Quick Start Guide DALI Relais 2CH

General Safety Information

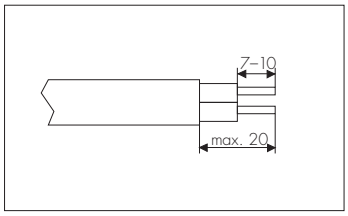
- LiCS products must be installed and commissioned only by authorized trained staff.
- To ensure safe and correct handling of the equipment, please read these instructions with care prior to installation and commissioning.
- The devices must be in a voltage-free state before any work is carried out on them.
- All applicable safety and accident-prevention instructions must be observed.
- The products must never be inexpertly opened since this poses a lethal danger due to electrical voltage. Repairs must only be carried out by the manufacturer.
- On no account may mains voltage or voltage from any other source be applied to the DALI control line since this can result in individual system components being destroyed.

Mounting

- Independent installation
- Surface: solid, device must not be able to sink into insulation
- Attachment: using 4-mm screws

Installation Notes

- Conductor cross-section for all screw terminals: 0.75 mm² – 2.5 mm²
- Lead preparation (see right)
- Screw terminals: max. torque = 0.4 Nm
- The device must be installed in such a way as to ensure users do not have direct access to the area of the mains power supply terminal.
- In its standard version, the DALI bus features only basic insulation. All DALI leads must therefore be suitable for mains voltage.
- The maximum permittable current at the Relais is 4 A.
- The maximum current consumption on the DALI bus is 8 mA. This needs to be considered by calculating the maximum amount of DALI relais per DALI bus.



- The DALI bus line can be laid alongside the power supply line in a single cable, up to a maximum length of 100m, e.g. with NYM 5 x1,5 mm².

Konfiguration

- There is no need for a configuration at the DALI Relais 2CH. In factory settings the operation mode 0 "1-channel switch" is available.
- Configuration options by use of the Light Controller IP software:

Operation mode		To be used with Light Controller series:		
No.	Description	LiCS System	LiCS System Network	LiCS System Network Wireless
0	1-channel switch	Yes	Yes	Yes
1	Jalousie (Up/Down)	No	Yes	Only network-mode
2	2- channel switch	No	Yes	Only network-mode
3	Jalousie (Down/Up)	No	Yes	Only network-mode

- Further Steps for Commissioning can be found below at "Software".

Further Information

- The outputs of various DALI Relais 2CH must not be connected to one another.
- In case of missing power supply from the DALI Bus, the relay will remain in the last state. A system failure level is not available.
- To ensure safe operation of the DALI Relais 2CH, the maximum permissible casing temperature at measuring point (t_c) must not be exceeded.
- Please refer to the respective manual at www.vossloh-schwabe.com for exact system configuration instructions in combination with the respective Light Controller.

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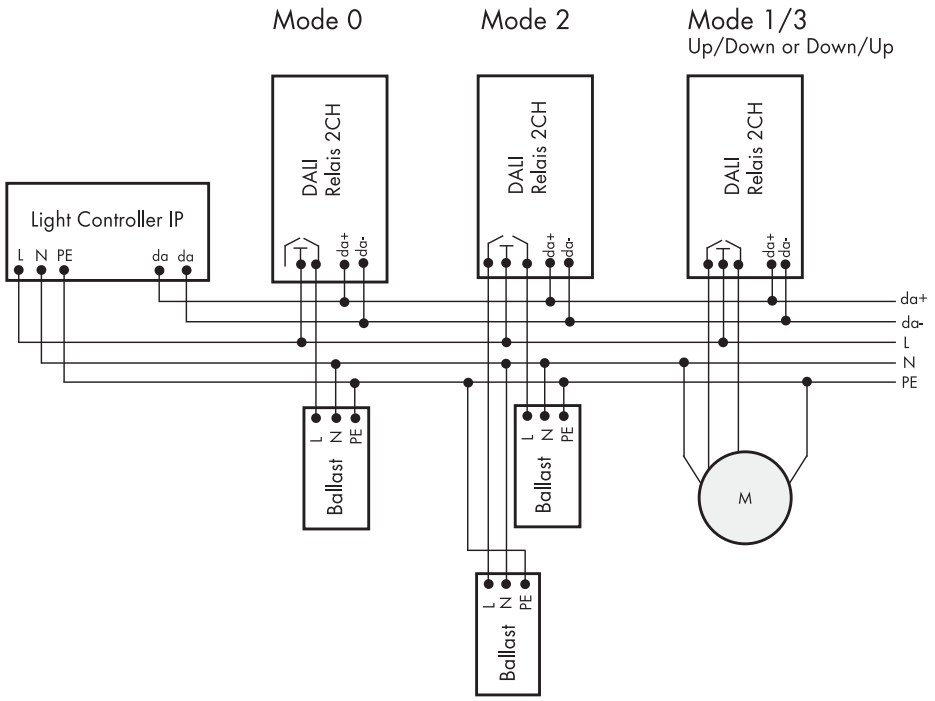
Quick Start Guide DALI Relais 2CH

Circuit diagramm DALI Relais 2CH



Device	DALI Relais 2CH 186561
Control input	DALI according to IEC 62386
Power consumption from DALI	Max. 8 mA
Ambient temperature t_a	5 to 50 °C
Switching capacity AC max.	4 A / 250 V (1600 W)
Switching capacity DC max.	4 A / 24 V (120 W)
Switching frequency	Max. 3 s
Degree of protection	IP20
Protection class	II
Weight	49.3 g
CE requirements	EMV according to EN 55015, Safety according to EN 61347-2-11

SOFTWARE IN OPERATION MODE 0 "1-channel switch"

Initial operation

Connect the DALI Relais 2CH to relay output and DALI lines according to the connection scheme. Take care of safety instructions and precautions as described above.

Functional description

For setup and operation a VS Light Controller from LiCS series is required. By use of the DALI Relais 2CH non-dimmable luminaires (or similar load) can be integrated into a light management system from Vossloh-Schwabe. Every relay will be displayed in the configuration menu of the Light Controller as a luminaire (one DALI address).

For detailed description of the system configuration in combination with a Light Controller please refer to the respective manual, available at www.vossloh-schwabe.com

SOFTWARE IN OPERATION MODE 1 RESP. 3 "JALOUSIE (UP/DOWN) RESP. (DOWN/UP)"

Initial operation

Connect the DALI Relais 2CH to relay output and DALI lines according to the connection scheme. Take care of safety instructions and precautions as described above.

Functional description

For setup and operation of DALI Relais 2CH in operation mode "Jalousie", a Light Controller IP (186484/186485 or 186339/186340, not included in the delivery) as well as the software for the Light Controller IP (download from product page at www.vossloh-schwabe.com) are the minimum requirements.
1. For information to set up the network, please refer to the manual of the Light Controller IP, available on product page at www.vossloh-schwabe.com.
2. All connected DALI Relais 2CH from the DALI bus will be teached-in during the automatic search procedure.
Now all available DALI Relais 2CH are displayed in the software

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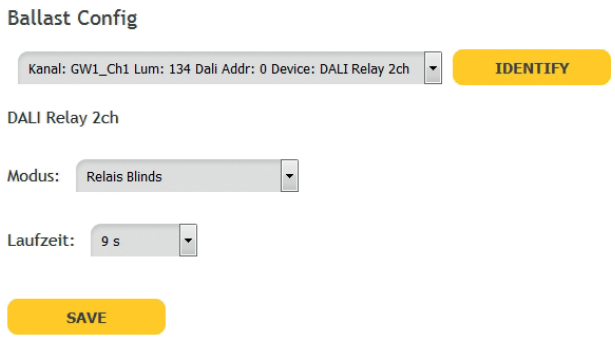
of the Light Controller IP. In case of wrong machine direction of the jalousie, the operating mode can be adapted between operation mode 1 and 3. There is no need for a re-wiring.



3. The device is now ready to use and in function. For the next steps, please refer to the manual of the software, available under www.vossloh-schwabe.com.

In case of any problem to bring up the device or for further support, please do not hesitate to contact our team by E-Mail or phone call.

SOFTWARE IN OPERATION MODE 2 "2-channel switch"

Initial operation

Connect the DALI Relais 2CH to relay output and DALI lines according to the connection scheme. Take care of safety instructions and precautions as described above.

Funktionsbeschreibung

For setup and operation of DALI Relais 2CH in operation mode "2-channel switch", a Light Controller IP (186484/186485 or 186339/186340, not included in the delivery) as well as the software for the Light Controller IP (download from product page at www.vossloh-schwabe.com) are the minimum requirements.
By use of the DALI Relais 2CH two groups of non-dimmable luminaires (or similar load) can be integrated into a light management system from Vossloh-Schwabe.
1. For information to set up the network, please refer to the manual of the Light Controller IP, available on product page at www.vossloh-schwabe.com.
2. All connected DALI Relais 2CH from the DALI bus will be teached-in during the automatic search procedure.
3. Every relay will be displayed in the configuration menu of the Light Controller as two luminaires (two DALI addresses).
4. The device is now ready to use and in function. For the next steps, please refer to the manual of the software, available under www.vossloh-schwabe.com.

In case of any problem to bring up the device or for further support, please do not hesitate to contact our team by E-Mail or phone call.

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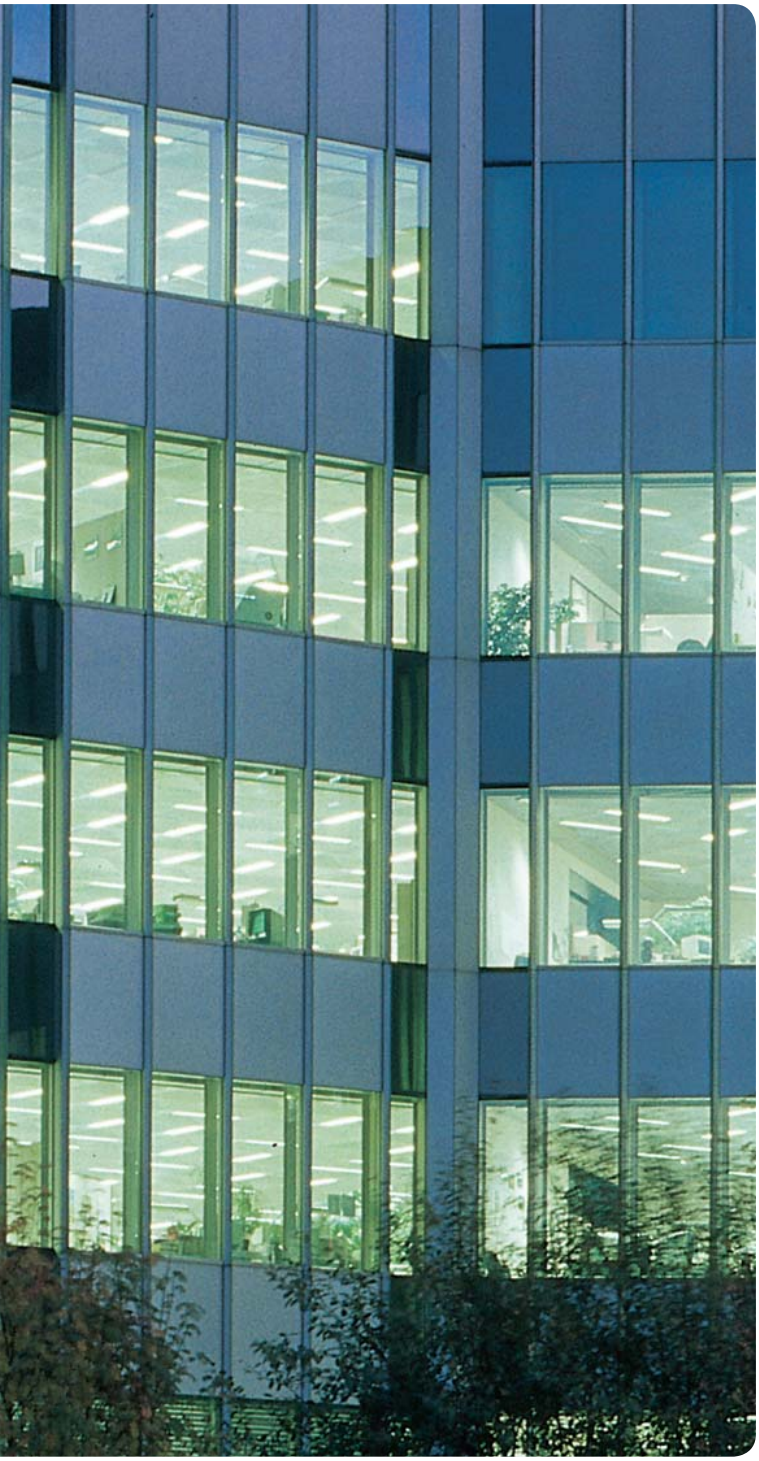
LiCS INDOOR

EXTENDER / EXTENDER64



EXTENDER / EXTENDER64

To extend the LiCS Indoor System

The Extender can be used to extend the maximum number of DALI control gear units in a standard DALI system. This makes it possible to install the DALI Extender in place of a control gear unit, and to address it if necessary. Up to 64 DALI control gear units can be connected to the Extender output; each unit will respond in the same way depending on the input signal.

The Extender for DALI systems can only be used in connection with a DALI controller. With DALI commands, the Extender acts like a DALI ballast for fluorescent lamps.

As a full duplex repeater, the Extender64 serves the purpose of system extension or lengthening DALI lines within a DALI system with up to 64 addresses. However, a maximum of three Extender64 units can be connected per DALI system. Furthermore, the Extender64 may be used only with control gear approved by Vossloh-Schwabe.

The Extender has a DALI bus supply on the output side, allowing connection of the maximum length of the DALI bus again in accordance with the standard.

The above-mentioned characteristics can be multiplied as often as required by connecting Extenders in series. This means the Extender is always used when large groups of DALI control gears are to be operated with the same signal at one DALI controller.

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Overview of the LiCS Indoor System

Product matrix	Light Controller L / LS	Light Controller LW / LSW	Light Controller S	Light Controller XS
				
	for integration into the distribution board	for integration into the distribution board – EnOcean wireless version	for independent operation	for independent operation
MultiSensors	 MultiSensors (motion and brightness)			
High Bay Sensors	 HB Sensors (motion) or brightness (constant light control)			
Extender				
Accessories	max. 6 buttons (mains voltage-compatible)	antenna (magnetic-base or screw-base); max. 6 buttons (mains voltage-compatible); EnOcean wireless modules (max. 16 pcs.)	button (mains voltage-compatible)	button (mains voltage-compatible)

Functions	Light Controller L	Light Controller LS	Light Controller LW	Light Controller LSW	Light Controller S	Light Controller XS
Control options	single and group	group	single and group	group	broadcast	broadcast
No. of groups	max. 16		max. 16		–	–
No. of operating devices (DALI-EBs, LiCS-Extender, HB sensors)	max. 64		max. 64		max. 64	max. 10
No. of MultiSensors	max. 36		max. 36		max. 36	max. 4
Motion detection (automatic and semi-automatic)	●		●		●	●
Constant light control	●		●		●	●
Scene settings	●	–	●	–	–	–
Push function (on/off, up and down)	●		●		●	●
Dimming (only up or only down)	●		●		–	–
ON/OFF function	●		●		●	●
Overriding central control	●		●		–	–
Stairwell function (timer)	●		●		–	–
With integrated timer clock	–	●	–	●	–	–
Discourage burglaries	–	●	–	●	–	–
System analysis software	●		●		–	–
Password protection	●		●		–	–
Minimising standby losses	●		●		–	–
Menu navigation in	German, English, French, Italian, Spanish		German, English, French, Italian, Spanish		–	–
Configuration using	rotary push key and screen		rotary push key and screen		dip switch	dip switch

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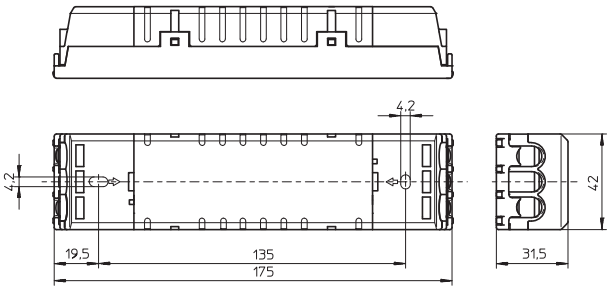
Extender/

Extender64



To extend LiCS Indoor system

An extender enables the maximum number of DALI-compliant control gear units within a standard DALI system to be increased.

This means the DALI extender is installed and addressed in instead of the ballast. At the extender output, up to 64 DALI ballasts can then be connected, which will all respond in the same way to the respective input signal.

As a full duplex repeater, the Extender64 serves the purpose of system extension or lengthening DALI lines within a DALI system with up to 64 addresses.

The extender for DALI systems can only be used in combination with a DALI controller. When DALI commands are received, the extender behaves just like a DALI-compliant ballast for fluorescent lamps.

Technical notes
Configuration interface: via a DALI controller
Ambient temperature t_a: 0 to 50 °C
Max. casing temperature t_c: 65 °C
Screw terminals: 0.75–2.5 mm²
Degree of protection: IP20, Protection class II
RFI-suppressed

Connections
Mains connection: 220–240 V AC/DC, 0/50–60 Hz
Max. power consumption: 6.5 W
For DALI signals in acc. with IEC 62386
DALI current consumption: 2 mA
1 DALI bus to 3 terminal pairs: max. current on the DALI bus = 200 mA (see the respective data sheet for current consumption values of the individual components)
As a standard DALI bus is not SELV-compliant, the DALI cable must be rated for mains voltage.
The DALI bus features reversible electronic overload and short-circuit protection.

Functions
Connection of up to 64 ballasts to a single DALI address

Extender
To extend DALI-controlled lighting systems
Dimensions (LxWxH): 175x42x31.5 mm
Weight: 150 g
Ref. No.: 186194

Extender64 Functions
Range extension from 300 m by a further 300 m to a total of 600 m.

Extender64
Full duplex system extension
Dimensions (LxWxH): 175x42x31.5 mm
Weight: 150 g
Ref. No.: 186667

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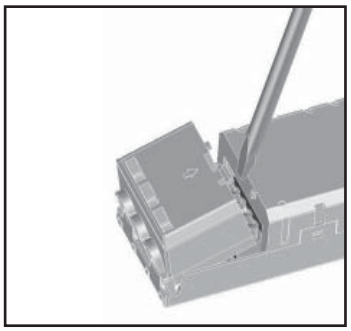
General safety information

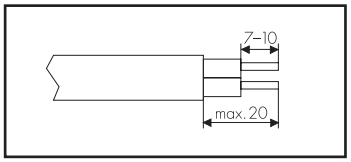
- LiCS products may only be installed and commissioned by authorised and fully qualified staff.
- These instructions must be carefully read before installing and commissioning the system, as this is the only way to ensure safe and correct handling.
- Before any work is carried out on the equipment, it must be disconnected from the mains.
- All valid safety and accident-prevention regulations must be observed.
- The products should never be inexpertly opened as this poses lethal danger due to electrical shock. Repairs may only be undertaken by the manufacturer.
- On no account may the DALI control line be used to carry mains voltage or any other external voltage as this can destroy individual system components.
- Please refer to the manual at **www.vossloh-schwabe.com** for exact instructions on how to configure the system using the Extender.



Extender

Installation

- Independent installation, e.g. in false ceilings
- Easy and time-saving installation due to end caps that snap into place without needing tools
- Clearance: min. 0.1 m to walls, ceilings, insulation and to other electronic devices; min. 0.25 m to sources of heat (e.g. lamps)
- Surface: solid, must not permit the extender to sink into insulation material
- Fastening: using 4-mm screws



Installation instructions

- Cross-section of primary/secondary conductor: 0.75–2.5 mm²
- Cable preparation (see right)
- Screw terminals: max. tightening torque = 0.4 Nm
- Length of the secondary bus cable: max. 300 m
- A standard DALI bus only features basic insulation. All DALI cables must be rated for mains voltage. The power supply and the DALI line can be laid in a single cable (max. 100 m).
- Mains power cables and DALI cables should not be laid directly parallel to lamp cables (min. clearance = 0.25 m).
- A maximum of 64 DALI operating devices in total can be connected.
- Sensors must not be installed on the secondary side.
- A maximum of three Extender64 units can be connected per DALI system.

Additional information

- The Extender can only be operated if connected to a DALI control unit. Please refer to the respective operating instructions for information on the control unit.
- Only Extender (186194): The DALI Extender is integrated into the DALI system using the "random address" assignment method.
- Only Extender64 (186667): Three electrically connected DALI outputs make it easier to connect DALI ballasts. A maximum of 64 DALI operating devices in total can be connected.
- The outputs of several extenders must not be connected with each other.
- Nur Extender (186194): All control gear that is connected to the output of the DALI Extender is synchronously operated in "broadcast" mode; the output side is not addressed.
- To ensure safe operation of the Extender, the maximum casing temperature at the measuring point (t_c) must not be exceeded.
- When using the Extender64, the total number of 64 DALI addresses within the system may not be exceeded.
- The range extension achievable with the Extender64 only applies in connection with VS DALI ballasts.

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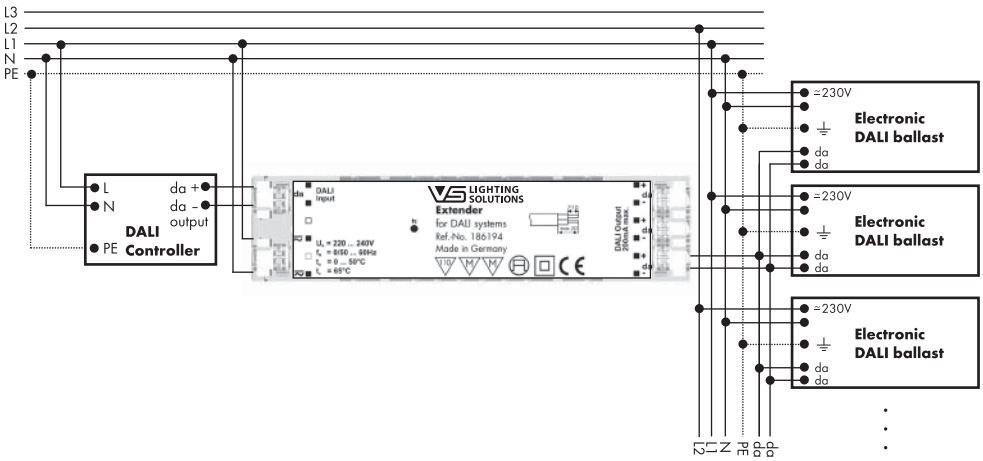
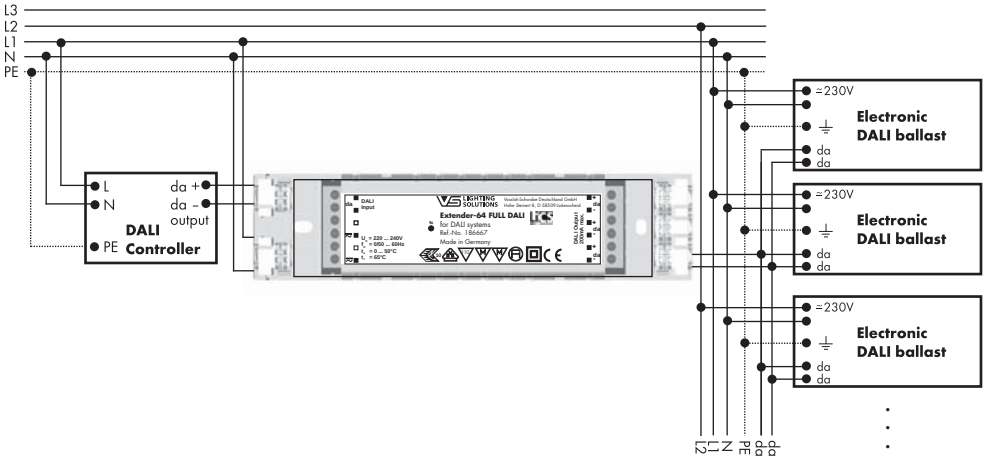
Circuit diagram of the Extender



Circuit diagram of the Extender64



Technical details

	Extender	Extender 64
Ref. No.	186194	186667
Supply voltage	220–240 V AC/DC, 0/50–60 Hz	
Power consumption	6.5 W	
Control input	DALI in. acc. with IEC 62386-102/-201	
DALI output	max. 64 pcs. DALI operating devices or max. 200 mA (expandable with the Extender)	
Ambient temperature t_a	0 to 50 °C	
Casing temperature t_c	max. 65 °C	
Degree of protection	IP20	
Protection class	II	
Weight	150 g	
CE requirements	EMC in acc. with EN 61547, RFI in acc. with EN 55015, Safety in acc. with EN 61347-2-11	

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LiCS INDOOR

WIRELESS PUSH-BUTTONS, HAND-HELD TRANSMITTERS AND REPEATERS

WIRELESS PUSH-BUTTONS WITHOUT BATTERY, HAND-HELD TRANSMITTERS AND REPEATERS

Needing neither batteries nor maintenance, Vossloh-Schwabe's wireless push-buttons are based on EnOcean technology and utilise the inductive energy produced by pressing a button to transmit signals.

EnOcean technology ensures that the signal and transmission protocols also remain open for future device developments in an internationally standardised way.

Advantages of using wireless push-buttons:
- Very fast installation
- No soiling when mounting the push-buttons
- Eco-friendly as well as maintenance- and battery-free
- Higher quality of life due to convenient functions
- Future-proof and reliable technology

Vossloh-Schwabe's extensive range of wireless push-buttons, mini hand-held transmitters and repeaters makes a perfect complement to the LW Light Controller.

Wireless modules for LiCS Indoor system

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Flat Wireless Push Buttons

For individual and flexible control of luminaires or luminaire groups in the LiCS Indoor system

The flat push buttons generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

Wireless push buttons with one rocker can transmit two evaluable signals. Wireless push buttons with double rocker can transmit four evaluable signals.

The scope of supply comprises the frame, a rocker and a double rocker (frame and rocker in same colour), the fixing frame, the mounting base, the wireless module and one adhesive foil.

The fixing plate of the wireless flat push button can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil.

In addition, VS' wireless push-buttons can also be delivered in an illuminated version.
Laser engraved rockers are available on request.

an (anthracite)
al (aluminium lacquered)
rw (white)
wg (white glossy)

Colour key

FT4F

FT55

FFT55Q

Type	Description	Frame dimensions external mm	Frame dimensions internal mm	Rocker height mm	Ref. No. / Colours an	rw	wg	al	Weight g	Unit pcs.
Wireless push button FT4F										
LiCS-LW-FT4F-1	Wireless module, frame, 1 rocker and 1 double rocker	80x80	63x63	15	**551418**	**551416**	**551417**	**551415**	30	1
Wireless push button FT55										
LiCS-LW-FT55-1	Wireless module, frame, 1 rocker and 1 double rocker	80x80	55x55	15	**551414**	**551412**	**551413**	**551411**	30	1
Wireless push button FFT55Q										
LiCS-LW-FFT55Q	Wireless module, frame, 1 rocker	84x84	55x55	11	**551427**	**551425**	**551426**	**551424**	30	1

Wireless Hand-held Transmitters and Remote Control

For individual control of luminaires or luminaire groups in the LiCS Indoor system

The batteryless mini hand-held transmitter FMH and the batteryless remote control contain the same wireless module as the wireless pushbuttons FT4.

FMH2 transmitters with one rocker can transmit two evaluable signals. FMH4 transmitters with a double rocker can transmit four evaluable signals. The remote control FF8 has 2 double rockers. It can transmit 8 evaluable wireless telegrams.

The top is painted in aluminum and the bottom and the rockers have an anthracite-soft paint.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an enclosed adhesive foil.

Both mini hand-held transmitters are also prepared to attach a key ring.

Marking / Rocker switch function

FMH2: Upper part 0 (= off) and bottom part I (= on)
FMH4: Upper part left "1", upper part right "2", bottom part left "3", bottom part right "4"
FF8: The wireless modules are rotated 90° to the left. Therefore the upper half of the rocker corresponds to the right half of the push button and the hand-held transmitter. This must be considered when teaching-in in wireless actuators.
If wireless modules will be exchanged, the label 0 has to be on the left.
Laser engraving for rockers are available on request. The rockers can be easily removed and replaced with laser engraved rockers.

Colour key


FMH2 / FMH4


FF8

Type	Description	Dimensions mm	Height mm	Ref. No. / Colour an	rw	wg	al	Weight g	Unit pcs.
Hand-held transmitters FMH2									
LiCS-LW-FMH2	1 rocker	43x43	16	**551422**	**551420**	**551421**	**551419**	30	1
Hand-held transmitters FMH4									
LiCS-LW-FMH4	1 double rocker	43x43	16	**551410**	**551408**	**551409**	**551407**	30	1
Remote control FF8									
LiCS-LW-FF8	2 double rockers	185x50	17	**–**	**–**	**–**	**551423**	140	1

1 and 2 Level Wireless Repeaters

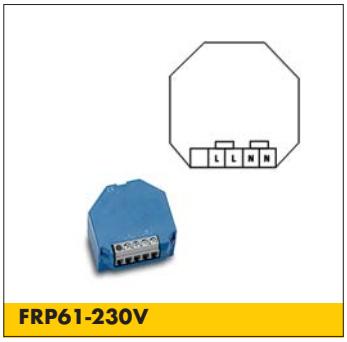
For amplifying of wireless signals in the LiCS Indoor system

This repeater is only needed if the building conditions do not allow undisturbed reception or the distance between the wireless push button and receiver is too great.

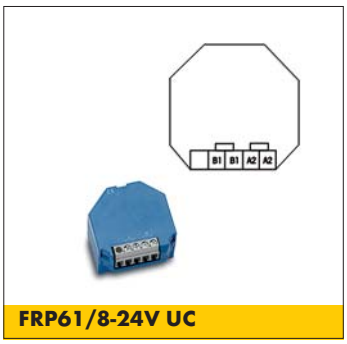
The 1-level mode is activated ex works. Only the signals are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

Switchover to 2-level mode is carried out by removing the cover (lightly press the latching clips) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.



FRP61-230V



FRP61/8-24V UC

Type	Description	Ref. No.	Voltage V	Standby loss W	Dimensions LxWxD (mm)	Weight g	Unit pcs.
Wireless repeater FRP61-230 V							
LiCS-LW-FRP61-230V	For in-wall installation	**551606**	230	0.8	45x55x33	50	1
Wireless repeater FRP61/8–24 V UC							
LiCS-LW-FRP61/8-24V UC	For in-wall installation	**551607**	8 - 24 UC	0.3 (8 V) 0.5 (12 V) 1 (24 V)	45x55x18	50	1