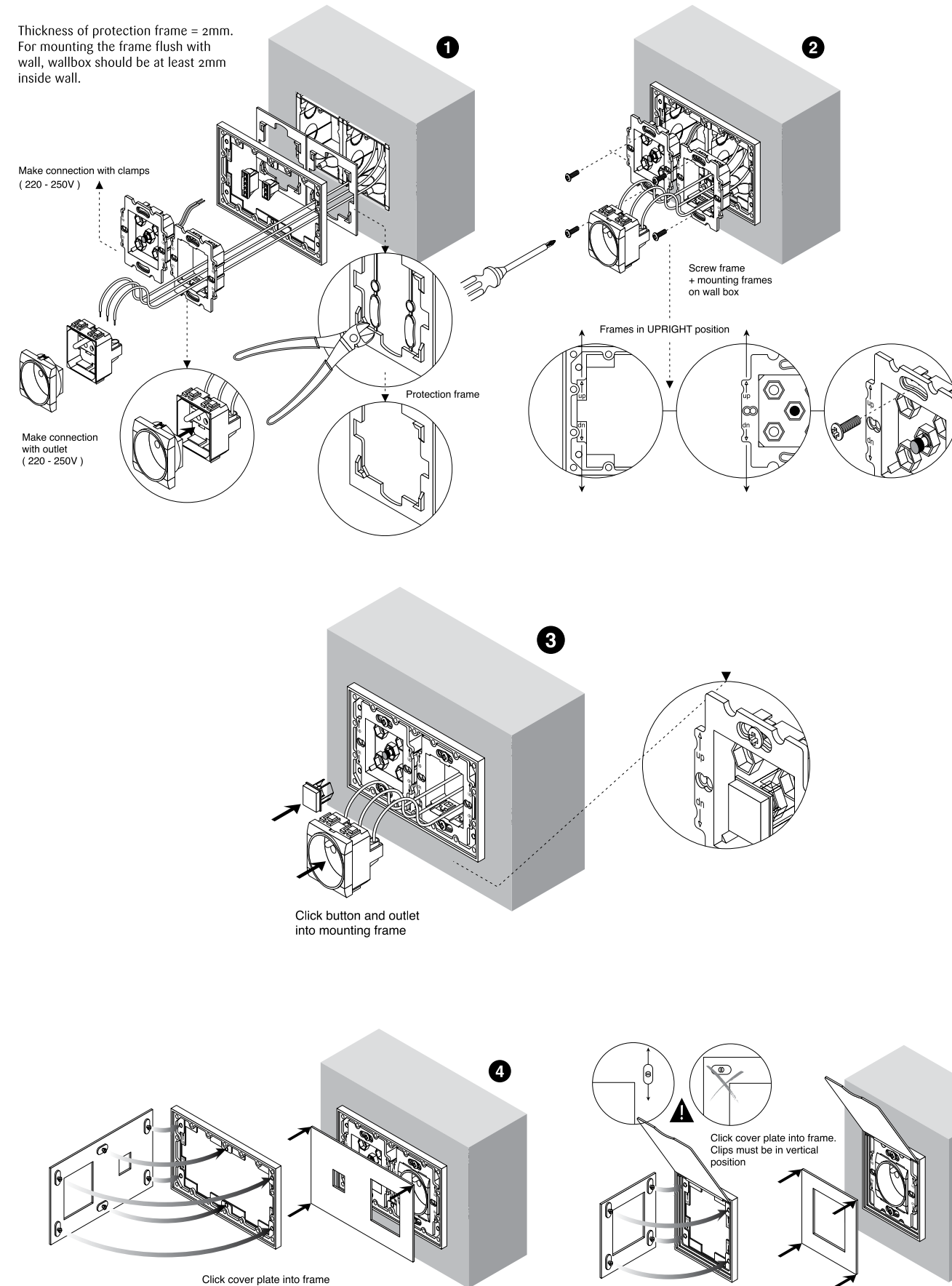
6.3 Overview Kaiser

Reference	Brand	Modules	Application	Size / Dia	Core Dist.
1055-xx 1056-xx	Kaiser	2	Wallbox	60	60
1555-xx 1556-xx	Kaiser	2	Wallbox	60	60
1069-xx	Kaiser	2	Wallbox	110 x 71	60
1068-xx	Kaiser	2	Wallbox	149 x 69	60
275	Helia	2	Wallbox	60 x 60	60
276	Helia	2	Wallbox	60 x 60	60
450	Kaiser	2	Wallbox	71 x 71	60
1078-12	Kaiser	3	Wallbox / Hollow partitions	100 x 60	83
1078-14	Kaiser	4	Wallbox /Hollow partitions	121 x 60	108
9x61-xx	Kaiser	2	Hollow partitions	68	60
9x63-xx	Kaiser	2	Hollow partitions	68	60
9x64-xx	Kaiser	2	Hollow partitions	68	60
9x62-xx	Kaiser	2x2	Hollow partitions	2 x 68	60-71
9062-94	Kaiser	2	Hollow partitions	2 x 68	60-71
9463-xx	Kaiser	2	Hollow partitions	74	60
9464-xx	Kaiser	2	Hollow partitions	74	60

Depth	Screws	Lithoss buttons	Bticino frame	L/H/P frame	Vimar frame	Standard
46	2-4	Yes	Yes	No	No	GER
60	2-4	Yes	Yes	No	No	GER
49	2	Yes	Yes	No	No	GER
60	2	Yes	Yes	No	No	GER
50	2	Yes	Yes	Yes	Yes	BEL
65	2	Yes	Yes	Yes	Yes	BEL
45	2	Yes	Yes	Yes	Yes	AUT
52	2	n.a.	SB3MT	n.a.	n.a.	ITA / USA
52	2	n.a.	SB4MT	n.a.	n.a.	ITA / USA
35	2	24V & 24V + LED version only	No	No	No	EU
47	2	Yes	Yes	Yes	Yes	EU
68	2	Yes	Yes	Yes	Yes	EU
47	2 x 2	Yes	Yes	Yes	Yes	EU
75	2	Yes	Yes	Yes	Yes	EU
44	2	Yes	Yes	Yes	Yes	GER
54,5	2	Yes	Yes	Yes	Yes	GER

7 Installation manual

7.1 Manual general



32

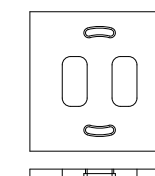
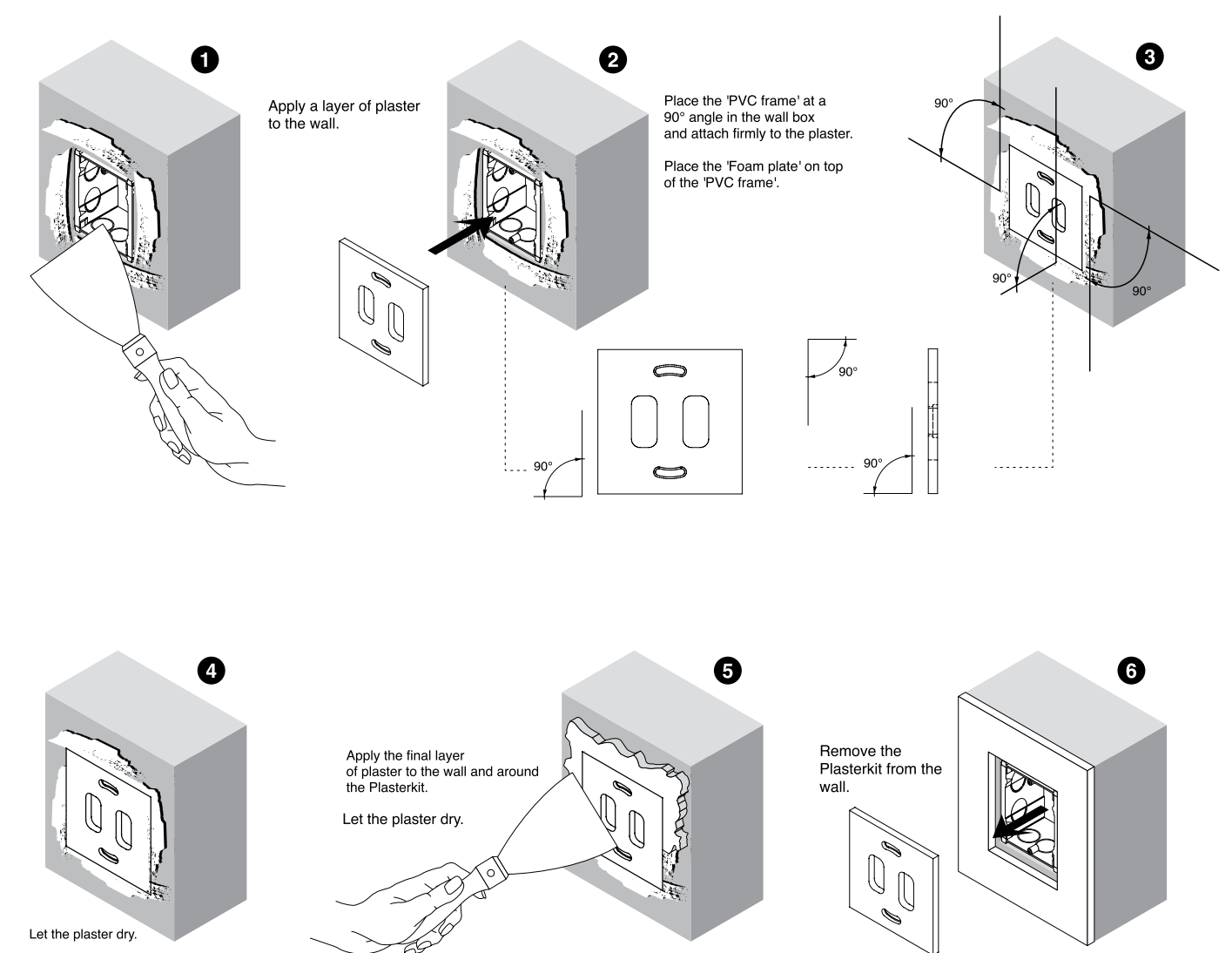
Lithoss designed switches

Lithoss
DESIGNED SWITCHES

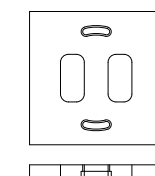
IMPORTANT : Technical data is subject to change without notice. Please check our website for latest information.

7 Installation manual

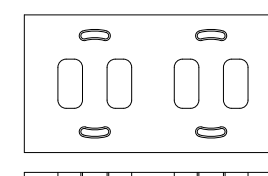
7.2 Manual plasterkit



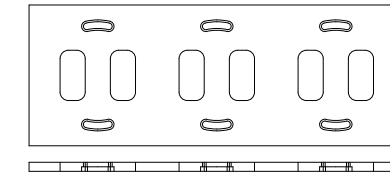
Li41001 : plasterkit 1
84 x 84 x 5,4mm



Li41003 : plasterkit 3
84 x 84 x 8,2mm



Li41002 : plasterkit 2
84 x 157 x 5,4mm



Li44003 : plasterkit 4
84 x 224 x 5,4mm

33

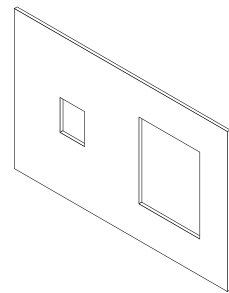
Lithoss designed switches

Lithoss
DESIGNED SWITCHES

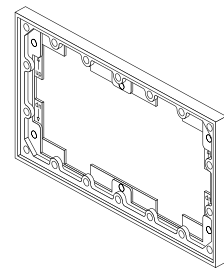
7 Installation manual

7.3 Overview mouting parts

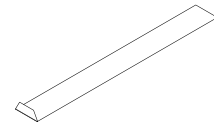
Parts included



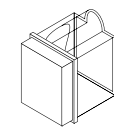
Coverplate



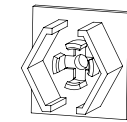
Frame



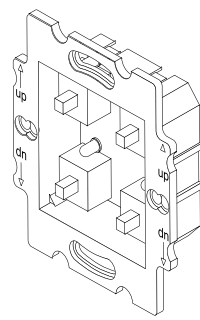
Hook (removal tool)



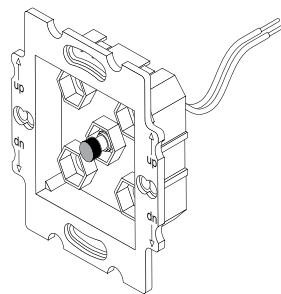
24V button



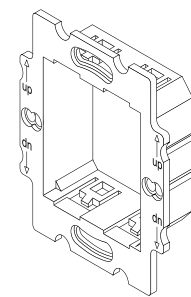
250V button



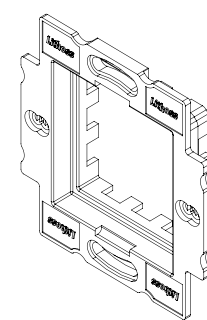
24V mounting frame



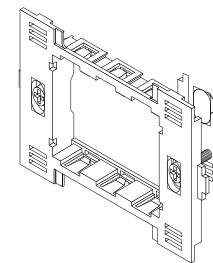
250 V mounting frame



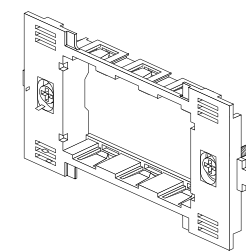
Bticino mounting frame



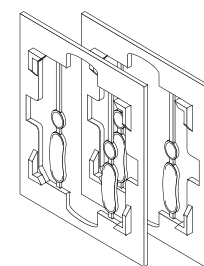
Legrand / Hager / Peha mounting frame



3MT mounting frame

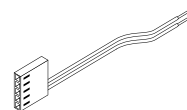


4MT mounting frame



Protection frames

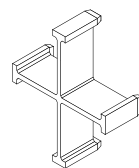
Optional parts



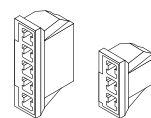
LED connector



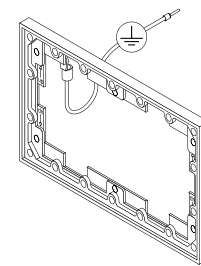
LED



Spacer



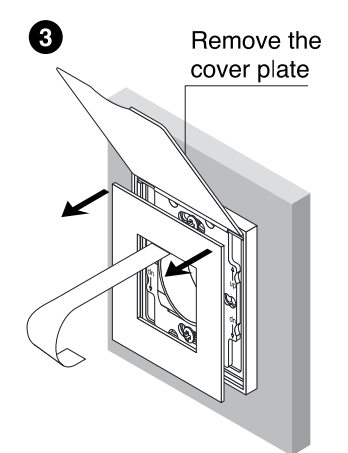
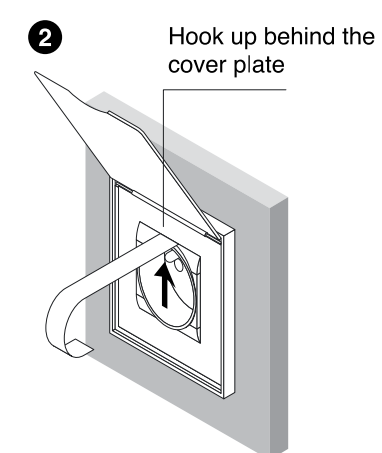
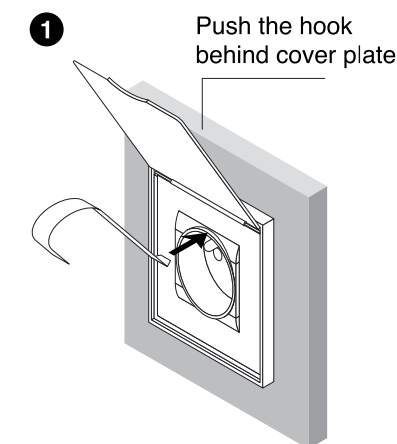
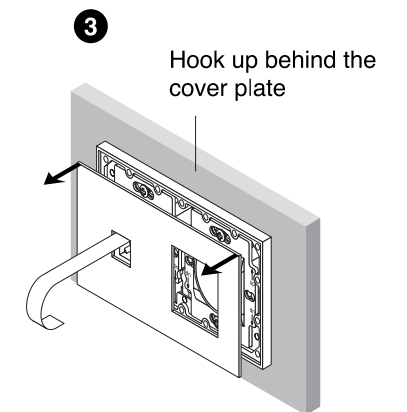
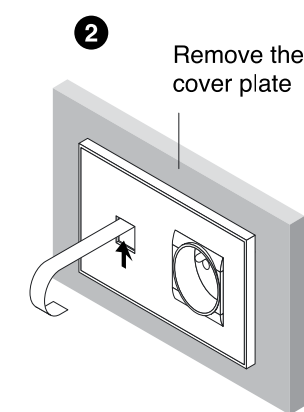
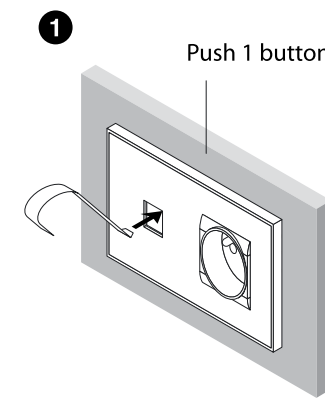
Connection clamps



Earthing cable

7 Installation manual

7.4 De-mounting



8 Compatible modules

MODULES

		BTICINO			LEGRAND
		Light	Light Tech	Living	Mosaic
Description	Mod	White	Grey	Black	White
Outlet pin connection (Type E)	2	TIN4142	TINT4142	TIL4142	L74111
Outlet Schuko (Type F)	2	TIN4141	TINT4141	TIL4141	L74130
Outlet British Standard 5A (Type C)	2	-	-	-	L74124
Outlet British Standard 13A (Type G)	2	-	-	-	L74140
Outlet British Standard 16A	2	-	-	-	-
Shaver outlet (115V-230V)	3	TIN4177	TINT4177	TIL4177	-
RJ11 - Telephone connection	1	TIN4258/11N	TINT4258/11N	TIL4258/11N	L78730
Telephone connection (French st.)	2	AR22240	-	AR20240	L78738
RJ45 Computer connection (CAT5)	1	TIN4279.5E	TINT4279.5E	TIL4279.5E	L78650
RJ45 Computer connection (CAT6)	1	TIN4276/6	TINT4276/6	TIL4276/6	L78660
Type F TV female connector (75 ohm)	1	TIN4269F	TINT4269F	TIL4269F	L78780
TV connection Coax (end)	1	TIN4202D	TINT4202D	TIL4202D	L78782
TV connection Coax (through)	1	-	-	-	-
TV / FM connection Coax (end)	2	TIN4211D	TINT4211D	TIL4211D	L78784
TV / FM connection Coax (through)	2	-	-	-	-
TV / FM / SAT connection Coax (end)	2	TIN4210D	TINT4210D	TIL4210D	L78786
Loudspeaker connection	1	TIN4293	TINT4293	TIL4293	-
RCA connection	1	TIN6269R	TINT6269R	TIL6269R	L78753
Cardreader	3	TIN4545	TINT4545	TIL4545	-
Programmable thermostat	2 / 3	TIN4448	TINT4448	TIL4448	-
Electronic thermostat	2	TIN4442	TINT4442	TIL4442	L74435
EIB/KNX thermostat	2	-	-	-	-
IR Movement detector	1	TIN4431	TINT4431	TIL4431	-
IR Movement detector	2	TIN4432	TINT4432	TIL4432	L74426
EIB / KNX Presence detector	2	-	-	-	-
Blank module	1	TIN4950	TINT4950	TIL4950	L77070
Blank module	2	TIN4951	TINT4951	TIL4951	L77071
Digital timeswitch	2	TIN4461	TINT4461	TIL4461	L78420
Circuit breaker	2	TIN4305	TINT4305	TIL4305	L77522
Ventilation switch - 4 positions	2	TIN4016	TINT4016	TIL4016	-

PEHA			HAGER	VIMAR			VIMAR	
Modul 45	Modul 45	Modul 45	Systo	Eikon	Eikon	Eikon	Plana	Plana
White	Grey	Black	White	White	Grey	Black	White	Silver
P414341	P516941	P512941	WS 106	VI220212	VI320212	VI120212	14212	14212.SL
P414111	P516111	P512111	-	VI220208	VI320208	VI120208	14208	14208.SL
-	-	-	-	-	-	-	-	-
-	-	-	-	VI220219	VI320219	VI120219	14219	14219.SL
-	-	-	-	-	-	-	14218	14218.SL
-	-	-	-	VI220290	VI320290	VI120290	14290	14290.SL
P572111	P572311	P572211	WS 210	VI220320	VI320320	VI120320	14320	14320.SL
-	L79238	-	WS 200	VI220327	VI320327	VI120327	14327	14327.SL
-	-	-	WS 210	VI2203394	VI3203394	VI1203394	14339.4	14339.4.SL
P572111	P572311	P572211	WS 219	VI2203396	VI3203396	VI1203396	14339.6	14339.6.SL
-	-	-	-	VI220318	VI320318	VI120318	14318	14318.SL
-	-	-	WS 250 (2mod)	VI220300	VI320300	VI120300	14300.01	14300.01.SL
-	-	-	-	VI220300.10	VI320300.10	VI120300.10	14300.10	14300.10.SL
P524211	P524411	P524311	WS 253	VI220302	VI320302	VI120302	14302	14302.SL
-	-	-	-	VI220302.10	VI320302.10	VI120302.10	14302.10	14302.10.SL
P524911	P525111	P525011	WS 257	VI220303	VI320303	VI120303	14303	14303.SL
-	-	-	-	-	-	-	-	-
-	-	-	-	VI220335	VI320335	VI120335	14335	14335.SL
-	-	-	-	-	-	-	-	-
-	-	-	WS 311 (2mod)	VI220445	VI320445	VI120445	14445	14445.SL
P500113	P500313	P500213	WS 310	VI220440	VI320440	VI120440	14440	14440.SL
-	-	-	-	VI220430	VI320430	VI120430	14451	14451.SL
-	-	-	-	VI220181	VI320181	VI120181	14181	14181.SL
P504513	P504713	P504613	WS 051	VI220485	VI320485	VI120485	-	-
-	-	-	-	VI220850	VI320850	VI120850	14850	14850.SL
P416311	P516011	P512011	WS 688	VI220041	VI320041	VI120041	14041	14041.SL
P416211	P515911	P511911	WS 689	VI220042	VI320042	VI120042	14042	14042.SL
P503913	P504113	P504013	-	VI220448	VI320448	VI120448	14448	14448.SL
-	-	-	-	VI220411	VI320411	VI120411	14411.06	14411.06.SL
-	-	-	-	VI220095	VI320095	VI120095	14095	14095.SL

MICROMODULE General



Wiring : The Micromodule is wired in series in the circuit. There is no connecting direction. It may be placed either on the phase or the neutral. However, the pushbutton should always be connected across the white wire and the violet wire. The micromodules accept pushbuttons with indicators by adding the BV40 accessory (approx. 20 indicators).

Technical data :

Power: min. 3 VA, max. 500 VA
Main power line voltage: 230 V - 50 HZ
Room temperature: - 20° C to + 40° C
Relative humidity: 0 to 99 %

Install this product in ventilated boxes



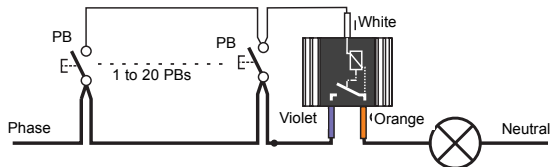
Turning on : The Micromodule stores its "on" state in case of a power cut-off. If the Micromodule was in the "off" state, it remains off. If it was "on", it lights up at the level it was in before the cut-off.

COMPATIBLE LOADS

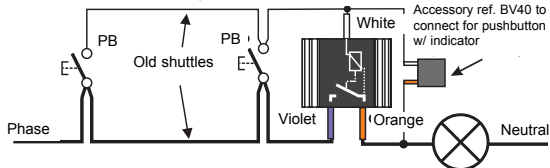
- Conventional bulbs
 - Universal motors
 - 220 V halogen bulbs
 - Relays or switches > 10 VA
 - Ferromagnetic transformers
 - Electronic ballast fluorescent*
- Ring transformers
 - Low-cost bulb*
 - Electronic transformers (add CHR3W in parallel on one of the bulbs)
 - Fans > 10 VA
 - * No variation.

NOT SUITABLE FOR FLUORESCENTS with FERROMAGNETIC BALLAST

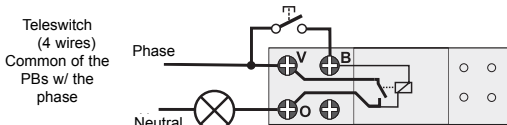
Circuit with one or several pushbuttons



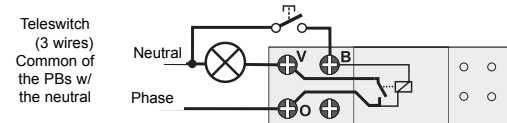
Instead of a two-way circuit



Micromodule modular version



Micromodule modular version



MTT500 TIMED TELESWITCH

Model	Reference	Item Code
Embedded	MTT500-E	5454054
Modular	MTT500-M	5454064

The MTT500 timed teleswitch is a timer which can be stopped before the timing elapses by pressing the pushbutton. It is set exactly like a timer (see MTM500 above).

MTV500 DIMMER

Model	Reference	Item Code
Embedded	MTV500-E	5454052
Modular	MTV500-M	5454062

Turn On - Turn Off Lighting : Pressing this televariator quickly turns lighting on or off.

Variation : Pressing and holding the pushbutton causes a variation. When you release the pushbutton, the variation is stopped. Whenever you repress and hold the pushbutton, the variation direction is reversed.

Low intensity lighting : Pressing and holding the pushbutton allows lighting with a low intensity.

Memory : The last lighting level is stored and will be retrieved for the next lighting.

100% lighting : Pressing quickly twice on the pushbutton will reset the system to a 100 % lighting level.

Minimum lighting level setting :

- Set the low level you want by pressing and holding the pushbutton.

- Then press the pushbutton quickly 27 times. The Micromodule responds with 7 flashes confirming your setting.

- To return to the minimum low level set in the factory, press the pushbutton quickly 28 times. The Micromodule responds with 8 flashes.

Setting locking : To prohibit any change, simply lock the Micromodule by pressing the pushbutton quickly 21 times (1-flash response). To unlock the Micromodule, which is always possible, press the pushbutton quickly 23 times (3-flash response).

Preset memories

100%	Pressing quickly 2 times
60%	Pressing quickly 3 times
40%	Pressing quickly 4 times
25%	Pressing quickly 5 times
10%	Pressing quickly 6 times

MTVT500 TIMED DIMMER

Model	Reference	Item Code
Embedded	MTVT500-E	5454055
Modular	MTVT500-M	54 065

The MTVT500 timed televariator is a variator coupled to a timed teleswitch.

It is used and set exactly like a timed teleswitch (MTT500) and a televariator (MTV500).

MTK500 MULTIFUNCTIONS

Model	Reference	Item Code
Embedded	MTK500-E	5454053
Modular	MTK500-M	5454063

Turn On - Turn Off Lighting : Pressing the pushbutton quickly turns the light on or off.

Variation : Pressing and holding the pushbutton causes a variation. When you release the pushbutton, the variation is stopped. Whenever you repress and hold the pushbutton, the variation direction is reversed.

50 % lighting : Pressing the pushbutton quickly twice allows lighting at 50 %.

Child's night light : Pressing the pushbutton quickly 3 times triggers the child's night light function. The lighting level is set at 20 % and the light progressively lowers in intensity for an hour to leave only a night light for 12 hours.

Automatic turn-off : This Micromodule automatically turns off the light at the end of a timing settable from 2 seconds to 4 hours (factory preset timing of 2 hours - see timing setting opposite to change it). At the end of this timing, a small flash indicates that the progressive turn-off has been started. The light decreases in intensity for approximately 1 minute and then turns off. During this prewarn light timing period, pressing the pushbutton quickly once keeps the lights on for twice the previous timing. The basic setting is not changed. Pressing and holding the pushbutton for more than 3 seconds during the prewarn light timing allows the lighting to be kept on for 12 hours.

Long light timing (12 hours) : Pressing the pushbutton quickly 4 times gives a momentary light timing of 12 hours.

Presence simulator : A daily program of 4 hours can be triggered during which the Micromodule lights at a 50 % intensity for ½ hour per hour by randomly selecting the first or second half-hour. When the program is immediately started (pushbutton pressed 6 times), the Micromodule always lights the first half-hour. This program is repeated everyday at the same time. The simulation program is stopped whenever the pushbutton is pressed. To immediately start the daily simulation program (4-hour timed period), press the pushbutton quickly 6 times.

Deferred turn-on :

7 times to start in 4 hours	1-flash response (e.g., start at 4:00 pm simulation 8:00 pm)
8 times to start in 8 hours	2-flash response (e.g., start at 12:00 pm simulation 8:00 pm)
9 times to start in 12 hours	3-flash response (e.g., start at 8:00 am simulation 8:00 pm)
10 times to start in 16 hours	4-flash response (e.g., start at 4:00 am simulation 8:00 pm)

Last lighting level memory : To obtain the last lighting level stored when the pushbutton is pressed for the first time, press the pushbutton quickly 24 times (4-flash response). Important : Pressing the pushbutton quickly twice no longer sets the lighting system at a lighting level of 50 % but at 100 %.

Timing setting : The timing may be set from 2 seconds to 4 minutes by successively pressing the pushbutton quickly the right number of times (see previous page). Settings are saved in case of power cut-off. The timing is preset in the factory for 2 hours.

Minimum lighting level setting :

- Set the low level you want by pressing and holding the pushbutton.

- Then press the pushbutton quickly 27 times (7-flash response).

- To return to the minimum low level set in the factory, press the pushbutton quickly 28 times (8-flash response).

Setting locking : To prohibit any change, simply lock the Micromodule by pressing the pushbutton quickly 21 times (1-flash response). To unlock the Micromodule, which is always possible, press the pushbutton quickly 23 times (3-flash response).

Products made by the Yokis Co. Montée des écreuils - 83210 Solliès Pont - France
Technical information on www.yokis.fr or call (33) 4 94 13 06 28

WARRANTY : In addition to the legal warranty instituted by article 1641 and subsequent articles of the French Civil Code, this product is warranted for five years from its purchase date. The equipment should be used in accordance with its specific prescriptions and for its intended usage. No defect should be caused by damage or an accident resulting from negligence, abnormal usage or bad installation. In any case, this warranty will cover only the replacement of defective parts without any right whatsoever to compensation, prejudice or damage claims.

MTR500 TELESWITCH

Model	Reference	Item Code
Embedded	MTR500-E	5454050
Modular	MTR500-M	5454060

Turn On - Turn Off Lighting : Pressing this teleswitch quickly turns lighting on or off.

MTM500 TIMER

Model	Reference	Item Code
Embedded	MTM500-E	5454051
Modular	MTM500-M	5454061

The MTM500 timer ensures a stairway type timed lighting.

Operation : Pressing the pushbutton turns on lights and starts a light timing (factory preset timing of 2 minutes). Whenever the pushbutton is pressed, lights turn on and the light timing restarts.

Long light timing : Whenever the pushbutton is pressed more than 3 seconds, light timing is temporarily started for 1 hour (a flickering lighting visually indicates that this long light timing has been accepted). At the end of a long light timing, the timer returns to the initially preset timing. To interrupt a long light timing, simply press the pushbutton for more than 3 seconds. To cancel (or restart) the long light timing function, press the pushbutton quickly 29 times (9-flash response).

Prewarn light timing : A small flash indicates that the progressive turn-off has been started for 1 minute (if the light timings are in seconds, then the lighting will be turned off in 30 seconds). To cancel (or restart) the prewarn light timing function, press the pushbutton quickly 24 times (4-flash response).

Timing setting : Settings are saved in case of power cut-off. The timer is preset in the factory for 2 minutes. It may be set from 2 seconds to 4 minutes by successively pressing the pushbutton quickly the right number of times (see below). To obtain timings in seconds (settings possible from 2 seconds to 4 minutes), press the pushbutton quickly 25 times (5-flash response). To return to timings in minutes (settings possible from 2 minutes to 4 hours), press the pushbutton quickly 26 times (6-flash response).

Setting locking : To prohibit any change, simply lock the Micromodule by pressing the pushbutton quickly 21 times (1-flash response). To unlock the Micromodule, which is always possible, press the pushbutton quickly 23 times (3-flash response).

TIMING SETTING TABLE

Time Pressed* Periods	Responses	* successively pressing the pushbutton quickly - with .8 sec. max. between each press.	Time Pressed* Functions	Responses
11 2 minutes	1 flashes		21 Lock	1 flash
12 4 minutes	2 flashes		23 Unlock	3 flashes
13 8 minutes	3 flashes		24 Prewarn OFF/ON	4 flashes
14 15 minutes	4 flashes		24 Memory mode (MTK)	4 flashes
15 30 minutes	5 flashes		25 Timing ing seconds	5 flashes
16 60 minutes	6 flashes		26 Timing in minutes	6 flashes
17 120 minutes	7 flashes		27 Low threshold definition	7 flashes
18 240 minutes	8 flashes		28 Low threshold at minimum	8 flashes
19 Unlimited	9 flashes		29 Long light timing OFF/ON	9 flashes
		All the timings set in minutes can be converted into seconds by pressing the pushbutton quickly 25 times (5-flash response). To return to minutes, simply press the pushbutton quickly 26 times (6-flash response).		
		Example : Setting a 15-second timing :		
		1 - Press the pushbutton quickly 25 times to select a timing in seconds (5-flash response)		
		2 - Press the pushbutton quickly 14 times to set a 15-second timing (4-flash response).		

MICROMODULE ROLLING SHUTTER MVR500E - 5454090



Function :

This micromodule allows controlling a rolling shutter or swinging shutter with electric or mechanical end stops. It is controlled by means of a single pushbutton and can be centralized by a pilot wire. Sunshine, wind, temperature sensors can also drive this micromodule (contact our technical department for more information)

Technical data :

3-wire motor power 2A maxi. 500VA
Main power line voltage : 230V +/-15% - 50HZ
Room temperature : -20°C +50°C
Relative humidity : 0 à 99%



H.45mm x L.32mm D.20mm

Wiring

The MVR500E is guaranteed by the Yokis company with all motor types meeting the voltage and connecting criteria described above. Use a power line protected according to current standards in force. To connect the micromodule, turn it off.

- 1/ Connect the main power line wires to the "L" and "N" terminals.
- 2/ Connect the Pushbutton (PB) between the "L" and "PB" terminals.
- 3/ Connect the motor wires to the "N", "O" and "C" terminals.

1/ Turning on the micromodule :

Reactivate the circuit breaker. The micromodule carries out 2 open / close operations. For shutters with mechanical stops or for swinging shutters, press the pushbutton quickly * 17 times to deactivate the motor's reverse movement.
* See definition of "pressing the pushbutton quickly" in section 9/ below.

2/ Using the micromodule :

The MVR500E can be controlled by a single or double pushbutton *. The table to the right presents the shutter actions in case the pushbutton is quickly pressed.

The shutter reacts one second after the pushbutton is pressed.

* To use a double pushbutton, a Yokis accessory ref. R12M code 5454073 is required.

		Shutter closed	Shutter open	Shutter mid-way	During opening	During closing
Press quickly once on a double PB *	Open PB	Opening	No action	Opening	Stop	Opening
	Close PB	No action	Closing	Closing	Closing	Stop
Press quickly once on a single PB		Opening	Closing	Reversal of last direction	Stop	Stop

3/ Centralizing the micromodules :

To centralize the MVR500E micromodules, simply connect all the local controls to a pilot wire by means of a Yokis accessory ref. D600V code 5454072. Centralizing allows controlling all the shutters by a single pushbutton or a double open and close pushbutton (add the Yokis accessory ref. R12M code 5454073). Several pushbuttons can be centralized to control all the shutters. Pushbutton groups can also be configured. For example, a PB for the ground floor, a PB for the first floor and a PB for the "ground floor + first floor" combination. In this case, connect the various pilot wires with D600Vs to the main power pushbutton.

Centralizing with a single pushbutton :

- For a centralized opening, press the pushbutton quickly 3 times. The shutters already open will remain open.
- For a centralized closing, press the pushbutton quickly 4 times. The shutters already closed will remain closed.

Important : Pressing and holding a single or double PB more than 2 seconds allows systematically stopping all the shutters and a raising operation when the pushbutton is quickly pressed the next time.

Centralizing with a double pushbutton : (with the Yokis accessory R12M)

- For a centralized opening, press the open pushbutton quickly once. The shutters already open will remain open.
- For a centralized closing, press the close pushbutton quickly once. The shutters already closed will remain closed.

4/ Intermediary position :

An intermediary position (for example, slats spread) can be preset. To do this, completely close the shutter and then open it to the intermediary position you want. Then press the pushbutton quickly 5 times to store this setting. When the shutter is subsequently opened, closed or moved into any other position, simply press the pushbutton quickly 2 times and the shutter will move to the preset position.

5/ Daily programming :

Daily programming allows the shutter to be automatically opened or closed at the times you have selected. The MVR500E has an integrated daily clock. It does not have to be time-set before usage.

Daily programming of the closing time : the time you want the shutter to close – press the pushbutton quickly 8 times.

Daily programming of the opening time : the time you want the shutter to open – press the pushbutton quickly 9 times.

Daily programming of the time for the intermediary position : the time you want to have the intermediary position – press the pushbutton quickly 7 times.

To delete all the daily programmings, simply press the pushbutton quickly 10 times.

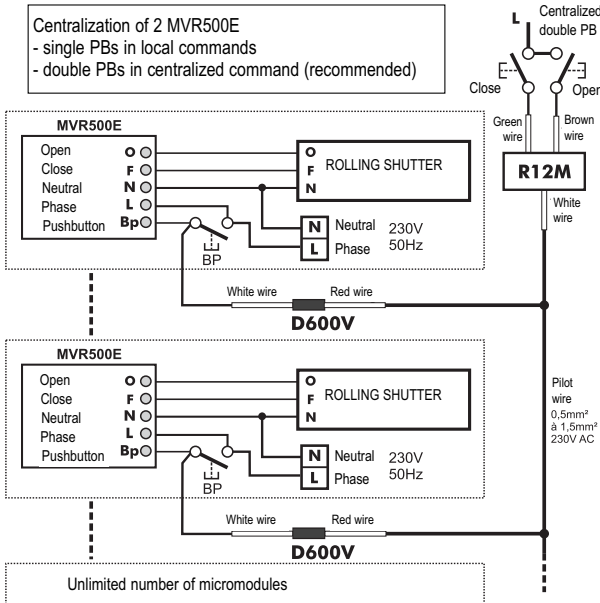
Example : To close your shutters daily at 9:30 pm, simply press at this time the pushbutton quickly 8 times.

Important : In case of power cut-off, the MVR500E cancels all the daily programmings. Therefore, you will have to redo them at the times you want.

To prohibit any daily programming, simply press the pushbutton quickly 22 times. The user can no longer program daily opening or closing times.

6/ Return to factory settings :

To reconfigure the micromodule with all the factory settings, press the pushbutton quickly 25 times. The micromodule carries out the following actions: Deletes all the daily programmings – Deletes the electronic stops – Activates reverse movement – Sets the low motor force – Cancels any software reversal of the raise and lower wires – Enables daily programming – Activates control of the end stops and motor force.



7/ Electronic stops :

If you do not want to close the shutter completely (e.g., to let a pet pass under it) or open it completely (e.g., because of next-door neighbors), the MVR500E micromodule allows you to adjust the electronic stops.

Defining the low electronic stop : position the shutter at the height you want and press the pushbutton quickly 12 times.

Defining the high electronic stop : position the shutter at the height you want and press the pushbutton quickly 14 times.

8/ Locking the micromodule :

By prohibiting settings, the micromodule can no longer be changed in case the pushbutton is pressed accidentally too many times. The micromodule is delivered not locked.

Pressing the pushbutton quickly 21 times locks the micromodule. The micromodule will no longer respond when the pushbutton is pressed quickly from 12 to 26 times.

Pressing the pushbutton quickly 23 times enables the micromodule. The micromodule will then respond to settings when the pushbutton is pressed quickly from 12 to 26 times.

9/ Summary table of possible MVR500E settings :

Definition of "pressing the pushbutton quickly" : You can use either the raise or lower pushbutton in the case of a double pushbutton. For a global setting of all the micro-modules, press the centralized pushbutton quickly according to the settings you want. Before making any settings by pressing the pushbutton quickly, the shutter must be stopped for at least 2 seconds. You must press the pushbutton quickly, that is, not more than 1 second should elapse between each press on the pushbutton. When you have terminated, the shutter will raise or lower confirming your setting.

In case of a power cut-off, the MVR500E stores all its settings except the daily programmings.

	action	No. of times pushbutton pressed quickly
Intermediary position	Recalls intermediary position.	2
	Stores the shutter's current position as the intermediary position.	5
Centralization with a single PB	Centralized opening with a single PB.	3
	Centralized closing with a single PB.	4
Daily programming	Daily programming of the time for the intermediary position.	7
	Daily programming of the close time.	8
	Daily programming of the open time.	9
	Deletes all the daily programmings.	10
Electronic stops	Defines the low electronic stop.	12
	Defines the high electronic stop.	14
	Deletes the high and low electronic stops.	16
Motor force control	Cancels the reverse movement in case of a motor overload condition (switches).	17
	Increases the motor's force (switches).	19
	Software reversal of the raise and lower wire (switches).	20
	Deletes control of the end stops and motor force (switches).	24
	Deletes control of the motor's force (switches)	26
Micromodule locking	Locks the installer's settings (press pushbutton quickly 12 to 26 times).	21
	Locks the daily programming (press pushbutton quickly 7 to 10 times) (switches).	22
	Enables the installer's settings (press pushbutton quickly 12 to 26 times).	23
In-factory setting	Returns to the factory settings.	25

IMPORTANT : The word "switches" indicates that pressing the pushbutton quickly the same number of times allows returning to the previous setting.

ABNORMAL OPERATION	CAUSES	TESTS AND SOLUTIONS
The shutter does not move, but you hear the relays switching for 1 second.	- The motor's wires are maybe disconnected. - The motor already has an integrated torque limiter.	- Check shutter operation by disconnecting the MVR500E connector and using a direct power supply on the terminals. - After using the PB for 3 or 4 raise and lower tests, the MVR 500E micro-module must be self-configured. If not, simply press the PB quickly 24 times.
The shutter stops while rising and moves downward.	- The motor's wires are maybe reversed. - The motor forces too much.	- Press the PB quickly 3 times to open the shutter. If the shutter remains closed, the open and close operations are reversed. So reverse the raise and lower wires on the MVR 500E terminal strip or reverse the software setting by pressing the PB quickly 20 times. - Try to increase the motor's force by pressing the PB quickly 19 times.
The shutter stops while lowering and moves upward.	- The shutter's slats are offset and are forced into the grooves.	- Move the shutter several times to try to reset the slats. - Try to increase the motor's force by pressing the PB quickly 19 times.
The shutter is opened a little after a complete closing.	- The low electric end stop is offset and the motor forces on the joint.	- Set again the rolling shutter's low electric end stop. - Try to increase the motor's force by pressing the PB quickly 19 times.
The shutter is closed a little after a complete opening.	- The high electric end stop is offset and the motor forces on the lateral mechanical stops.	- Set the rolling shutter's high electric end stop.
The shutter is closed a little after a complete opening.	- The main power line is a poor electric quality source.	- Do not use an extension cord which is too long or has too small a cross-section to supply power to the worksite.
Some shutters raise and others lower in centralized control.	- The motor's wires are reversed on some micromodules.	- Press the PB quickly 3 times to open the shutter. If the shutter remains closed, the motor's wires are reversed on the terminal strip (see above).

WARRANTY : In addition to the legal warranty instituted by article 1641 and subsequent articles of the French Civil Code, this product is warranted for five years from its purchase date. The equipment should be used in accordance with its specific prescriptions and for its intended usage. No defect should be caused by damage or an accident resulting from negligence, abnormal usage or bad installation. In any case, this warranty will cover only the replacement of defective parts without any right whatsoever to compensation, prejudice or damage claims.

Notices MVE500_0405D Anglais

Product made in France by the Yokis Co.
Montée des écoureuls – 83210 Solliès Pont
Technical information on www.yokis.fr or call (00 33) 4 94 13 06 28



Impulse switch with potential free contacts also for central control ES12Z-200/110-8..230V UC

Incandescent lamp load up to 2000 W.
Standby loss 0.5 watt only.

ES12Z-200-:

2 NO contacts potential free 16A/250V AC.
Maximum current over both contacts 20A for 230V.

ES12Z-110-:

1 NO contact + 1 NC contact potential free 16A/250V AC.

Central control priorities selectable.

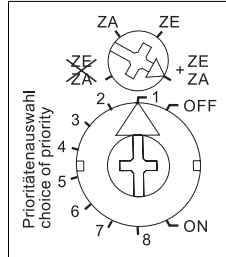
Local universal control voltage 8 to 230V UC.
In addition control inputs 8 to 230V UC central ON and central OFF, from the local input electrically isolated. Supply voltage like the local control voltage.

Glow lamp current starting at 110V control voltage up to 50mA in positions 1 to 3 and 5 to 7 of the rotary switch.

By using a bistable relay causing coil power loss and heating is avoided even in the on mode. The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated.

Contact position indication with LED. This starts blinking after 15 seconds in case of a inhibited push-button, not in position 4+8 of the rotary switch.

Function rotary switches



ZA = central OFF only
ZE+ZA = no central control

The lower rotary switch sets several priorities. These determine which other control inputs are inhibited as long as another control input is excited permanently.

Furthermore, here it will be decided if the switch position should be kept or not after a power failure: In positions 1 to 4 of the rotary switch the switch position will be kept unchanged, in positions 5 to 8 it will be switched off. If central commands are activated they will be realised hereafter.

OFF = Position for permanent OFF.

ON = Position for permanent ON.

With the upper rotary switch this impulse switch can be partly or completely excluded from central control:
ZE+ZA = central ON and central OFF
ZE = central ON only

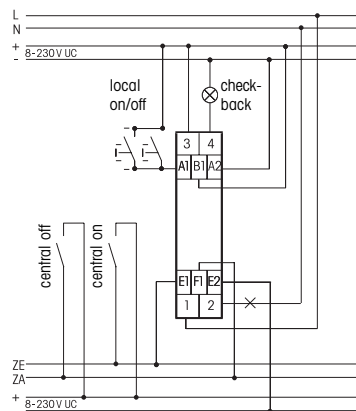
1 and 5 = No priority. Also if central control inputs are excited permanently, operation by local pushbutton can be realised. The last central command will be carried out.

2 and 6 = Priority for central ON and OFF. Local pressing of the pushbutton is ineffective. However, central OFF has priority over central ON.

3 and 7 = Priority for central ON and OFF. Local pressing of the pushbutton is ineffective. However, central ON has priority over central OFF.

4 and 8 = Priority for permanently excited local push button. Central commands will not be carried out. In these positions a glow lamp current is not permitted.

Typical connection



Technical Data

Control voltage	8 to 230V UC
Rated switching capacity	16A/250V AC
Incandescent lamp load and halogen lamp load ¹⁾ 230V	2000W
Fluorescent lamp load with KVG in lead-lag circuit or non compensated	1000 VA
Fluorescent lamps with KVG shunt-compensated or with EVG	500 VA
Compact fluorescent lamp with EVG and energy saving lamps	I on ≤ 70A/ 10 ms ²⁾
Standby loss (activ power)	0.5 W

¹⁾ For lamps with 150W max.

²⁾ For electronic ballast gears a 40fold inrush current has to be calculated. For steady loads of 1200W use the current-limiting relay SBR12.



The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

11/2008 Specifications subject to change. 4872



Multifunction impulse switch with integrated relay function ESR61M-8..230V UC

1 + 1 NO contacts potential free 10A/250V AC, incandescent lamps 2000W. No standby loss.

For installation and surface mounting. 45 mm long, 55 mm wide, **32 mm deep.**

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high switching capacity of special relays.

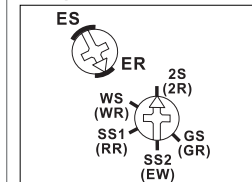
Universal control voltage 8..230V UC.

No permanent power supply necessary, therefore no standby loss.

By using a bistable relay causing coil power loss and heating is avoided even in the on mode. The relay contact can be open or closed when putting into operation. It will be synchronised at first operation.

With the rotary switch ES/ER the functions of the second rotary switch will be pre-selected. The setting ER selects the function in brackets.

Rotary switches



10 different functions are selectable:

2S = Impulse switch with 2 NO contacts

(2R) = Switching relay with 2 NO contacts

WS = Impulse switch with 1 NO contact and 1 NC contact

(WR) = Switching relay with 1 NO contact and 1 NC contact

SS1 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 1

(RR) = Switching relay (closed-circuit current relay) with 2 NC contacts

SS2 = Impulse multi circuit switch 1+1 NO for switching sequence 2

(EW) = Impulse relay for passing make contact with 1 NO contact and 1 NC contact, wiping time 1 second

GS = Impulse group switch 1+1 NO

(GR) = Group relay 1+1 NO contacts

Switching sequence SS1:

0 - contact 1 (1-2) - contact 2 (3-4) - contacts 1+2

Switching sequence SS2:

0 - contact 1 - contacts 1+2 - contact 2

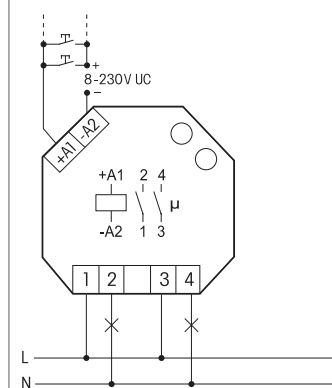
Switching sequence GS:

0 - contact 1 - 0 - contact 2

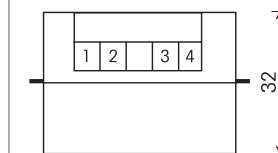
GR:

Relay with alternating closing contacts.

Typical connection



Side view



Technical Data

Control voltage	8 to 230V UC
Rated switching capacity	10A/250V AC
Incandescent lamp load and halogen lamp load ¹⁾ 230V	2000W
Fluorescent lamp load with KVG in lead-lag circuit or non compensated	1000 VA
Fluorescent lamps with KVG shunt-compensated or with EVG	500 VA
Compact fluorescent lamp with EVG and energy saving lamps	I on ≤ 70A/ 10 ms ²⁾
Standby loss (activ power)	-

¹⁾ For lamps with 150 W max

²⁾ For electronic ballast gears a 40fold inrush current has to be calculated. For steady loads of 1200W use the current-limiting relay SBR12.

Important reminder!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

11/2008 Subject to change without notice. 4847

GB

Eltako
ELECTRONICS

Multifunction universal
dimmer switch
EUD12M-8..230V UC

CE

The dimmer switch for R, L and C loads up to 500 W. Automatic detection of load R+L or R+C. **Up to 3600 W with capacity enhancers LUD12-230V** at the terminals X1 and X2.

Universal voltage control input local 8 to 230V UC and additionally universal voltage control inputs 8 to 230V UC central ON and central OFF. The control inputs are electrically isolated from the supply and switching voltage 230V.

Contact position indication with LED below the upper rotary switch. This starts blinking after 15 seconds in case of a blocked push-button, if one of the functions EUD, ESV or TLZ is set.

In case of a power failure the system is switched off in a specific sequence.

From 110V control voltage glow lamp current up to 5 mA (not for ER and TI). Automatic electronic overload protection and over-temperature switch-off.

Function rotary switches

%

min

max

3

4

5

6

7

8

9

2

1

0

t

EUD

- mem

+ ESV

min

minmax

TLZ

TI

ON

OFF

OFF: Permanent OFF

EUD: Universal dimmer switch. The **dimmm speed t** and the **minimum brightness level %min/max** can be adjusted. Short-time control commands switch on/off, permanent control varies the brightness to the maximum level. A interruption of control changes the direction of dimming.

The setting of the brightness level is stored after switching off.

Special switching operation for children's rooms: If the light is switched on by holding down the push-button, it starts at the adjusted minimum brightness level after approx. 1 second and it is dimmed up slowly without modifying the last stored brightness level.

Snooze function: With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjusted minimum brightness level determine the dimming time (max. = 60 minutes), which can be reduced as required. The dimming process can be stopped anytime by a new operation of the push-button.

-mem: Same as the setting EUD, but the adjustment of the brightness level is not stored after switching off. It will always be switched on with the maximum brightness level.

+ESV: Same as the setting EUD. In addition with adjustment of the off delay t up to 90 minutes, if the manual OFF command has not been given. The switch off early warning function before time out can be adjusted by dimming down with %min/max from 0 to 3 minutes. The dimm speed is preset with a medium value. The brightness level is preset with the minimum value.

min: Universal dimmer switch. When applying the control voltage it will be switched on at the minimum brightness level, which is set with % min/max. Afterwards will be dimmed up in the dimming time t (max. = 90 minutes) up to the maximum level. If the

control voltage is removed it will be switched off instantly, also during the dimming time.

minmax: Function same as the setting min, but when the control voltage is removed it will be dimmed down to the adjusted minimum brightness level. After that will be switched off.

ER: Switching relay. Adjustment of soft start and soft OFF with the rotary switch t. Adjustment of the dimming level % min/max between the minimum and maximum brightness level.

TLZ: Staircase time switch, with switch off early warning function through dimming which can be switched on. With incrementing (the time can be extended) and permanent light by push-button. Variable time range settable from 1 to 9 minutes. Early warning time up to 3 minutes with % min/max.

TI: Clock generator with adjustable cycle times t from 0.1 to 0.9 seconds. The break time can be set from -50% at %min to +100% at %max. Mid-position of %min/max: closing time = break time.

ON: Permanent ON

Typical connection

Technical data

Incandescent and halogen lamps 230V up to 500 W ¹⁾	
Inductive transformers (L)	up to 500 W ¹⁾²⁾³⁾
Electronic transformers (C)	up to 500 W ¹⁾²⁾³⁾
Max./min. temperature at mounting location	+50°C/-20°C
Control voltage range	0.9 to 1.1 x rated voltage
Standby loss (activ power)	0,1 W

1) At a load of more than 300W ventilation clearance of 1/2 module to adjacent devices must be maintained.

2) Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacitive (electronic) transformers is not permitted!

3) **When calculating the load a loss of 20 % for inductive (wound) transformers and a loss of 5 % for capacitive (electronic) transformers must be considered in addition to the lamp load.**

!

The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

01/2008 Specifications subject to change. 4869

GB

Eltako
ELECTRONICS

Multifunction universal
dimmer switch
EUD61M-8..230V UC

CE

Power MOSFET 500W.

Standby loss 0.1 watt only.

Built-in device for installation and surface mounting. 45 mm long, 55 mm wide, 18 mm deep.

Universal-Dimmer for R, L and C loads.

Automatic detection of load R+L or R+C.

Switching capacity up to 500W depends on the ventilation conditions.

Universal control voltage 8 to 230V UC.

The minimum brightness level (completely dimmed down) can be adjusted **with the rotary switch** %⌚ e.g. for dimmable energy saving lamps.

The function rotary switch selects 5 different functions.

Zero passage switching and adjustable softstart for the functions "memory+soft on", "on max + soft on" and ESV to protect the connected lamps.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

An interruption of control changes the direction of dimming. The brightness level is stored after switching off in case the **function memory** is set.

If the **function on max** is set, it always switches on at the maximum brightness level.

In case of a power failure the system is disconnected in a definite sequence.

Automatic electronic overload protection and over-temperature switch-off.

Function rotary switches

Setting of function ESV same as "memory+soft on" with setting of a release delay up to 90 minutes with the rotary switch %⌚ if the manual off command is not given. Before time-out switch-off early warning function by dimming down within 1 minute.

Switching operation for children's rooms: If the light is switched on by holding down the push-button, it starts at the lowest brightness level after approx. 1 second without modifying the last stored brightness level.

Snooze function: With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes), which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down. Holding down the push-button during the dimming down process dims up and stops the snooze function.

Typical connection

Technical data

Incandescent and halogen lamps 230V (R-loads)	up to 500 W ¹⁾
Inductive transformer (L)	up to 500 W ¹⁾²⁾³⁾
Electronic transformer (C)	up to 500 W ¹⁾²⁾³⁾
Max.min temperature at mounting location	+50 °C/-20 °C ⁴⁾
Standby loss (activ power)	0.1 W

1) The switching capacity depends on the ventilation conditions.

2) Per dimmer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacitive (electronic) transformers is not permitted!

3) **When calculating the load a loss of 20 % for inductive (wound) transformers and a loss of 5 % for capacitive (electronic) transformers must be considered in addition to the lamp load.**

4) Affects the max. switching capacity.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

07/2008 Specifications subject to change. 4815



Capacity enhancer LUD12 for universal dimmer switches EUD12Z and EUD12M



Standby loss 0.1 watt only.

Capacity enhancers LUD12-230V can be connected to the universal dimmer switches EUD12Z, EUD12M and SUD12 1-10V input. By this, the switching capacity for one lamp will be increased according to the below mentioned table depending on ventilation conditions up to 500, 350 or 300 W or **for additional lamps** up to 500W per each capacity enhancer. When energy saving lamps ESL are used only suitable with additional lamps since the limit of 100W per lamp may not be exceeded.

Both switching modes for increase of capacity can be executed simultaneously.

Automatic detection of load R+L or R+C in the circuit "Increase of capacity with additional lamps".

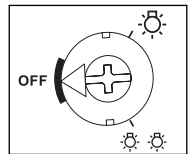
Supply voltage 230V.

Automatic electronic overload protection and over-temperature switch-off.

In a circuit "Increase of capacity with additional lamps" the load type of a LUD12-230V capacity enhancer can deviate from the load type of the universal impulse dimmer switch.

Therefore it is possible to mix L-loads and C-loads.

Rotary switch



The switching mode "one lamp" (☼) or "additional lamps" (☼☼) is set with a rotary switch on the front.

This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.

Switching mode Increase of capacity for one lamp (☼)

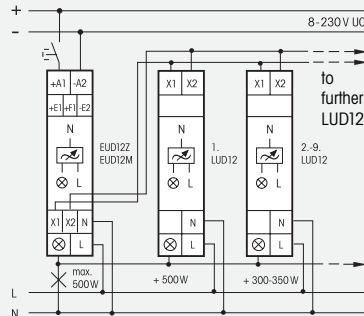
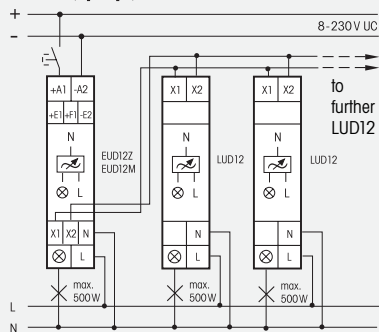


Table of increase of capacity, not ESL

1. LUD12	+ 500W
2.-5. LUD12	+ 350W each
6.-9. LUD12	+ 300W each
Max. capacity in total 3600W.	

Switching mode Increase of capacity with additional lamps (☼☼)



Maximal capacity of each additional lamp 500W.

Technical data

Incandescent and halogen lamps 230V (R)	up to 500W ¹⁾
Inductive transformers (L)	up to 500W ¹⁾²⁾³⁾
Electronic transformers (C)	up to 500W ¹⁾²⁾³⁾
Dimmable energy saving lamps ESL ⁵⁾	up to 100W
Max./min. temperature at mounting location	+50°C/-20°C ⁴⁾
Standby loss (activ power)	0.1 W

¹⁾ At a load of more than 300W a ventilation clearance of 1/2 module to adjacent devices must be maintained.

²⁾ Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacitive (electronic) transformers is not permitted!

³⁾ When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.

⁴⁾ Affects the max. switching capacity.

⁵⁾ In the positions ESL it is not allowed to dim inductive (wound) transformers.



The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

11/2008 Specifications subject to change 4858



1-10V control dimmer switch for electronic ballast units SDS12/1-10V

1 NO contact not potential free 600VA and 1-10V control output 40mA. Only 1 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN-EN 50 022 rail mounting. 1 modul = 18mm wide, 58mm deep.

Universal control voltage 8 to 230V UC, local and central on/off with same potential. Supply voltage 230V electrically isolated.

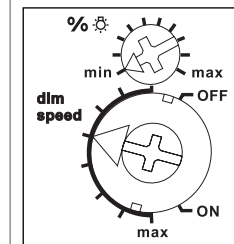
State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Function rotary switches



The minimum brightness (fully dimmed) is adjustable with the % rotary switch.

The dimming speed is adjustable using the **dimming speed rotary switch**.

The load is switched on and off by a bistable relay at output EVG (electronic ballast units). Switching capacity for fluorescent lamps or LV halogen lamps with electronic ballast units 600VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for automatic synchronisation before the switched consumer is connected to the mains.

Either direction switches can be connected to ▲▼ or these terminals are bridged and a pushbutton is connected as universal switch.

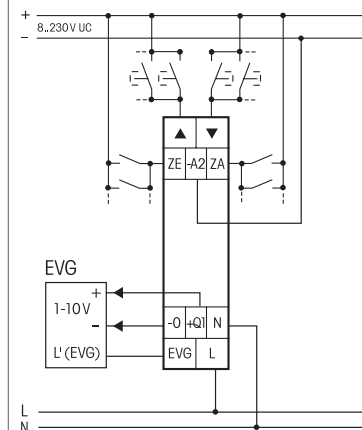
As direction switch ▲ is 'switch on and dim up' and ▼ is 'switch off and dim down'. A double click at ▲ triggers the automatic updimming until full brightness with dim speed. A double click at ▼ triggers the snooze function. The children's room function is realized with the pushbutton at ▲.

As a universal switch, change the direction by briefly releasing the pushbutton.

Switching operation for children's rooms (universal switch or direction switch ▲): If the light is switched on by holding down the pushbutton, it starts at the adjusted minimum brightness level after approx. 1 second, it is dimmed up slowly without changing the last stored brightness level and as long as pressing is continued.

Snooze function (universal switch or direction switch ▼): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max.= 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down. Holding down the push-button during the dimming down process dims up and stops the snooze function.

Typical connection



The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.

11/2008 Specifications subject to change. 4933



Digital settable multifunction time relay MFZ12DDX with 18 functions

1 CO contact potential free 10A/250V AC.
Incandescent lamps 2000 W*.
Standby loss 0.4 watt only.

Modular device for DIN-EN 50 022 rail
mounting. 1 module = 18mm wide,
58mm deep.

With the Eltako Duplex technology the normally potential-free contacts can still switch in zero passage when switching 230V AC 50Hz and therefore drastically reduce wear. Simply connect the neutral conductor to the terminal (N) and L to 15 (L) for this. This gives an additional standby consumption of only 0.1 Watt.

Universal control voltage 8 to 230V UC.
Supply voltage same as the control voltage.

Both functions and times are entered at the
touch of a key and indicated digitally on an
LC display. Only two keys are required for this
purpose.

When setting the time all values can be entered
within preset time ranges (0.1 to 9.9 or 1 to
99 seconds, minutes or hours). The longest
possible setting is 99 hours. 600 settings are
possible. The time setting is continuously
displayed digitally.

**By using a bistable relay coil power loss and
heating is avoided even in the on mode.**

The switched consumer may not be connected
to the mains before the short automatic
synchronisation after installation has terminated.

Functions

- RV** = off delay
- AV** = operate delay
- AV+** = operate delay additive
- TI** = clock generator starting with impulse
- TP** = clock generator starting with pause
- IA** = impulse controlled pickup delay
(e.g. automatic door opener)

- IF** = pulse shaper
- EW** = fleeting NO contact
- AW** = fleeting NC contact
- EAW** = fleeting NO contact and fleeting NC
contact
- ARV** = operate and release delay
- ARV+** = operate and release delay additive
- ES** = impulse switch
- SRV** = release-delay impulse switch
- ESV** = impulse switch with release delay
and switch-off early-warning function
- ER** = relay
- ON** = permanent ON
- OFF** = permanent OFF

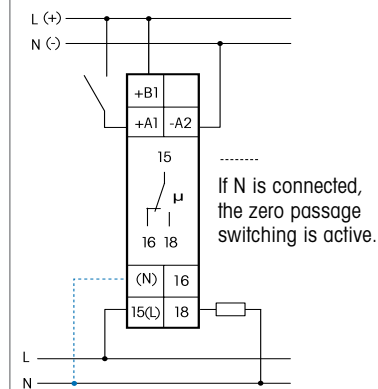
With TI, TP, IA, EAW, ARV and ARV+ functions,
a different second time can be entered also
with different time ranges.

Setting the times and functions: The LCD
component to be changed is selected by
pressing the MODE key. The component
accessed flashes. Press the SET key to change
the component accessed. This may be the
function, the time ranges, time T1 or time T2
(on TI, TP, IA, EAW, ARV and ARV+ only).
Pressing the MODE key terminates each
input. Once the time has been set with
MODE, no more components are flashing.
The timing relay is now ready to operate.
Press the MODE key again to restart the input
cycle. All the entered parameters are retained
if they are not changed using SET. 25 sec.
after the last operation and if the component
still flashes the input cycle is automatically
terminated and the previously made changes
lapse.

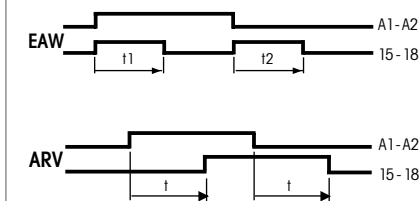
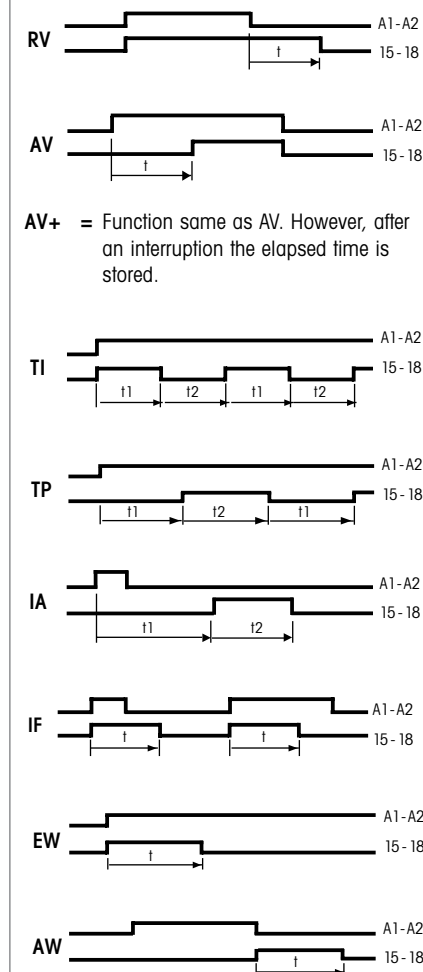
Functions of the LC display: If the ON or OFF
function was selected, no time is displayed,
only ON and OFF and a contact symbol in the
correct position. On all other functions, the set
time, the function code and the contact symbol
are shown in the correct position (open or
closed). The clock symbol flashes while the
set time is elapsing and the remaining time is
shown.

Safety in the event of a power failure: The
set parameters are stored in an EEPROM and
are therefore immediately available again
when the power supply is restored after a
power failure.

Typical connection



Description of functions



ARV+ = Same function as ARV, but after an
interruption of the operate delay the
elapsed time is stored.

ES = With control impulses from 50ms the
make contact switches to and fro.

SRV = With control impulses from 50ms the
make contact switches to and fro. In
the contact position 15-18, the device
switches automatically to the rest
position 15-16 on delay time-out.

ESV = Function same as SRV. Additionally
with switch-off early warning: approx.
30 sec. before time-out the lighting
starts flickering 3 times at gradually
shorter time intervals.

ER = As long as the control contact is closed
the make contact reverts from 15-16 to
15-18.

* The maximum load can be used starting at
a delay time or clock cycle of 5 minutes.
The maximum load will be reduced for shorter
times as follows: up to 2 seconds 15%,
up to 2 minutes 30%, up to 5 minutes 60%.



The strain relief clamps of the terminals
must be closed, that means the
screws must be tightened for testing
the function of the device. The terminals
are open ex works.

Warning!

**Only a trained electrician may install this
equipment, otherwise there is a risk of fire
or electric shock.**

09/2008 Specifications subject to change. 4909

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС BE. CH 01. В 08589

Срок действия с 18.03.10

по 17.03.13

№ 0230034

ОРГАН ПО СЕРТИФИКАЦИИ

РОСС CH.0001.11CH01

СЖС СОСЬЕТЕ ЖЕНЕРАЛЬ ДЕ СЮРВЕЙЯНС С.А.
(SGS SOCIETE GENERALE DE SURVEILLANCE SA)

1, плас де Альп, П.О. Бокс 2152, 1211 Женева, Швейцария

115114, г. Москва, Летниковская ул., д.10, стр.1.
Тел.(495) 775 44 55 факс. (495) 775 44 50

ПРОДУКЦИЯ

Выпечкочатели торговой марки Lithoss, включая крышки.

код ОК 005 (ОКП):

3 4 6 4 2 0

См. приложение (бланки № 0189017) : 6 позиций на 1 листе.
Серийный выпуск

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ГОСТ Р 51324.1-2005

код ТН ВЭД России:

8 5 3 6 5 0 8 0 0 0

ИЗГОТОВИТЕЛЬ

Lithoss nv/sa - Литос на/са
Rue de Bengalis 4, 7700 Mouscron / Belgium - Бельгия
Тел : +32 56 48 15 98 / Факс : +32 56 48 15 91

СЕРТИФИКАТ ВЫДАН

Lithoss nv/sa - Литос на/са
Rue de Bengalis 4, 7700 Mouscron / Belgium - Бельгия
Тел : +32 56 48 15 98 / Факс : +32 56 48 15 91

НА ОСНОВАНИИ

Протоколы испытаний № 03028-10-СИЦ, 03029-10-СИЦ выданы НП «Сертификационный Испытательный Центр», атт. аккред. № РОСС.RU.0001.21ME95, действ. до 16.01.2011г., 195112, г.Санкт-Петербург, Малоохтинский пр., 68. Акт проверки состояния производства № 142927 от 20/01/2010г., выдан SGS Belgium, атт. аккред. № РОСС CH0001.11CH01

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Схема сертификации : За
Продукция маркируется знаком соответствия по ГОСТ Р 50460-92; место нанесения знака соответствия — на
продукции или в товаросопроводительной документации

Руководитель органа

Эксперт

[Signature]
подпись

Кателен Барт

инициалы, фамилия

Нина Пихлман

инициалы, фамилия

Сертификат имеет юридическую силу на всей территории Российской Федерации

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

№ 0189017

ПРИЛОЖЕНИЕ

К сертификату соответствия № РОСС BE .CH 01. В 08589

НА 2 ЛИСТАХ ЛИСТ № 1

**Перечень конкретной продукции, на которую распространяется
действие сертификата соответствия**

код ОК 005 (ОКП)	Наименование и обозначение продукции, ее изготовитель	Обозначение документации, по которой выпускается продукция
код ТН ВЭД России		

Выключатели торговой марки Lithoss, включая крышки.

1	34 6420 8536508000	Выключатели т.м. Lithoss, 24 V, типа SB1T-24, SB2T-24, SB4T-24, SB11T-24, SB22T-24, SB42T-24, SB44T-24, SB1TMG-24, SB3T-24, SB2TMGL-24, SB2TMGR-24, SB4TMG-24
2	34 6420 8536508000	Выключатели + LED т.м. Lithoss, 24V, типа SB1T-24, SB2T-24, SB4T-24, SB11T-24, SB22T-24, SB42T-24, SB44T-24, SB1TMG-24, SB2TMGL-24, SB2TMGR-24, SB4TMG-24, SB3T-24
3	34 6420 8536508000	Выключатели т.м. Lithoss, 250 V, типа SB1T-250, SB2T-250, SB4T-250, SB11T-250, SB22T-250, SB42T-250, SB44T-250, SB1TMG-250, SB2TMGL-250, SB2TMGR-250, SB4TMG-250, SB3T-250
4	34 6420 8536508000	Механические выключатели т.м. Lithoss, 250 V, типа SB1T-250, SB2T-250, SB4T-250, SB11T-250, SB22T-250, SB42T-250, SB44T-250, SB1TMG-250, SB2TMGL-250, SB2TMGR-250, SB4TMG-250, SB3T-250
5	34 6420 8536508000	Крышки т.м. Lithoss, типа SMBG, SBMMG, SBMK, SBB2M, SBB22M, SBETP, SB3MT, SB4MT, SBQLW, SBQLB, SBMMM
6	34 6420 8536508000	Принадлежности : Teleruptor module/Модульный дистанционный прерыватель, Dimming module/Модульный темнитель, Timer module/Модульное реле времени, Multifunctional module/Многоцелевой модуль, Store & Curtain module/Модуль для штор и занавесов, Teleruptor accessory/О принадлежности дистанционного прерывателя, Plasterkit/Гипсовый набор, LED-module/ Модульный светодиод, Spare pushbutton/switch/Лишние кнопки/переключатели, Adaptor plate/Плитка для адаптации, LED Connector/Соединитель светодиодов, Socket outlet/ Розетка, Telephone connector/Соединитель телефона, Computer connector/ Соединитель компьютера, RV/RAD/SAT connector/Соединитель ТВ/РАД/САТ, Audio connector/Соединитель аудио, Video connector/Соединитель видео, Movement connector/Соединитель движения, Card Detector/Замок карточки, Shaver outlet/ Розетка для бритвы, Thermostat/Термостат, Blank module/Пустой модуль, Wall box/Стенная коробка, Relay/Реле, Fuse/Предохранитель, Fixing clamps/Соединительные зажимы, Interface module/Интерфейсный модуль Lithoss NV/SA Mouscron, Belgium/Бельгия

Руководитель органа

Эксперт

[Signature]
ПОДПИСЬ

Кателен Барт

инициалы, фамилия

Нина Пихлмал

инициалы, фамилия

Lithoss nv/sa
Rue de Bengalis, 4
7700 Mouscron
Belgium



EC DECLARATION OF CONFORMITY

The undersigned **LITHOSS NV/SA** declares that the following designated products

Product	: Push-button 24V with optional LED : Push-Button 220V-250V switches : Push-Button 220V-250V mechanical switches
Trade Names	: SB1T-24V, SB2T-24V, SB4T-24V, SB11T-24V, SB22T-24V, SB42T-24V, : SB44T-24V, SB1TMG-24V, SB2TMGL-24V, SB2TMGR-24V, SB4TMG-24V : SB1T-250V, SB2T-250V, SB4T-250V, SB11T-250V, SB22T-250V, SB42T-250V, : SB44T-250V, SB1TMG-250V, SB2TMGL-250V, SB2TMGR-250V, SB4TMG-250V : SB1T-mech , SB2T-mech, SB4T-mech, SB11T-mech, SB22T-mech, : SB42T-mech, SB44T-mech, SB1TMG-mech, SB2TMGL-mech, SB2TMGR-mech, : SB4TMG-mech
Model number	: LI XXXXX (= 88 references) : LI XXXXX – xxxxx - xxxxx
Company Name	: LITHOSS

comply with the requirements set out in the Council Directive on the Approximation of the Member States relating to Electromagnetic Compatibility Directive 89/336/EEC and the low voltage directive 2006/95/EG.
For the evaluation regarding to EMC, the following standards were applied by Laboratory De Nayer (ISO17025 accredited).

Conformity is proven by compliance with the following standards:

- **IEC 61058-1** (See Safety Test reports with prefix ES0607001 (for 250V push-buttons) and ES0707001 (for mech. Switches))
- **EN 60669-1** (See Safety Test reports with prefix ES0604002 (for 250V push-buttons) and BS006207.I07 (for mech. Switches))
- **EN 60669-1 Amen. 1** (See Safety Test reports with prefix ES0604002 (for 250V push-buttons) and BS006207.I07(for mech. switches))

Lithoss nv/sa guarantees that the products have been carefully tested to comply with the specifications mentioned above. A customer can therefore only benefit from this warranty, solely under the condition that the products are applied correctly and according to the procedures that are mentioned on the installation manual provided by the manufacturer with each product delivery.

Name	:	T. Beeuwsaert
Function	:	President / CEO
Signature	:	
Place & Date	:	Mouscron, 12-10-2007

Lithoss nv/sa
Rue de Bengalis, 4
7700 Mouscron
Belgium



EC DECLARATION OF CONFORMITY

The undersigned **LITHOSS NV/SA** declares that the following designated products

Product	: Push-button 24V with optional LED : Push-button KNX with optional LED (Including KNX interface Ref. LI56302, LI56304, LI56322, LI56344) : Push-Button 220V-250V switches : Push-Button 220V-250V mechanical switches
Trade Names	: SB1T-24V, SB2T-24V, SB4T-24V, SB11T-24V, SB22T-24V, SB42T-24V, : SB44T-24V, SB1TMG-24V, SB2TMGL-24V, SB2TMGR-24V, SB4TMG-24V : SB1T-250V, SB2T-250V, SB4T-250V, SB11T-250V, SB22T-250V, SB42T-250V, : SB44T-250V, SB1TMG-250V, SB2TMGL-250V, SB2TMGR-250V, SB4TMG-250V : SB1T-mech , SB2T-mech, SB4T-mech, SB11T-mech, SB22T-mech, : SB42T-mech, SB44T-mech, SB1TMG-mech, SB2TMGL-mech, SB2TMGR-mech, : SB4TMG-mech
Model number	: LI XXXXX (= 88 references) : LI XXXXX – xxxxx - xxxxx
Company Name	: LITHOSS

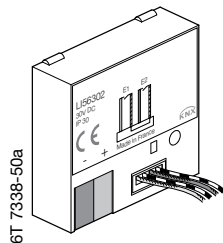
comply with the requirements set out in the Council Directive on the Approximation of the Member States relating to Electromagnetic Compatibility Directive 89/336/EEC and the low voltage directive 2006/95/EG.
For the evaluation regarding to EMC, the following standards were applied by Laboratory De Nayer (ISO17025 accredited).

Conformity is proven by compliance with the following standards:

- **IEC 61058-1** (See Safety Test reports with prefix ES0607001 (for 250V push-buttons) and ES0707001 (for mech. Switches))
- **EN 60669-1** (See Safety Test reports with prefix ES0604002 (for 250V push-buttons) and BS006207.I07 (for mech. Switches))
- **EN 60669-1 Amen. 1** (See Safety Test reports with prefix ES0604002 (for 250V push-buttons) and BS006207.I07(for mech. switches))

Lithoss nv/sa guarantees that the products have been carefully tested to comply with the specifications mentioned above. A customer can therefore only benefit from this warranty, solely under the condition that the products are applied correctly and according to the procedures that are mentioned on the installation manual provided by the manufacturer with each product delivery.

Name	:	T. Beeuwsaert
Function	:	President / CEO
Signature	:	
Place & Date	:	Mouscron, 12-03-2012

Lithoss®
DESIGNED SWITCHES

6T 7338-50a

**LI56302**

Module 2 entrées à encastrer

Tastereingang 2 fach

2 flush mounted inputs

Inbouwmodule met 2 ingangen

Modulo 2 ingressi da incasso

LI56304

Module 4 entrées à encastrer

Tastereingang 4 fach

4 flush mounted inputs

Inbouwmodule met 4 ingangen

Modulo 4 ingressi da incasso

**FR**

Les modules d'entrées universels permettent d'interfacer des contacts libres de potentiels avec le bus KNX. Par exemple, des boutons poussoirs, interrupteurs ou automatismes conventionnels peuvent ainsi être rendus communicants.

Les modules d'entrées universels à encastrer se déclinent en 2 versions :

- Modules 2 entrées universelles (réf : LI56302)
- Modules 4 entrées universelles (réf : LI56304)

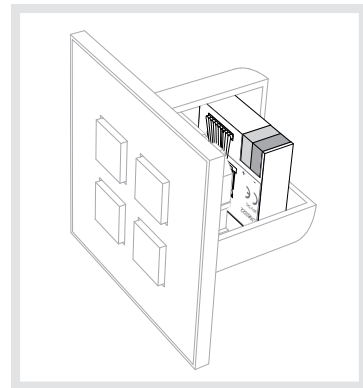
Fonctions

- 2 ou 4 voies indépendantes.
- Alimentation par le bus.

Les fonctions précises de ces produits dépendent de la configuration et du paramétrage.

Câblage, test et mise en route

En association avec un bouton poussoir ou un interrupteur, les modules s'installent dans une boîte d'encastrement de diamètre 60 mm. La profondeur dépendra du type d'appareillage utilisé.

**Bouton poussoir d'adressage physique ①**

Un appui court (t < 2s) sur le bouton poussoir ① permet de réaliser l'adressage physique du produit ou de vérifier la présence du bus : voyant ② allumé = présence bus et produit en adressage physique.

Test présence bus

1. Appuyer sur le BP ①.
2. Vérifier que la led ② s'allume.
3. Réappuyer sur le BP ① pour éteindre le voyant.

Attention :

- Appareil à installer uniquement par un installateur électricien.
- Respecter les règles d'installation TBTS.
- Ne pas installer ce module à l'extérieur du bâtiment.

DE

Die Universal-Eingangsmodule fungieren als Schnittstelle zwischen spannungsfreien Kontakten und dem KNX-Bus. Auf diese Weise können beispielsweise Taster, Schalter und herkömmliche Automationsabläufe in die Kommunikation eingebunden werden.

Die Universal-Eingangsmodule (Unterputzgeräte) sind in 2 Ausführungen erhältlich :

- Universal-Eingangsmodul 2 Eingänge (Art.-Nr.: LI56302)
- Universal-Eingangsmodul 4 Eingänge (Art.-Nr.: LI56304)

Funktionen

- 2 oder 4 unabhängige Kanäle.
- Speisung über den Bus.

Die genauen Funktionen dieser Geräte hängen von der jeweiligen Konfiguration und den jeweiligen Parametereinstellungen ab.

Anschluß, Test, Inbetriebnahme

In Verbund mit einem Taster oder einem Schalter werden die Module in eine Unterputzdose, Durchmesser 60 mm eingebaut.

Die Tiefe hängt von der jeweiligen eingesetzten Gerätausstattung ab.

Taster zur physikalischen Adressierung ①

Ein kurzer Druck (kürzer als 2 Sek.) auf den Taster ① überprüft das Anliegen des Busses : Kontrollleuchte ② ein = Bus liegt an und Produkt im Modus physikalische Adressierung.

Test "bus liegt an"

1. Taster ① betätigen.
2. Sicherstellen, ob die LED ② aufleuchtet.
3. Taster ① erneut drücken, um die Kontrollleuchte abzuschalten.

Achtung:

- Einbau und Montage dürfen nur durch eine Elektrofachkraft erfolgen.
- Installationsvorschriften zur Schutzmaßnahme SELV beachten.
- Gerät nicht für die Verwendung im Freien umbauen.

GB

Universal input modules are used to interface contacts free of potential with KNX bus, such as pushbuttons, switches or conventional automatism to make them communicating devices.

There are two versions of these flush-mounting universal input modules:

- 2-input universal modules (Ref LI56302)
- 4-input universal modules (Ref LI56304)

Functions

- 2 or 4 independent channels.
- Power supply by Bus.

The particular functions of each product depend on the configuration and the set-up.

Wiring, test, startup

The modules are installed in a 60 mm dia. flushmounting box in association with a pushbutton or a switch.

Depth will depend on the type of equipment used.

Physical addressing pushbuttons ①

A short press (T < 2s) of pushbutton ① initiates product physical addressing and checks the presence of the bus : indicator ② ON = bus presence and product in physical addressing.

Testing bus presence

1. Press BP ①.
2. Check that LED ② switches on.
3. Press again push button ① to switch off the LED.

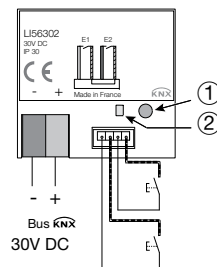
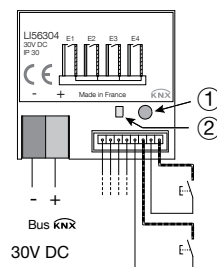
Caution:

- This device must be installed only by a qualified electrician.
- Conform to SELV installation rules.
- Not for outdoor use.

1

Lithoss®
DESIGNED SWITCHES

IMPORTANT : Technical data is subject to change without notice. Please check our website for latest information.

LI56302**LI56304****Caractéristiques techniques / Technische Daten / Technical characteristics**
Technische kenmerken / Caratteristiche tecniche

Courant contact	Kontaktstrom	Contact current	Contactstroom	Corrente contatto	0,5 mA
Alimentation	Versorgungs-spannung	Supply voltage	Voeding	Alimentazione	30 V DC (TBTS, SELV, ZLVS)
Encombrement	Abmessungen	Dimensions	Afmetingen	Ingombro	38 x 35 x 12 mm
Indice de protection	Schutzart	Degree of protection	Beschermings-graad	Indice di Protezione	IP 30
T° de fonctionnement	Betriebs-temperatur	Operating temperature	Bedrijfs-temperatuur	Ta di funzionamento	0 °C → + 45 °C
T° de stockage	Lagertemperatur	Storage temperature	Opslag-temperatuur	Ta di stoccaggio	- 20 °C → + 70 °C
Sécurité électrique	Elektrische Sicherheit	Electrical safety	Elektrische veiligheid	Sicurezza elettrica	NF EN 60669-2-1 NF EN 50428

NL

De universele ingangsmodule bieden de mogelijkheid potentiaalvrije contacten aan te sluiten aan de KNX-bus.

Zo kunt u bijvoorbeeld drukknoppen, schakelaars of klassieke automatiseringstoestellen doen communiceren.

De universele ingangsmodule voor inbouw zijn beschikbaar in 2 versies :

- Universele modules met 2 ingangen (ref. : LI56302)
- Universele modules met 4 ingangen (ref. : LI56304)

Functies

- 2 of 4 zelfstandige kringen.
- Voeding via de bus.

De specifieke functies van deze producten hangen af van de configuratie en van de parameterinstelling.

Bedrading, test en inbedrijfstelling

De modules worden in combinatie met een drukknop of een schakelaar geïnstalleerd in een inbouwdoos met een diameter van 60 mm.

De diepte hangt af van het gebruikte apparaattype.

Drukknop van fysieke aansturing ①

Met een korte druk (T < 2sec) op de drukknop ① kunt u het fysieke adres toekennen of de aanwezigheid van een bus verifiëren : lampje ② aan = bus en product in fysieke aansturing aanwezig.

Test beschikbaarheid bus

1. Druk op DK ①.
2. Controleer of led ② gaat branden.
3. Druk opnieuw op DK ① om het lampje te doven.

Opgelet :

- Het toestel mag alleen door een elektro-installateur worden geïnstalleerd.
- De ZLVS-installatievoorschriften naleven !
- Het toestel is niet geschikt voor buitenopstelling.

IT

I moduli d'ingresso universali consentono d'interfaciare contatti liberi da potenziale con il bus KNX. Ad esempio, si possono far comunicare tra di loro dei pulsanti, degli interruttori o degli automatismi convenzionali.

I moduli d'ingresso universali ad incastro esistono in due versioni :

- Modulo 2 ingressi universali (rif : LI56302)
- Moduli 4 ingressi universali (rif : LI56304)

Funzioni

- 2 o 4 canali indipendenti.
- Alimentazione mediante bus.

Le precise funzioni di questo prodotto dipendono dalla configurazione e dai parametri impostati.

Cablaggio, test, messa in funzione

Se abbinati ad un pulsante o ad un interruttore, i moduli vengono installati dentro una scatola ad incastro di 60 mm di diametro. La profondità dipende dal tipo d'apparecchiatura utilizzato.

Pulsante d'indirizzamento fisico ①

Una pressione breve (t < 2s) sul pulsante ① permette di realizzare l'indirizzamento fisico del prodotto o di verificare la presenza del bus spia ② accesa = presenza bus e prodotto in indirizzamento fisico.

Test presenza bus

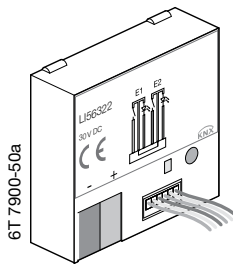
1. Premere il pulsante ①.
2. Verificare che il led ② si accenda.
3. Premere nuovamente il pulsante ① per spegnere la spia.

Attenzione:

- L'apparecchio deve essere installato unicamente da un installatore qualificato
- Rispettare le regole d'installazione SELV.
- Non installare questo modulo all'esterno dell'edificio.

6T 7338-50a

Lithoss®
DESIGNED SWITCHES

Lithoss®
DESIGNED SWITCHES

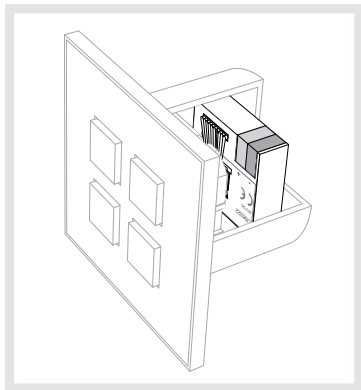
6T 7900-50a

**LI56322**

Module 2 entrées / 2 sorties indication d'état
Universal-Eingangs-/ -Ausgangsmodul
(2 Ein-/ 2 Ausgänge) mit Zustandsanzeige
2-input / 2-output Module Indication of state
Module 2-voudige ingang / 2-voudige uitgang
met toestandsindicatie
Modulo 2 entrate / 2 uscite indicazione di stato

LI56344

Module 4 entrées / 4 sorties indication d'état
Universal-Eingangs-/ -Ausgangsmodul
(4 Ein-/ 4 Ausgänge) mit Zustandsanzeige
4-input / 4-output Module Indication of state
Module 4-voudige ingang / 4-voudige uitgang
met toestandsindicatie
Modulo 4 entrate / 4 uscite indicazione di stato

**Fonctions**

- 2 ou 4 voies.
- Alimentation par le bus.
- Commande de 2 ou 4 LEDs

Les fonctions précises de ces produits dépendent de la configuration et du paramétrage.

Câblage, test et mise en route

En association avec un bouton poussoir ou un interrupteur (pourvu ou non de LEDs d'indication d'état), les modules s'installent dans une boîte d'encastrement de diamètre 60mm.

L'adressage physique se fait à l'aide du BP ② et de la led ③.

Test présence bus

1. Appuyer sur le BP ②.
2. Vérifier que la led ③ s'allume.
3. Ré appuyer sur le BP ③ pour éteindre le voyant.

Attention :

- Appareil à installer uniquement par un installateur électricien.
- Respecter les règles d'installation TBTS.
- Ne pas installer ce module à l'extérieur du bâtiment.

FR

Les modules d'entrées universels permettent d'interfacer des contacts libres de potentiels avec le bus KNX. Par exemple, des boutons poussoirs, interrupteurs ou automatismes conventionnels peuvent ainsi être rendus communicants.

De plus, les sorties permettent de commander l'allumage de LEDs de signalisation conventionnelles.

Les modules d'entrées universels / sorties indication d'état à encastrer se déclinent en deux versions :

- Modules 2 entrées universelles / 2 sorties indication d'état (réf: LI56322).
- Modules 4 entrées universelles / 4 sorties indication d'état (réf: LI56344).

DE

Die Universal-Eingangsmodule fungieren als Schnittstelle zwischen spannungsfreien Kontakten und dem KNX-Bus.

Auf diese Weise können beispielsweise Taster, Schalter und herkömmliche Automationsabläufe in die Kommunikation eingebunden werden. Die Ausgänge können herkömmlichen LEDs steuern.

Die Universal-Eingangs- / Ausgangsmodule mit Zustandsanzeige (Unterputzgeräte) sind in 2 Ausführungen erhältlich :

- Universaleingangs- / -ausgangsmodul (2 Ein- / 2 Ausgänge) mit Zustandsanzeige (Art.-Nr.: LI56322)
- Universaleingangs- / -ausgangsmodul (4 Ein- / 4 Ausgänge) mit Zustandsanzeige (Art.-Nr.: LI56344).

Funktionen

- 2 bzw. 4 Kanäle
- Speisung über den BUS
- Steuerung von 2 oder 4 LEDs.

Die genauen Funktionen dieser Geräte hängen von der jeweiligen Konfiguration und den jeweiligen Parametereinstellungen ab.

Anschluß, Test, Inbetriebnahme

In Verbund mit einem Taster oder einem Schalter (mit oder ohne Zustandsmelde-LEDs) werden die Module in eine Unterputzdose, Durchmesser 60mm eingebaut. Die Tiefe hängt von der jeweiligen eingesetzten Gerätausstattung ab.

Die physikalische Adressierung erfolgt über Taster ② und LED ③.

Test "bus liegt an"

1. Taster ② betätigen.
2. Sicherstellen, ob die LED ③ aufleuchtet.
3. Taster ③ erneut drücken, um die Kontrollleuchte abzuschalten.

Achtung:

- Einbau und Montage dürfen nur durch eine Elektrofachkraft erfolgen.
- Installationsvorschriften zur Schutzmaßnahme SELV beachten.
- Gerät nicht für die Verwendung im Freien umbauen.

GB

The universal input modules interface potential free contacts with KNX. Push buttons, switches and conventional automatisms can thus be used to drive standard LED indicators. In addition, outputs can control conventional signalling LEDs.

Universal input and output modules include 2 versions:

- Modules with 2 universal inputs and outputs (Ref. LI56322)
- Modules with 4 universal inputs and outputs (Ref. LI56344).

The database and the technical description are available from the manufacturer.

Functions

- 2 or 4 inependant channels
- power supply by Bus
- control of 2 or 4 LEDs

Precise functionality of the device is defined by the configuration.

Wiring, test, startup

The modules are associated with push buttons or switches and are installed in a flush-mounted wall box of diameter 60mm and adapted depth.

Physical addressing is done using push button ② and LED ③.

Testing bus presence

1. Press BP ②.
2. Check that LED ③ switches on.
3. Press again push button ③ to switch off the LED.

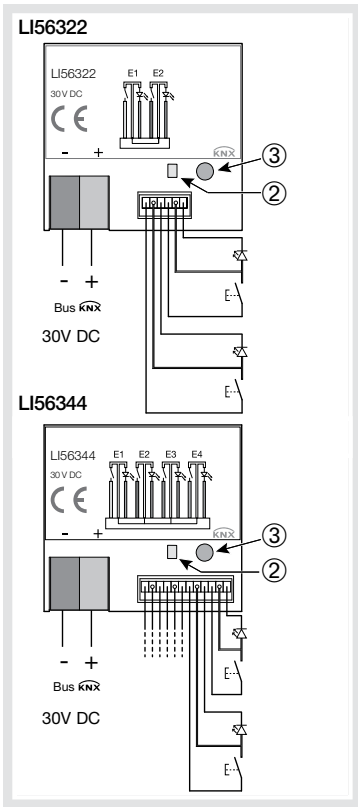
Caution:

- This device must be installed only by a qualified electrician.
- Conform to SELV installation rules.
- Not for outdoor use

1

Lithoss®
DESIGNED SWITCHES

IMPORTANT : Technical data is subject to change without notice. Please check our website for latest information.



NL

De universele ingangsmodule dienen als interface tussen de potentiaalvrije contacten en de KNX-bus. Op die manier kunnen bijvoorbeeld drukknoppen, schakelaars of traditionele automatiseringstoestellen onderling communiceren.

De uitgangen dienen voor het aansturen van de conventionele LED.

De universele ingangsmodule / uitgangsmodule met toestandsindicatie voor inbouw zijn verkrijgbaar in twee uitvoeringen :

- Modules met 2-voudige universele ingang / 2-voudige uitgang met toestandsindicatie (ref. : LI56322).
- Modules met 4-voudige universele ingang / 4-voudige uitgang met toestandsindicatie (ref. : LI56344).

Caractéristiques techniques / Technische Daten / Technical characteristics / Technische kenmerken / Caratteristiche tecniche

Courant contact	Kontaktstrom	Contact current	Contactstroom	Corrente contatto	0,5 mA
Caractéristiques des sorties LED	LED Ausgänge Eigenschaften	LED outputs specifications	Kenmerken LED-uitgangen	Caratteristiche delle uscite LED	I = 850 µA U = 1.8V DC
Alimentation	Versorgungs-spannung	Supply voltage	Voeding	Alimentazione	30V DC
Consommation Bus	Buslinie max Stromverbrauch	Busline max consumption	Max. stroom-verbruik bus	Consumo Bus	15 mA
Encombrement	Abmessungen	Dimensions	Afmetingen	Ingombro	38x35x12 mm
Indice de protection	Schutzart	Degree of protection	Beschermings- graad	Indice di Protezione	IP 30
T° de fonctionnement	Betriebs-temperatur	Operating temperature	Bedrijfs-temperatuur	T°di funzionamento	0°C → +45°C
T° de stockage	Lager-temperatur	Storage temperature	Opslag-temperatuur	T° di stoccaggio	-20°C → +70°C
Normes	Standards	Standards	Normen	Standards	EN 60 669-2-1, NF EN 50 428

IT

I moduli d'entrate universali permettono d'interfacciare contatti liberi da potenziali con il bus KNX. Per esempio, pulsanti, interruttori o automa-tismi convenzionali possono così venire resi comunicanti.

Le uscite permettono di controllo convenzio-nale LED.

I moduli d'entrate universali /uscite indicazione di stato, incastrabili sono disponibili in due versioni :

- Moduli 2 entrate universali / 2 uscite indicazione di stato (ref: LI56322).
- Moduli 4 entrate universali / 4 uscite indicazione di stato (ref: LI56344).

Funzioni

- 2 o 4 vie.
- Alimentazione mediante il bus.
- Controllo di 2 o 4 LED

Le funzioni precise di questi prodotti dipendono dalla configurazione e dalla parametrizzazione.

Cablaggio, test e messa in marcia

In associazione con un pulsante o un interruttore (provvisto o no di LEDs d'indicazione di stato), i moduli s'installano in una scatola d'incastro di diametro 60 mm.

L'indirizzamento fisico avviene mediante il pulsante ② ed il led ③.

Test aanwezigheid bus

1. Druk op DK ②.
2. Controleer of led ③ gaat branden.
3. Druk opnieuw op DK ③ om het lampje te doven.

Opgelet :

- Het toestel mag alleen door een elektro-installateur worden geïnstalleerd.
- De ZLVS-installatievoorschriften naleven !
- Het toestel is niet geschikt voor buitenopstelling.

Test presenza bus

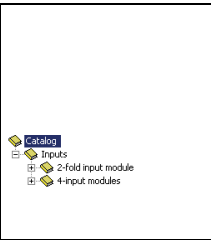
1. Premere il pulsante ②.
2. Verificare che il led ③ si accenda.
3. Premere nuovamente il pulsante ③ per spegnere la spia.

Attenzione:

- L'apparecchio va installato unicamente da un elettricista qualificato.
- Rispettare le norme d'installazione TBTS.
- Non installare questo modulo all'esterno dell'edificio.

6T 7900-50a

Lithoss®
DESIGNED SWITCHES



Lithoss application software

Li56302 V 1.x 2 inputs
Li56304 V1.x 4 inputs

	Product reference	Product designation
	Li56302 Li56304	2 input flush-mounted input module 4 input flush-mounted input module

Li56302 / Li56304



- ON / OFF
- DIMMING
- UP / DOWN
- SLAT ANGLE / STOP
- ALARM
- SET-POINT SELECTION
- SCENE
- PRIORITY
- TIMER
- JAMMING



Summary

- Presentation of the functions of the
- Input configuration and parametering
- General parameters
- Objects List
- Function descriptions
- Main characteristics
- Physical addressing

1. Presentation of the functions of the TL302-304 application

The TL302-304 application software is used to program each input individually. The main functions are the following:

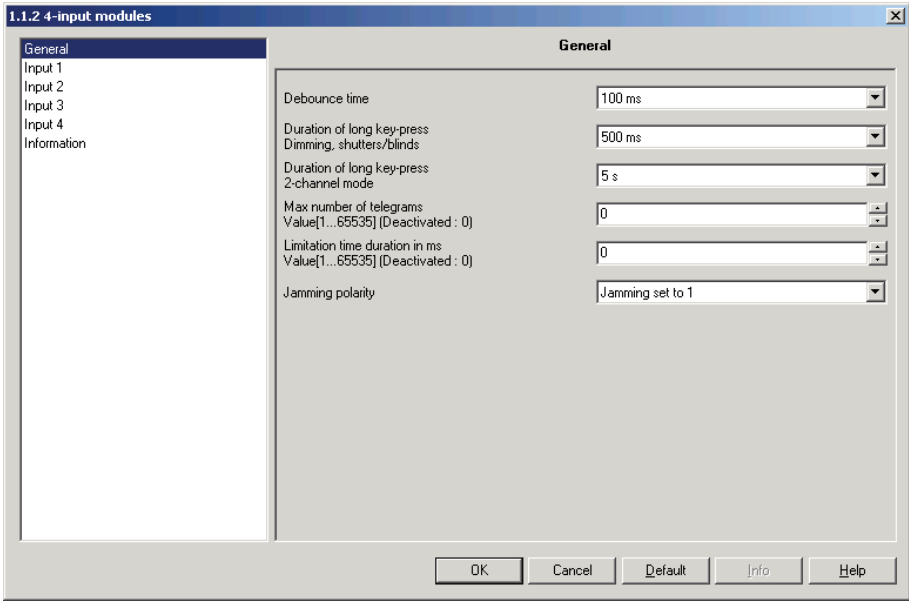
The pushbuttons connected to the inputs control the lighting, rolling shutter and blind, heating and scenes..

- ON/OFF
The On/Off function switches lighting, rolling shutter and heating circuits on and off. The command may come from switches, pushbuttons or automatic controls.
- Toggle switch
The toggle switch function (Toggle switch/- or -/Toggle switch) will after each key press invert the status of the output circuit. Each new key-press modifies the output status. The time limited toggle switch function consists of inverting the status of the output after each short key-press. If there is no short key-press, the output will be switched OFF once the delay time has elapsed. A long push button press restarts the delay time.
- Timer
The time limited toggle switch function is used to switch a lighting circuit ON or OFF, shutters, heating for an adjustable time. Depending on the operation mode selected, the output may be delayed for ON or OFF switching. The timer can be interrupted before the end of the delay time. An adjustable cut-OFF pre-warning indicates the end of the delay time by inverting the status of the output for 1 sec.
- 1 or 2 button dimmer
This function allows dimming a light using one or two pushbuttons. The ON/OFF function transmits the ON/OFF object (short key-press). The Dimming function transmits the Dimming object (long key-press).
- Value (1 channel and 2 channels)
The Value function allows the command of a luminosity level, a temperature, an illumination value, etc.. The Value function transmits a Value object.
- Alarms
The Alarm 1 and Alarm 2 functions allow alarms coming from automatic controls to be periodically emitted (anemometer, rain detector, light sensitive switch, etc.).
- Priority
The Priority function allows an input to be forced to a defined status, ON or OFF. The forcing action depends on the type of application controlled: lighting, rolling shutter, heating, etc.
- Heating mode selection
This function is used to select a heating or air conditioning setpoint. The command may come from switches, pushbuttons or automatic controls.
- Shutters / Blinds
This function controls shutters or a blind using one or two push buttons. The Up/Down function transmits the Up/Down object (press for a long time). The Stop/Angle function transmits the Stop/Angle object (press briefly).
- Scene
The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios (leaving home scenario, reading ambience, etc.).
- 2-channel mode, ON/OFF
The 2-channel mode function allows controlling, with the same pushbutton, two independent circuits having different functions.
- Jamming
The Jamming function is used to lock an input via an object on the bus. No commands or values can be sent to the bus.

2. Input configuration and parametering

2.1 General parameters

■ Parameters



Screen 1

Designation	Description	Values
Debounce time	This parameter defines, for the contacts connected to inputs, the minimum closing time before taking them into account.	50 ms, 100 ms, 150 ms, Default value: 100 ms.
Duration of long key-press Dimming, Shutter/Blind	This parameter defines for the dimmer and shutters/blinds function the detection time of a hold down pressure.	400 ms, 500 ms, 600 ms, 700 ms, 800 ms, 900 ms, 1 s. Default value: 500 ms.
Duration of long key-press 2 channel mode	This parameter defines the duration of detection of a long press for the 2 channel value function and 2 channels ON/OFF.	500 ms, 1 s, 2 s, 3 s, 4 s, 5 s,6 s, 7 s, 8 s, 9 s, 10 s, 30 s, 1 min, 2 min, 5 min, 10 min. Default value: 5 s
Maximum number of telegrams 1 to 65535 (o = function not used)	This parameter defines the maximum number of telegrams which can be transmitted on the bus by the product during the limitation period.	1 - 65535 Default value: o
Limitation time duration in ms 1 - 65535 (o = function not used)	This parameter defines the period during which the the limitation of the maximum number of telegrams takes effect.	1 - 65535 Default value: o
Jamming polarity	This parameter defines the level at which jamming is active.	On 1, On o Default value: On 1

2.2 Objects List

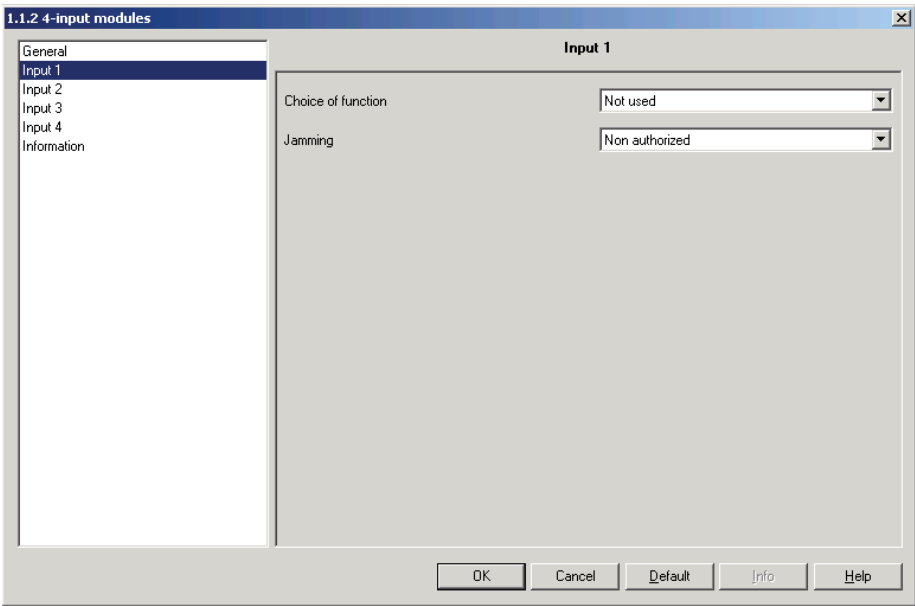
Function														
Object name	ON/OFF	Toggle switch	Timed toggle switch	Timer	1-button dimmer	2 -button dimmer	Shutters / Blinds	Heating	Priority	Scene	Alarm 1	Alarm 2	Value	
ON/OFF	X	X			X	X								
Status display		X	X		X									
Time-limited toggle switch			X											
Timer				X										
Dimming					X	X								
Stop/Angle							X							
Up/Down							X							
Setpoint selection								X						
Priority									X					
Scene										X				
Value													X	
Jamming	X	X	X	X	X	X	X	X	X	X			X	
Alarm 1											X			
Alarm 2												X		

2.3 Function descriptions

■ Product function

The product allows controls for lighting, blinds and shutters, heating, scenes to be sent.

■ Parameter

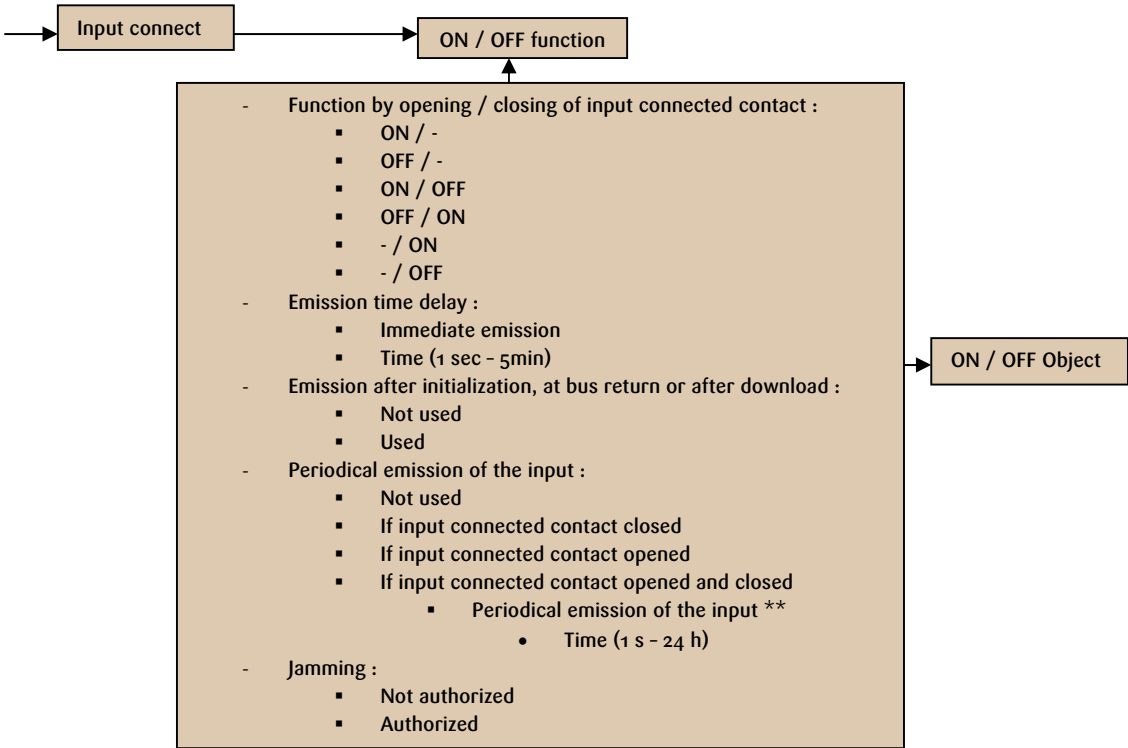


Screen 2

Designation	Description	Values
Channel function	This parameter allows selecting the function associated with each input.	Not used, Toggle switch, ON/OFF, 1-button dimmer, 2 -button dimmer, Shutters / Blinds, Alarm 1, Alarm 2, Heating mode selection, Value, Scene, Timer, Priority, 2-channel mode ON/OFF, 2-channel mode Value. Default value: Not used.

■ Channel function ON/OFF

This function is used to switch the lighting circuit or any other load ON or OFF. An ON or OFF command will be transmitted on the bus via the ON/OFF object. The command to be sent (ON or OFF) must be defined in the parameters.



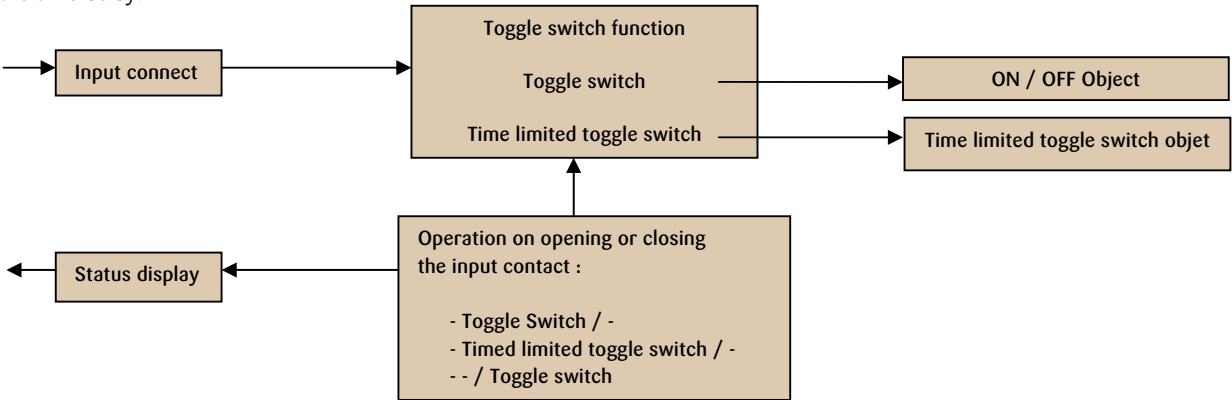
Designation	Description	Values
Function by opening / closing of input connected contact	This parameter defines the commands transmitted when input status changes occur.	ON/-, OFF/-, ON/OFF, OFF/ON, -/ON, -/OFF. Default value: ON/- ("-" = No action).
Emission time delay	This parameter is used to send commands with a configurable delay.	Immediate emission, 1 s, 2 s, 3 s, 4 s, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s, 40 s, 50 s, 1 min 30 s, 2 min 30 s, 3 min 30 s, 4 min 30 s, 5 min. Default value: Immediate emission.
Emission after initialization, at bus return or after download	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used. Default value: Not used.
Periodical emission of the input	This parameter defines the condition activating cyclic transmission.	Not used If input connected contact closed. If input connected contact opened. If input connected contact opened and closed. Default value: Not used.
Periodical emission delay of input*	This parameter defines the cyclic transmission period.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 3 h, 6 h, 12 h, 24 h. Default value: 30 min.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

* This parameter is only visible if the Periodical emission of the input parameter has a value other than: Not used.

■ Channel function Toggle switch

Toggle switch:
The toggle switch function (Toggle switch/- or -/Toggle switch) will after each key press invert the status of the output circuit. Each new key-press modifies the output status.
Description: After pressing the pushbutton, depending on the Status indication object, an ON or OFF command will be sent to the bus via the ON/OFF object. The command sent to the bus is the inverse of the previous command (previous command: ON -> OFF command sent ; Stop -> ON command sent).

Time-limited toggle switch:
A short push button press: The output's status is inverted. The status changes after each new short key-press. If there is no short key-press, the output will be switched OFF once the delay time has elapsed. A long push button press restarts the delay time.
Description: A short press transmits the timed toggle switch object on the bus with the opposite value to the status indication object. A long press on the push-button transmits an ON command via the timed toggle switch object. Upon reception of an ON command from the time-limited toggle switch, TXA-type products switch the output to ON for the set time. When an OFF command is received from the timed toggle switch, the outputs switch to OFF. An ON command received while the output is still ON will reset the time delay.



Designation	Description	Values
Function by opening / closing of input connected contact	This parameter defines the commands transmitted when input status changes occur.	Toggle switch / -, Time limited toggle switch/-, -/Toggle switch. Default value: Toggle switch / -. ("-" = No action).
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

A. Channel function Timer

The Timer function is performed by sending the Timer object. The timer duration is defined on the output module.
For the Timer function:

- Timer start = press briefly (rising edge)
- Timer end = long key-press (falling edge)

■ Channel function Dimmer: 1-button dimmer, 2 -button dimmer

This function allows dimming a light using one or two pushbuttons.
The 1 button dimmer and 2-buttons dimmer functions send the Dimmer type object after a long pressure and the ON/OFF object after a short pressure.

■ Parameter Setting screen: See Screen .

■ Parameters

Designation	Description	Values
Dimming direction*	This parameter defines the dimming direction associated to the button.	Increase, Decrease. Default value: Increase.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

*This parameter is only visible when the Function parameter has the value: 2 -button dimmer.

■ Channel function Shutters/blinds: 1-button Shutters/Blinds, 2 button Shutters/Blinds, 2 buttons safety Shutters/Blinds, Shutters/blinds automatic controls,
The Shutter/Blind functions are used to lift and lower shutters and blinds, and to angle blind slats.

B. Type of function 1-button Shutters/blinds, 2 button Shutters/Blinds

This function controls shutters or a blind using one or two push buttons.
The 1 button Shutter/Blind and 2 -button Shutter/Blind functions transmit the Up/Down object on a long press and the slat angle/Stop object on a short press (blind only).

■ Parameter Setting screen: See Screen .

■ Parameters

Designation	Description	Values
Type of function	This parameter selects the utilization mode.	1-button shutters/blinds, 2 button Shutters/Blinds, 2 buttons safety Shutters/Blinds, Shutters/blinds automatic controls. Default value: 2 button Shutters/Blinds
Function*	This parameter defines the movement direction associated to the button.	Up, Down. Default value: Up.
Jamming	This parameter is used to prevent the input from being used	Not used, Used. Default value: Used.

* This parameter is only visible if the Type of function parameter has the value: 2 button Shutters/Blinds or 2 buttons safety Shutters/Blinds.

C. Type of function Shutters/blinds automatic controls

This function allows controlling a shutter or a blind by means of an automatic control (switch,etc.).
The Shutters blinds automatic controls transmits the Up/Down object.

Safety Down Application:
This procedure allows controlling a down movement as long as a pushbutton is pressed down:

- On the concerned shutter outputs: Activate the Safety down function.
- On the control input: select the Shutters blinds automatic controls value for the Function parameter.

■ Parameter Setting screen: See Screen .

Designation	Description	Values
Function	This parameter defines the movement direction associated to the button.	Up/-, Down/-, Up / Down, Down/Up, -/ Up, -/ Down. Default value: Up / Down**
Emission time delay*	This parameter sends commands with a set delay in relation to pressing or releasing.	Immediate emission, Time (1 s, 2 s, 3 s, 4 s, 5 s, 10 s ,15 s, 20 s, 25 s, 30 s, 40 s, 50 s, 1 min 30 s, 2 min 30 s, 3 min 30 s, 4 min 30 s, 5 min). Default value: Immediate emission.
Emission after initialization, at bus return or after downloaad*	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used. Default value: Not used.
Periodical emission of the input*	This parameter defines the condition activating cyclic transmission.	Not used. If input connected contact closed. If input connected contact opened. If input connected contact opened and closed. Default value: Not used.
Periodical emission delay of input**	This parameter defines the cyclic transmission period.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 3 h, 6 h, 12 h, 24 h. Default value: 30 min.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

* This parameter is only visible if the Type of function parameter has the value: Shutters/blinds automatic controls.
** This parameter is only visible if the Type of function parameter has the value : Shutters/blinds automatic controls and the peridocal emission delay parameter has a value other than: Not used.

- Parameters

D. Channel function Alarm 1, Alarm 2

The Alarm 1 and Alarm 2 functions allow alarms coming from automatic controls to be periodically emitted (anemometer, rain detector, light sensitive switch, etc.).
The periodical emission delay for alarms is defined by the alarm transmission period parameter.
To place the shutters in safety position in case of bad weather: link the Alarm 1 and Alarm 2 functions with the Wind Safety and Rain Safety objects of the Shutter/Blind output modules.

These functions have the highest priority. Alarm 1 has a higher priority than alarm 2.

The Alarm 1 function transmits the Alarm 1 object.
The Alarm 2 function transmits the Alarm 2 object.

- Parameter Setting screen: See Screen .

Parameter

Designation	Description	Values
Periodical emission of alarm	This parameter defines the emission periodicity of the object Alarm 1 or Alarm 2	Not used, Time (5 s, 30 s, 1 min, 5 min, 10 min, 30 min, 1 h, 2 h, 3 h, 5 h) Default value: Not used
Active edge	This parameter defines on which edge the commands are sent on the bus.	Rising edge, Falling edge. - Rising edge: closing of input contact - Falling edge: opening of input contact Default value: Rising edge.
Emission after initialization, at bus return or after downloaad	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used. Default value: Used.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

- Channel function Heating

The Heating functions allow switching ON or OFF the heating or selecting a set-point.

A. Channel function Heating

The Heating function is used to select a set-point.
The Heating function transmits the Set-point selection object.

- Parameter Setting screen: See Screen .

- Parameters

Designation	Description	Values
Function	This parameter allows selecting the set-point associated with the connected input.	Comfort/Frost protection, Comfort/-, Frost protection/-, Frost protection/Auto, Absence/-, Comfort/Absence, Frost protection/-, Frost protection/Comfort, -/Comfort, -/Frost protection, Auto/Frost protection, -/Absence, Absence/Comfort, -/Frost protection. Command on rising edge / Command on falling edge (" - " = No action). Default value: Comfort/-.
Periodical emission of the input	This parameter defines the condition activating cyclic transmission.	Not used. If input connected contact closed. If input connected contact opened. If input connected contact opened and closed. Default value: Not used.
Periodical emission delay of input*	This parameter defines the cyclic transmission period.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 3 h, 6 h, 12 h, 24 h. Default value: 30 min.
Emission after initialization, at bus return or after downloaad	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used. Default value: Not used.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Used.

* This parameter is only visible if the Periodical emission of the input parameter has a value other than: Not used.

■ Channel function priority

The priority function sends priority-start or priority-stop commands.
The Priority function transmits the Priority object.
This command has priority, but at a lower level than the alarms. No other command is taken into account if a priority is active. Only end of priority or alarm commands will be taken into consideration.

- Parameter Setting screen: See Screen .

■ Parameter

Designation	Description	Values
Priority type	This parameter selects a Priority type. It depends on the type of application.	Priority ON - Down - Comfort, Priority OFF - Up - Frost protection. Default value: Priority ON- Down - Comfort.
Active edge	This parameter defines on which edge the commands are sent on the bus.	Rising edge, Falling edge. - Rising edge: closing of input contact - Falling edge: opening of input contact Default value: Rising edge.
Emission after initialization, at bus return or after download*	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used. Default value: Not used.
Periodical emission of the input*	This parameter defines the condition activating cyclic transmission.	Not used, Used. Default value: Not used.
Periodical emission delay of input*	This parameter defines the cyclic transmission period.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 3 h, 6 h, 12 h, 24 h. Default value: 30 min.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

* This parameter is only visible if the Periodical emission of the input parameter has a value other than: Not used.

■ Jamming function

The Jamming function authorizes push button locking. Jamming forbids sending commands. This function is started by the Jamming object. Jamming is indicated by the indicator flashing for 5 seconds when the push button is pressed.

This function has a lower priority level than the Alarms and the Priorities.
A Jamming end command ends the jamming and allows again taking the commands from the bus into consideration. The triggering of an alarm or a priority command ends the jamming.

Designation	Description	Values
Jamming polarity (Screen: General)	The Jamming function authorizes product locking. Jamming forbids sending commands. This parameter defines the level at which jamming is active.	On 1, On 0 Default value: On 1.
Jamming (Screen: Input x)	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

- Parameter Setting screen: See Screen .

■ Channel function 2 channel mode ON/OFF

The 2-channel mode is used to control two independant circuits with different functions using the same input.
- 1 short-press function (Channel A)
- 1 long-press function (Channel B): the duration of the long press is defined by the 2 channel long press mode duration parameter (See Chapter General parameters).
The 2-channel mode function transmits the ON/OFF channel A and ON/OFF channel B objects.

Designation	Description	Values
Channel A function (press briefly)	This parameter defines the command sent by a short key-press.	Not used, ON, OFF, Toggle switch. Default value: ON.
Channel B function (press for a long time)	This parameter defines the command sent by a long key-press.	ON, OFF, Toggle switch. Default value: Toggle switch.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

- Parameter Setting screen: See Screen .

■ Channel function Value

A. Channel function Value (1-channel mode)

The Value function allows the command of a luminosity level, a temperature, an illumination value, etc..
The Value function transmits a Value object.

Designation	Description	Values
Value type	This parameter defines the type of value sent.	Value in %, Temperature, Brightness value, Luminosity level, Value. Default value: Luminosity level.
Active edge		Rising edge, Falling edge. Default value: Rising edge.
Value	This parameter defines the value to be sent to the bus.	Possible values: - Value in %, 0% to 100% in 1 % steps Default value: 0%. - Temperature, 0 °C to 40 °C in 0.5 °C steps Default value: 20 °C - Brightness value, 0 lux to 1000 lux in 50 lux steps. Default value: 300 lux. - Luminosity level, 0% to 100% in 1 % steps. Default value: 0%. - Value, 0 to 65535 in 1 steps. Default value: 0.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

B. Channel function 2 channel mode value

The 2 channel mode value function makes it possible to transmit 2 different values with the same input.

- 1 value with a short press (Channel A)
- 1 value with a long press (Channel B): the duration of the long press is defined by the 2 channel long press mode duration parameter (See Chapter General parameters).

The 2-channel mode function transmits the ON/OFF channel A and ON/OFF channel B objects.

Designation	Description	Values
Value type Channel A	This parameter defines the type of value sent.	Not used, Value in %, Temperature, Brightness value, Luminosity level, Value. Default value: Value in %.
Value	This parameter defines the value to be sent to the bus	Possible values: - Not used - Value in %, 0% to 100% in 1 % steps Default value: 0%. - Temperature, 0 °C to 40 °C in 0.5 °C steps Default value: 20 °C - Brightness value, 0 lux to 1000 lux in 50 lux steps. Default value: 300 lux. - Luminosity level, 0% to 100% in 1 % steps. Default value: 0%. - Value, 0 to 65535 in 1 steps. Default value: 0.
Value type Channel B	This parameter defines the type of value sent	Value in %, Temperature, Brightness value, Luminosity level, Value. Default value: Value in %.
Value	This parameter defines the value to be sent to the bus.	Possible values: - Value in %, 0% to 100% in 1 % steps Default value: 0%. - Temperature, 0 °C to 40 °C in 0.5 °C steps Default value: 20 °C - Brightness value, 0 lux to 1000 lux in 50 lux steps. Default value: 300 lux. - Luminosity level, 0% to 100% in 1 % steps. Default value: 0%. - Value, 0 to 65535 in 1 steps. Default value: 0.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

■ Channel function scene

The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios (leaving home scenario, reading ambience, etc.).

The Scene function transmits a Scene object. The value of the Scene object is defined by the Scene number parameter.

The closing time of the contact connected with the input determines the action carried out:

Designation	Description	Values
Scene activation through	This parameter defines the type of product or automation connected to the input to activate a scene.	Push button, Automatic controls Default value: Push button.
Scene number	This parameter defines the number of the scene which will be triggered when the input contact is closed.	Scene 1 to Scene 32 Default value: Scene 1.
Scene at contact closing*	This parameter defines the number of the scene which will be triggered when the input contact is closed.	Not used, Scene 1 to Scene 32 Default value: Scene 1.
Scene at contact opening*	This parameter defines the number of the scene which will be triggered when the input contact is opened.	Not used, Scene 1 to Scene 32 Default value: Not used.
Periodical emission of the input*	This parameter defines the condition activating cyclic transmission.	Not used, Used Default value: Not used.
Periodical emission delay of input**	This parameter defines the cyclic transmission period.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 3 h, 6 h, 12 h, 24 h. Default value: 30 min.
Emission after initialization, at bus return or after downloaod*	This parameter defines if the input status is transmitted on the bus when the product is initialised or on bus return.	Not used, Used Default value: Not used.
Scene stroring via very long key press	This parameter authorizes or forbids scene storing.	Not used, Used Default value: Not used.
Very long press duration	This parameter defines the length of time after which a scene is stored.	Time: 1 s, 2 s, 3 s, 4 s, 5 s, 6 s ,7 s, 8 s,9 s, 10 s ,15 s, 20 s, 25 s, 30 s. Default value: 5 s.
Emission time delay	This parameter is used to send commands with a configurable delay in relation to input contact closure.	Immediate emission, Time (1 s, 2 s, 3 s, 4 s, 5 s, 10 s ,15 s, 20 s, 25 s, 30 s, 40 s, 50 s, 1 min 30 s, 2 min 30 s, 3 min 30 s, 4 min 30 s). Default value: Immediate emission.
Jamming	This parameter is used to prevent the input from being used.	Not used, Used. Default value: Not used.

* This parameter is only visible if the Type of activation parameter has the value: Automatic controls.

** This parameter is only visible if the Periodical emission of the input parameter has a value other than: Not used.

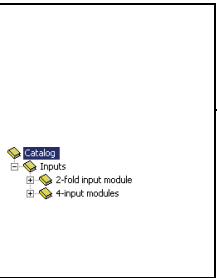
3. Main characteristics

Product		TXB302	TXB304
Max. number of group addresses		252	252
Max. number of links		254	254
Parameters		26 per input, 10 global, 114 in total	26 per input, 10 global, 166 in total
Objects		48	112

4. Physical addressing

To perform physical addressing or check for the presence of the bus, press the pushbutton located on the bottom right side of the product.
An indicator is located beside this pushbutton:
Indicator on = bus presence and product in physical addressing.
The product remains in physical addressing until the physical address has been transmitted by ETS. Press again to exit physical addressing mode. The indicator goes out.

Lithoss application software



Li56322 V 1.x 2 inputs / 2-output module LED (Status indication)
Li56344 V 1.x 4 inputs / 4-output module LED (Status indication)

	Product reference	Product designation
	LI56322 LI56344	Embedded module : 2 inputs / 2-output module LED (Status indication) Embedded module : 4 inputs / 2-output module LED (Status indication)

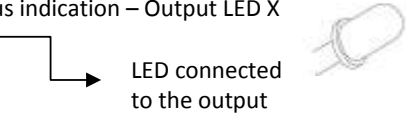


Li56322 / Li56344

- Lighting control
- Dimming command
- Shutters and blinds control
- Heating control
- Priority
- Scene
- Jamming



Status indication – Input X
Status indication – Output LED X



Summary

Presentation of the functions of the LED input and output configuration and parameters
Common settings

Objects List

Function Description
Main characteristics
Physical addressing

1. Presentation of the functions of the SXB322 and SXB344 applications

The SXB322 and SXB344 application softwares are used to configure the individual inputs of the TXB322 and TXB344 products. The main functions are the following:

■ Sending commands

The products allow to control lighting, blinds, shutters, heating and scenes.

- Lighting control
Toggle switch, ON, OFF, ON / OFF, Timer.
1 or 2 button dimmer.
- Shutters / blinds control
Up, Down, Stop, Blind slat angle, Secured Down.
- Heating control
Comfort, Night set-point, Frost protection, Standby, Auto.

■ Priority

The Priority function sends priority-start or priority-stop commands. The forcing action depends on the type of application controlled: lighting, blinds, heating, etc.

■ Scene

The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios (leaving home scenario, reading ambience, etc.).

■ Jamming

The Jamming function authorizes product locking. Jamming forbids sending commands.

■ 2-channel mode

The 2-channel mode function allows controlling, with the same pushbutton, 2 independent circuits having different functions.

■ Choice of circuits to be displayed on LED outputs

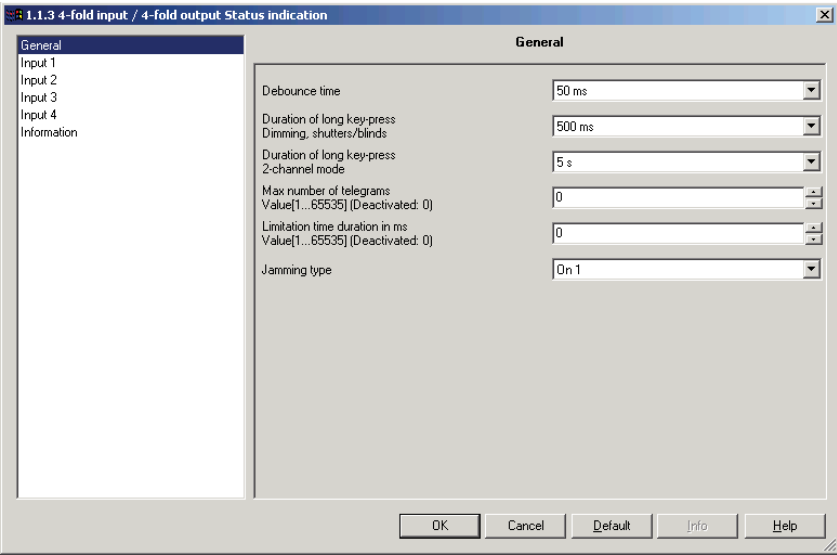
LED outputs (status indication) control the lighting of standard LED signal lamps. This function is used to select, for each LED output, the circuit displayed:

- The circuit controlled by the corresponding input,
- Any other circuit of the installation.

2. LED input and output configuration and parameters

2.1 Common settings

■ Parameter



Screen 1

Parameter	Description	Values
Debounce time	This parameter defines for the contacts connected to inputs the minimum closing time before taking into account.	50 ms, 100 ms, 150 ms Default value: 50 ms
Duration of long key-press Dimming, shutters / blinds	This parameter defines for the Dimmer and Shutter / Blind functions the detection time for a hold-down pressure.	400 ms, 500 ms, 600 ms, 700 ms, 800 ms, 900 ms, 1 s Default value: 500 ms
Duration of long key-press 2-channel mode	This parameter defines the duration of detection of a long press for the 2 channel value function and 2 channels ON / OFF.	500 ms, 1 s, 2 s, 3 s, 4 s, 5 s, 6 s, 7 s, 8 s, 9 s, 10 s, 30 s, 1 min, 2 min, 5 min, 10 min Default value: 5 s
Max number of telegrams Value [1...65535] (Deactivated: 0)	This parameter defines the maximum number of telegrams which can be transmitted on the bus during the limitation period.	1 - 65535 Default value: 0
Limitation time duration in ms Value [1...65535] (Deactivated: 0)	This parameter defines the period during which the the limitation of the maximum number of telegrams takes effect.	1 - 65535 Default value: 0

2.2 Objects List

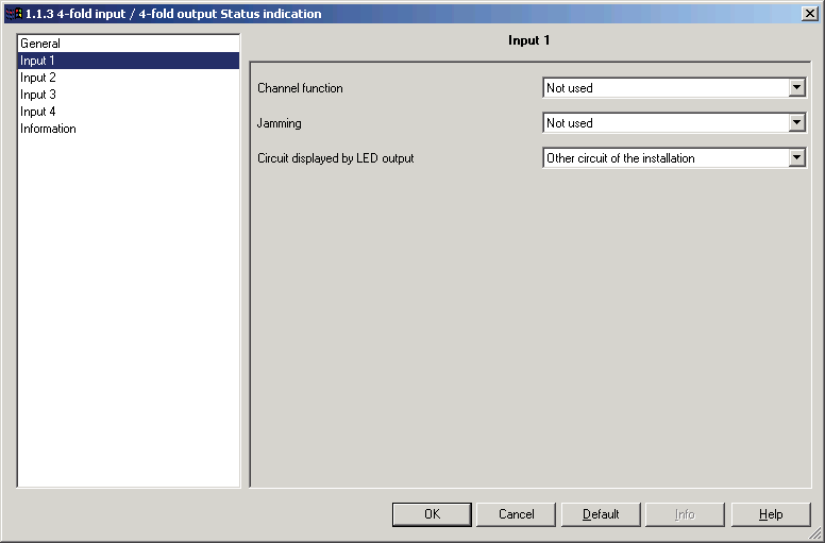
Function	None	ON / OFF	Toggle switch	Timer	1-button dimmer	2-button dimmer	1-button shutters / blinds	2-button shutters / blinds	Shutters / Blinds by automatic control	Heating set point	Heating ON / OFF	Priority	Scene	Alarm 1	Alarm 2
Not used	X														
ON / OFF		X	X		X	X					X				
Timer				X											
Dimming					X	X									
Status indication (Input X)				X	X	X	X								
Status indication (Output LED X)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Slat angle / Stop							X	X							
Up / Down							X	X	X						
Set point selection										X					
Priority												X			
Scene													X		
Alarm 1														X	
Alarm 2															X

2.3 Function Description

■ Product function

The product allows to control lighting, blinds, shutters, heating and scenes.

■ Parameter



Screen 2

2.3.1 Description of the ON / OFF, toggle switch, time limited toggle switch and timer functions

ON / OFF:

Pressing the push button switches the circuit ON or OFF (no change after pressing again).

Description: After pressing the push button, an ON or OFF command will be sent to the bus via the **ON / OFF** object. The command sent is not linked to the output's previous status. The command to be sent (ON or OFF) can be defined in the parameters.

Furthermore, it can be specified whether the command must be sent when the push button is pressed or released (see parameter settings).

Toggle switch:

The Toggle switch function (Toggle Switch / - or - / Toggle Switch) consists of inverting the status of the output after each key-press. Each new key-press modifies the output status.

Description: After pressing the connected pushbutton, depending on the **Status Indication** object, an **ON or OFF** command will be sent to the bus via the **ON / OFF** object. The command sent to the bus is the opposite of the previous command (previous command: ON -> OFF command sent; OFF -> ON command sent).

Time limited toggle switch:

A short push button press. The output status is inverted. The status changes after each short key press. If there is no short key-press, the output will be switched OFF once the delay time has elapsed. A long push button press restarts the delay time.

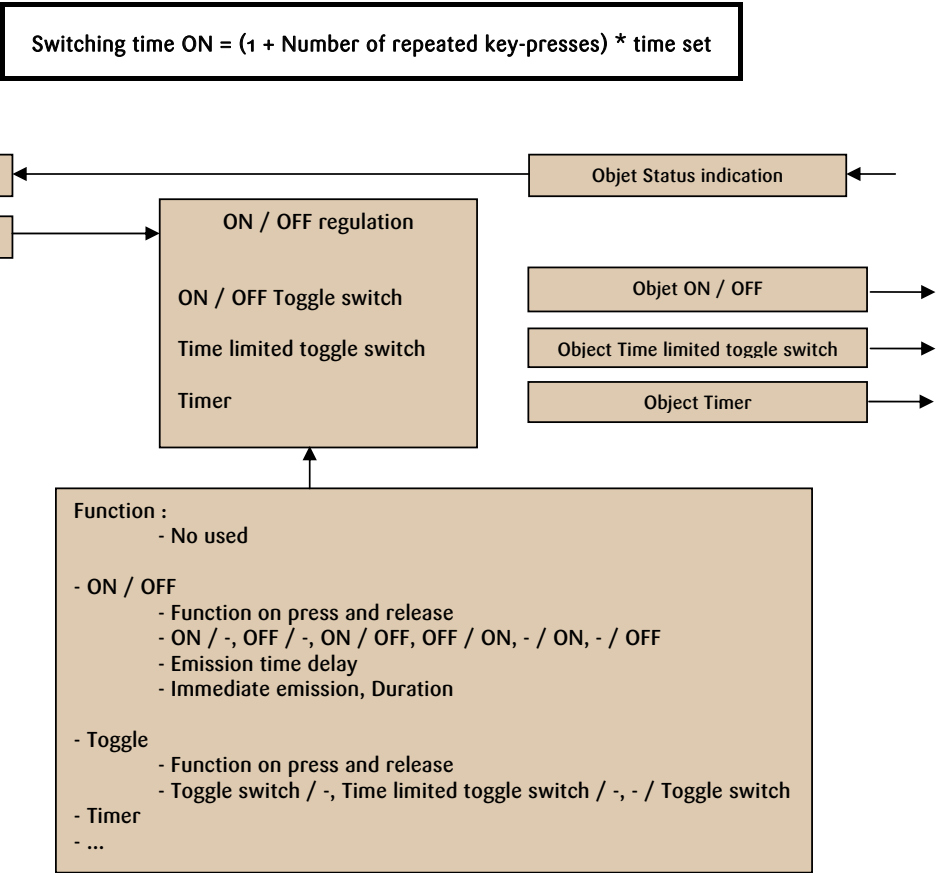
Description: A short key-press sends the **Time limited toggle switch** object to the bus with the value of the inverse of the **Status indication** object. A long press on the pushbutton transmits an ON command via the **Time-limited toggle switch** object.

Upon reception of an ON command from the **Time limited toggle switch**, TXA-type products switch the output to ON for the set time. Upon reception of an OFF command from the **Time limited toggle switch**, the outputs switch to OFF. An ON command received while the output is still ON resets the delay time.

Timer:

A short push button press: The output contact switches to ON for the set time.
A long push button press: Timer interruption and output stopped.

Description: A short key-press sends an ON command to the bus via the **Timer** object. A long key-press sends an OFF command to the bus via the **Timer** object.
Upon reception of an ON command from the **Timer** object, TXA-type products switch the output to ON for the time defined..
An ON command on the **Timer** object repeated within 10 s. increases the output's delay time period (for TXA-type products) as follows:



The delay time starts after the last key-press. An ON command received after the 10s resets the set delay time. An OFF command switches immediately the output to OFF.

- Function ON / OFF

Designation	Description	Values
Function on press and release	This parameter defines the commands sent when the push button is pressed and released.	ON / -, OFF / -, ON / OFF, OFF / ON, - / ON, - / OFF. Default value: ON / - Command when pressing / Command when releasing ("-" = No action).
Emission time delay*	This parameter sends commands with a set delay in relation to pressing or releasing.	Immediate emission, 1 s, 2 s, 3 s, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s, 40 s, 50 s, 1 min, 1 min 30 s, 2 min, 2 min 30 s, 3 min, 3 min 30 s, 4 min, 4 min 30 s, 5 min Default value: Immediate emission

* The emission time delay is not available for the ON / OFF or OFF / ON functions.

- Function Toggle switch

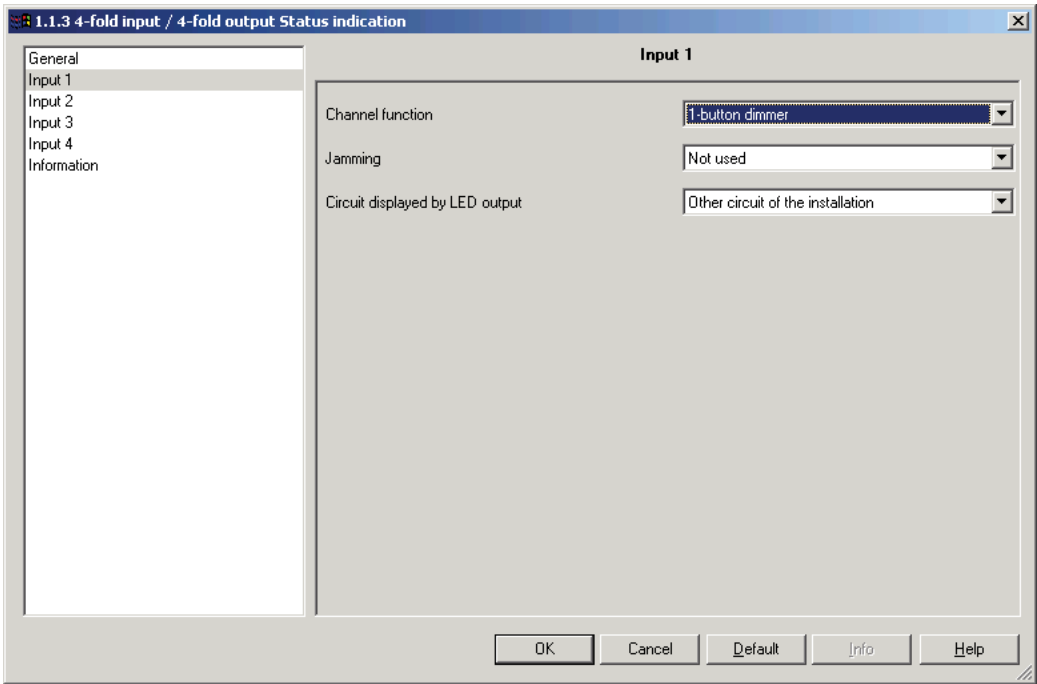
Designation	Description	Values
Function on press and release	This parameter defines the commands sent when the push button is pressed and released.	Toggle switch / -, Time limited toggle switch / -, - / Toggle switch. Default value: Toggle switch / - Command when pressing / Command when releasing ("-" = No action).

2.3.2 Description of the Dimmer function

Channel function: Dimming
This function is used to control lighting circuits using one or two buttons.
The 1 button dimmer and 2-buttons dimmer functions send the **ON / OFF** object after a short press.
A long press send the **Dimmer** object.
There are 2 different function types: **1-button dimmer** or **2 -button dimmer**.

Channel function: 1-button dimmer

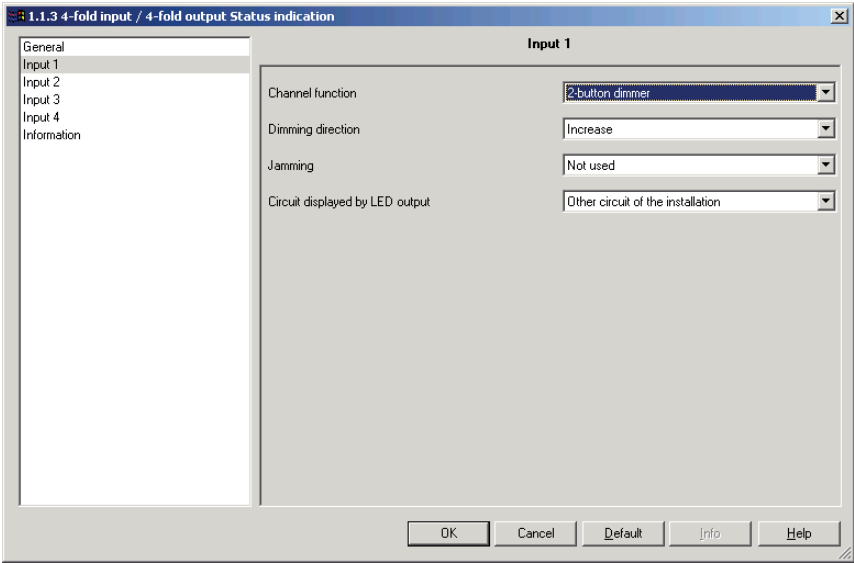
This function allows ON / OFF or Increase / Decrease controls using one push button.



Screen 3

Channel function: 2-button dimmer
This function allows ON or Increase controls using one push button, and OFF or decrease controls using a second push button.

■ Parameter Setting screen



Screen 4

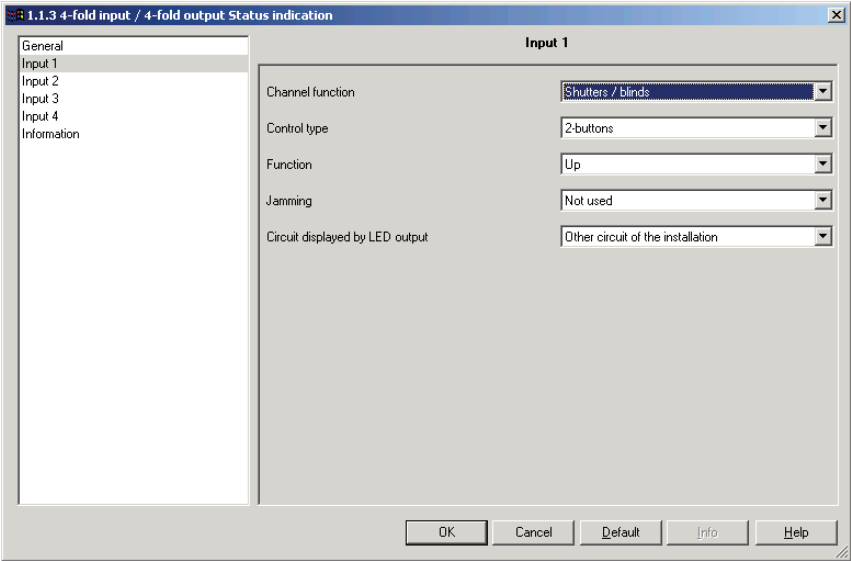
■ Parameter

Designation	Description	Values
Channel function	This parameter defines the function types.	1-button dimmer, 2-button dimmer
Dimming direction*	This parameter defines the dimming direction associated to the button.	Increase, Decrease Default value: Increase
Jamming	This parameter is used to prevent the input from being used. Jamming forbids sending commands.	Used, Not used Default value: Not used

* This parameter is only visible if the **Channel Function** parameter has the following value: 2-button dimmer.

2.3.3 Description of the Shutters / Blinds function

This function controls a shutter or a blind using one or two push buttons.
A long key-press sends raising or lowering commands to the bus via the **Up / Down** object.
A short key-press sends stop or slat angle value commands to the bus via the **Stop / Angle** object.



Screen 5

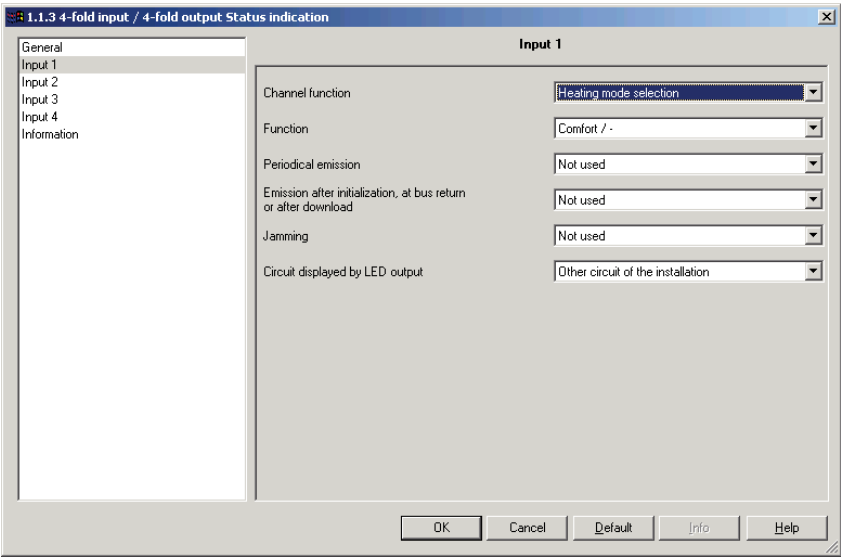
Designation	Description	Values
Control type	This parameter selects the utilization mode.	1-button 2-buttons On 2 Safety buttons Automatic controls Default value: 2-buttons
Function**	This parameter defines the movement direction associated to the button.	Up, Down Default value: Up

* Pressing the push button sends Up or Down commands to the bus via the **Up / Down** object.
When the push button is released, a Stop command is sent via the **Stop / Angle** object.
** This parameter is only visible if the **Choice of function** parameter has the value: 2 buttons Shutters / Blinds (or with safety function).

2.3.4 Description of the Heating function

This function is used to select the setpoint for heating / air-conditioning.
The **Heating setpoint** object sends the following values:

Values	Designation	Icon
1	Comfort	
2	Standby	
3	Night set-point	
4	Frost protection	



Screen 6

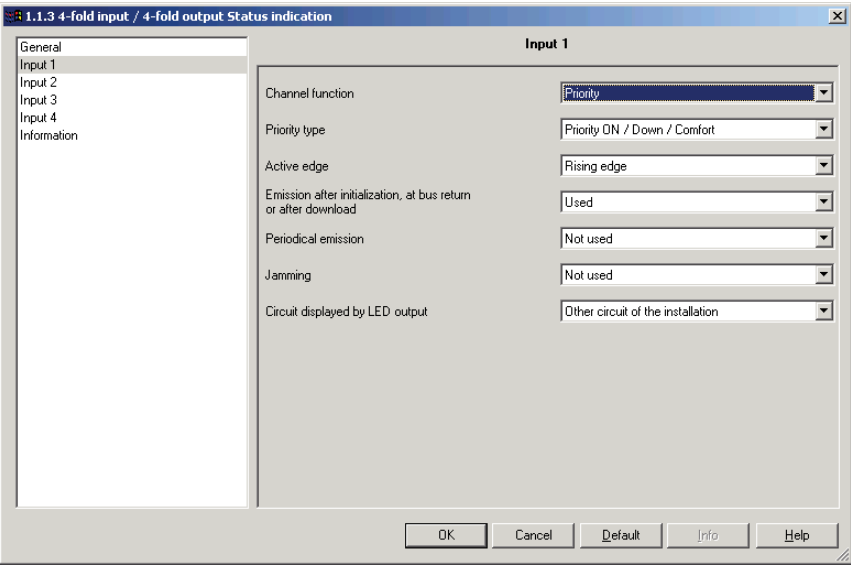
Designation	Description	Values
Function	This parameter selects the setpoint associated to the button.	Comfort / Night set-point, Comfort / -, Night set-point / -, Frost protection / Auto, Standby / -, Comfort / Standby, Frost protection / -, Night set-point / Comfort, - / Comfort, - / Night set-point, Auto / Frost protection, - / Standby, Standby / Comfort, - / Frost protection. Default value: Comfort / -

2.3.5 Description of the Priority function

The Priority function sends priority-start or priority-stop commands. The **Priority** object is sent when the push button is pressed.
The forcing action depends on the type of application controlled: Lighting, Shutters / blinds, Heating etc.

The **Priority** object sends the following values:

Values		Output behaviour
Bit 1	Bit 0	
0	0 / 1	Priority end
1	0	Priority OFF / Up / Frost protection
1	1	Priority ON / Down / Comfort



Screen 7

Designation	Description	Values
Priority type	This parameter selects a Priority type.	Priority ON / Down / Comfort* Priority OFF / Up / Frost protection* Default value: Priority ON / Down / Comfort

* Pressing the push button sends alternatively a priority-start request and a priority-end request.

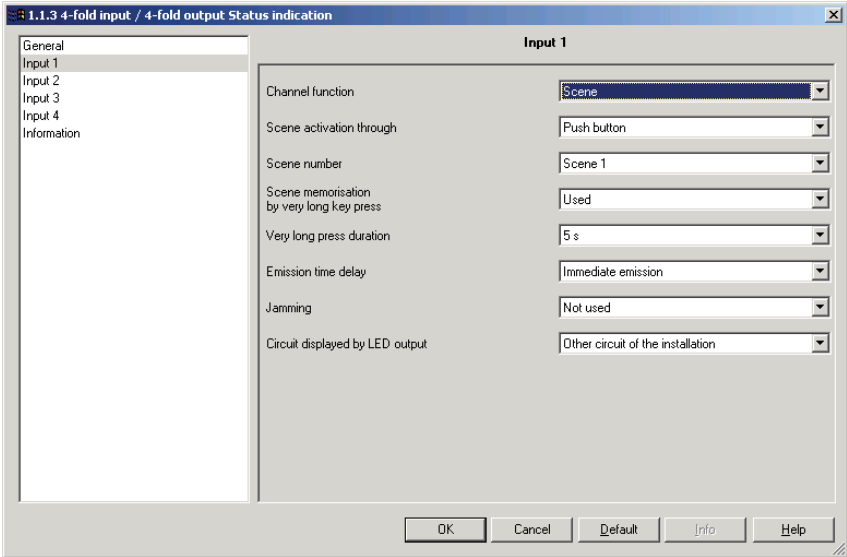
2.3.6 Description of the Scene function

The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios. Pressing the push button activates or stores a scene from 1 to 32. This function is only available in independent push button operation. A short key-press sends a **Scene** object with a value of between 0 and 31 (value 0 = scene 1, value 31 = scene 32) to the bus. The command is sent when the push button is released. If the **Scene storing via long key-press** parameter has the permitted value, pressing the pus button for longer than **5 s** sends a **Scene** object with a value of between 128 and 159 [(Scene no.-1) + 128] to the bus.

Construction of the **1 octet scene** object:

Bit no.							
7	6	5	4	3	2	1	0
Store	X	Scene number (o means Scene 1)					

X = Not significant



Screen 8

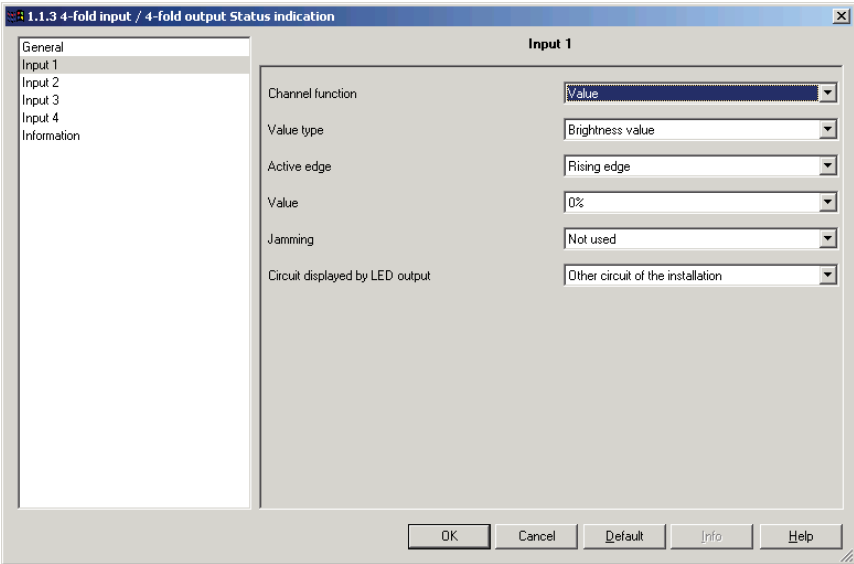
Designation	Description	Values
Scene number	This parameter defines the scene number to be activated.	Scene 1 - Scene 32 Default value: Scene 1
Emission time delay	This parameter defines if scene activation must be immediate or time-delayed.*	Immediate emission, 1 s, 2 s, 3 s, 5 s, 10 s, 15 s, 20 s, 30 s, 40 s, 50 s, 1 min, 1 min 30 s, 2 min, 2 min 30 s, 3 min, 3 min 30 s, 4 min, 4 min 30 s, 5 min Default value: Immediate emission
Scene memorisation by very long key press**	This parameter authorizes or not storage of a scene via a long push button press.	Used, Not used Default value: Used

* The scene storing command is not concerned by this parameter.

** Scene learning is confirmed by the push button indicator flashing (*1 second).

2.3.7 Description of the Value function

The Value function sends a value in %, a temperature, a brightness level, an illumination value or a 2-bit absolute value. The Value function is only available for an independent push button. Pressing the push button sends the **Value** object to the bus; the object is in 1-byte or 2-byte format, depending on the value type to be sent.

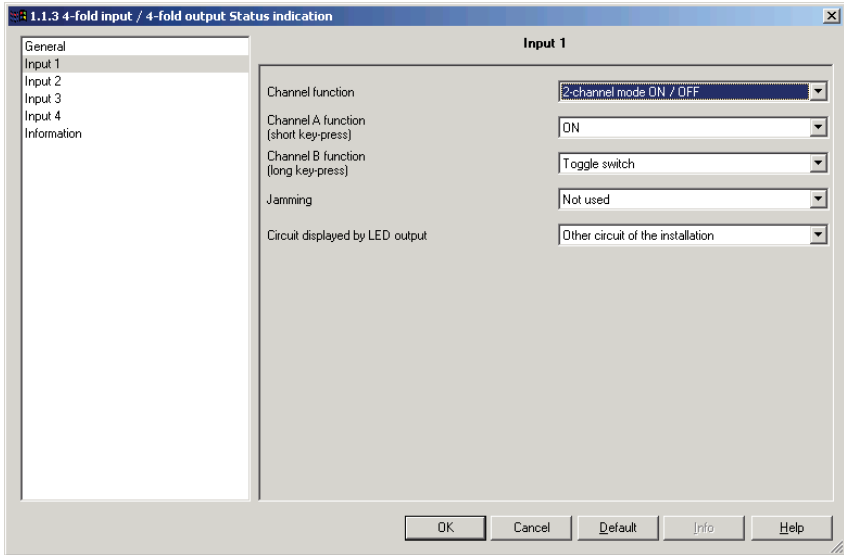


Screen 9

Designation	Description	Values
Value type	This parameter defines the type of value sent.	Value in %, Temperature, Luminosity level, Brightness value, Value. Default value: Brightness value
Value	This parameter defines the value to be sent to the bus.	Value in % 0 % - 100 % in 1 % steps Default value: 0 % Temperature 0° C - 40° C in 0.5° C steps Default value: 20 ° C Luminosity level 0 lux - 1000 lux in 50 lux steps Default value: 300 lux Brightness value 0 % - 100 % in 1 % steps Default value: 0 % Value 0 - 65535 in 1 steps Default value: 0

2.3.8 Description of the Mode 2 channels ON / OFF function

The 2-channel ON / OFF mode is used to perform two different functions using the same push button. The distinction between the two functions is made by a short key-press or a long key-press (the length of the long key-press is adjustable in the general parameters screen, via the **Length of long key-press 2 channels Mode** parameter). Only the ON, OFF and toggle switch functions are available in 2-channel mode. A short key-press sends ON or OFF commands to the bus via the **Channel A ON / OFF** object. A long key-press sends ON or OFF commands to the bus via the **Channel B ON / OFF** object.



Screen 10

Designation	Description	Values
Channel A function (short key-press)	This parameter defines the command sent by a short key-pres.	Not used, ON, OFF, Toggle switch Default value: ON
Channel B function (long key-press)	This parameter defines the command sent by a long key-press.	ON, OFF, Toggle switch Default value: Toggle switch

2.3.9 Jamming function parameters

The Jamming function authorizes product locking. Jamming forbids sending commands. This function is started by the **General - Jamming** object. Jamming is indicated by the indicator flashing for 5 seconds when the push button is pressed.

Designation	Description	Values
Jamming	This parameter defines whether push button jamming by a distinct object is permitted.	Not used, Used Default value: Not used

Parameter	Description	Values
Circuit displayed by LED output	This parameter defines, for each LED output, the circuit displayed.	Ciurcuit controlled by input, Other circuit of the installation. Default value: Other circuit of the installation

3. Main characteristics

Max. number of group addresses	254
Max. number of links	255
Parameters	29 per input, 11 global
Objects	26 in total

4. Physical addressing

To perform physical addressing or check for the presence of the bus, press the illuminated pushbutton located on the top right of the device above the label holder.
In the event of a status change, the respective input(s) is/are re-emitted:
Programming LED ON = Bus present and the product is in programming mode.
The product remains in programming mode until the physical address has been transmitted by ETS. Press again to exit programming mode. The indicator goes out.



Lithoss - designed switches
Rue des Bengalis 4
B - 7700 Mouscron

T +32 (0)56 48 15 98
F +32 (0)56 48 15 91

info@lithoss.com
www.lithoss.com