



SENSORS FOR INDUSTRIAL APPLICATIONS



INDUSTRIAL SENSORS

Using movement and brightness sensors not only enables greater energy savings, but also increases convenience for the user. To this end, we have developed a new line of industrial sensors that can detect motion (MovementSensor) in buildings with high ceilings or permit constant light control (BrightnessSensor).

These size-optimised industrial sensors were specifically designed for use with LiCS Light Controllers and provide adequate protection against dust and water ingress (IP65).

The sensors are available in two versions: as a movement sensor for detecting motion and as a brightness sensor for constant light control. Furthermore, the industrial sensors are fully configured using Light Controllers.

Applications

Industrial and production facilities with ceilings of up to 8 m in height or walls with a (frontal) detection field of up to 12 m.








Industrial Sensor Benefits

- MOTION DETECTION IN HIGH-CEILINGED BUILDINGS, UP TO 12 M (FRONTAL)
- CONSTANT LIGHT CONTROL
- ROBUST DESIGN
- IP65 VERSION

Industrial Sensors



Overview of the LiCS System

Product Matrix	Light Controller L/LS  for Installation in a Distribution Board		Light Controller LW/LSW  for Installation in a Distribution Board – EnOcean Wireless Version		Light Controller S  for Independent Operation	Light Controller XS  for Installation in a Luminaire
MultiSensors	 MultiSensors (Movement and Brightness), Power supply (4 mA) via the DALI bus					
Industrial Sensors	 Surface-mountable MovementSensor (Motion Detection) or BrightnessSensor (Constant Light Control)					
Extenders	 for extending the maximum number of DALI control gear units in a standard DALI system					
Accessories	max. 6 push buttons (mains-compatible)		Antennae (with magnetic or screw-mounted base); max. of 6 push buttons (mains-compatible); EnOcean wireless modules (max. 16)		Push buttons (mains-compatible)	
Functions	Light Controller		Light Controller		Light Controller	Light Controller
	L	LS	LW	LSW	S	XS
Control Options	Individual and Groups	Groups	Individual and Groups	Groups	Broadcast	Broadcast
No. of Groups	max. 16		max. 16		–	–
No. of Control Gear Units (DALI electronic ballasts, LiCS Extenders, 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 semiautomatic)	●		●		●	●
Constant Light Control	●		●		●	●
Scene Settings	●	–	●	–	–	–
PUSH Function (ON/OFF, Up and Down)	●		●		●	●
Dimming (only Up or only Down)	●		●		–	–
ON/OFF Function	●		●		●	●
Superordinate Central Switching Function	●		●		–	–
Stairwell Function (Timer)	●		●		–	–
Integrated Timer	–	●	–	●	–	–
Burglar Prevention	–	●	–	●	–	–
System Analysis Software	●		●		–	–
Password Protection	●		●		–	–
Navigation in:	German, English, French, Italian, Spanish		German, English, French, Italian, Spanish		–	–
Configuration using the:	Rotary push button and the screen		Rotary push button and the screen		Dip switch	Dip switch

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Industrial Sensors

Supplementing a LiCS Indoor System

Integrating DALI sensors into a LiCS Indoor system both increases its energy-saving potential and its flexibility during application.

VS MovementSensors are capable of detecting motion even in spaces with ceiling heights of up to 8 metres. These sensors, which were specifically designed for use with VS Light Controllers, have been optimised for unprotected installation (IP65) and to cope with objects blocking the detection field.

VS BrightnessSensors detect light levels in difficult conditions that require devices with an IP65 degree of protection. These BrightnessSensors do not need an external power source and are suitable for being looped through the DALI line.

The sensors are connected via the DALI bus, which means that uniform or individual light levels can be set and controlled for an entire warehouse with just a single Light Controller for the very first time.

Technical Details

Configuration Interface:
via the Light Controllers.
Push-in terminals with a lever opener: 0.5-1.5 mm²
DALI-based current uptake
MovementSensor: 2 mA
BrightnessSensor: 4 mA

MovementSensor Functions

Reliable HF motion detection with a red status LED

BrightnessSensor Functions

Reliable logging of light intensity data

MovementSensor

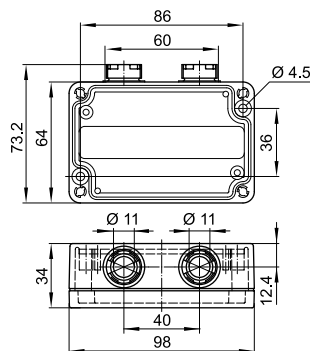
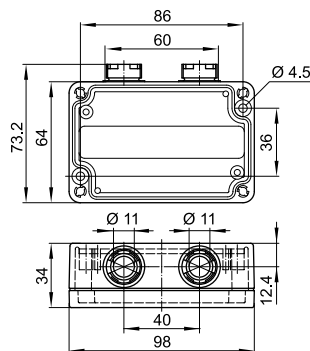
For surface mounting
With a cord grip
Degree of protection: IP65
Protection class II
Ambient Temperature t_a : -5 to 50 °C
Dimensions (L x W x H): 98 x 73.2 x 34 mm
Weight: 151 g

Ref. No.: 186311

BrightnessSensor

For surface mounting
With a cord grip
Degree of protection: IP65
Ambient Temperature t_a : 0 to 50 °C
Dimensions: 98 x 73 x 34 mm
Weight: 140 g

Ref. No.: 186370



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Industrial Sensors



General Safety Information

- LiCS products may only be installed and commissioned by authorised and fully qualified staff.
- Precise system configuration instructions for the sensors can be found in the manual at www.vossloh-schwabe.com/home/produkte/lichtmanagementsysteme-fuer-den-innenraum.html
- 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 electric shock. Repairs may only be undertaken by the manufacturer.
- On no account may mains voltage or any other external voltage be applied to the DALI control line as this can cause irreparable damage to individual system components.

Installation

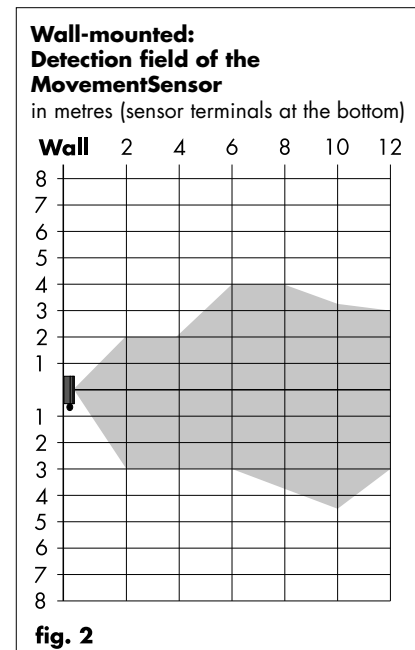
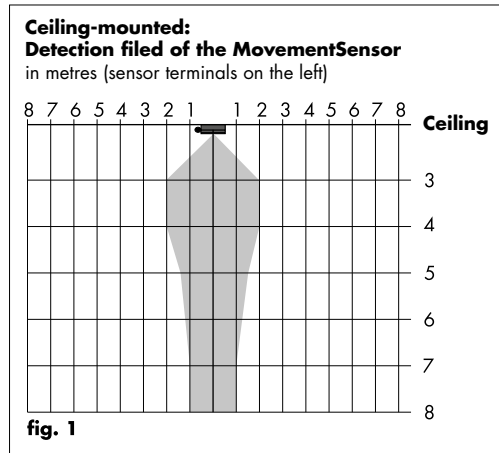
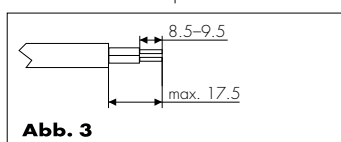
- Cables must be suitably prepared.
- Open the casing lid and the protective caps of the terminals.
- MovementSensor: insert the cables (230 V L, N + DALI control line) through the opening of the protective caps and connect with the push-in terminal. Then close the protective caps.
- BrightnessSensor: insert the cables (DALI IN/OUT control lines) through the protective cap covers and connect with the push-in terminal. Then close the protective caps.
- Before closing the casing lid again, please ensure the casing is firmly attached using 4-mm screws and the holes provided.
- The casing must be firmly secured to prevent vibration.
- Care must be taken during installation not to touch the sensor component.
- The MovementSensor must not be directed straight at a luminaire (minimum clearance = 1 m).
- Detection fields of the sensors: see Figs. 1 - 2

Installation Instructions

- To protect the device, please fit a B-type, 10 A or 16 A circuit breaker.
- Conductor cross-section for all terminals: 0.5 - 1.5 mm² for rigid or flexible conductors.
- Cable preparation for sensors (see Fig. 3).
- In its standard version, the DALI bus is not SELV-compliant. Cables must be suitable for mains voltage.
- The DALI bus line can be laid alongside the power line in the same cable up to 100 m max., e.g. using NYM 5 x 1.5 mm². Please observe the maximum length of the DALI bus during installation.

	1.5 mm ²	1 mm ²	0.75 mm ²	0.5 mm ²
6.2 Ω max.	300 m	180 m	130 m	80 m

- The sensor must not be placed inside a luminaire.
- The sensor must be positioned with a clearance of 1 m to the luminaire.



Distance	Detection Field of the MovementSensor	
	Wall	Ceiling
4 m		
6 m		
8 m		
10 m		-
12 m		-

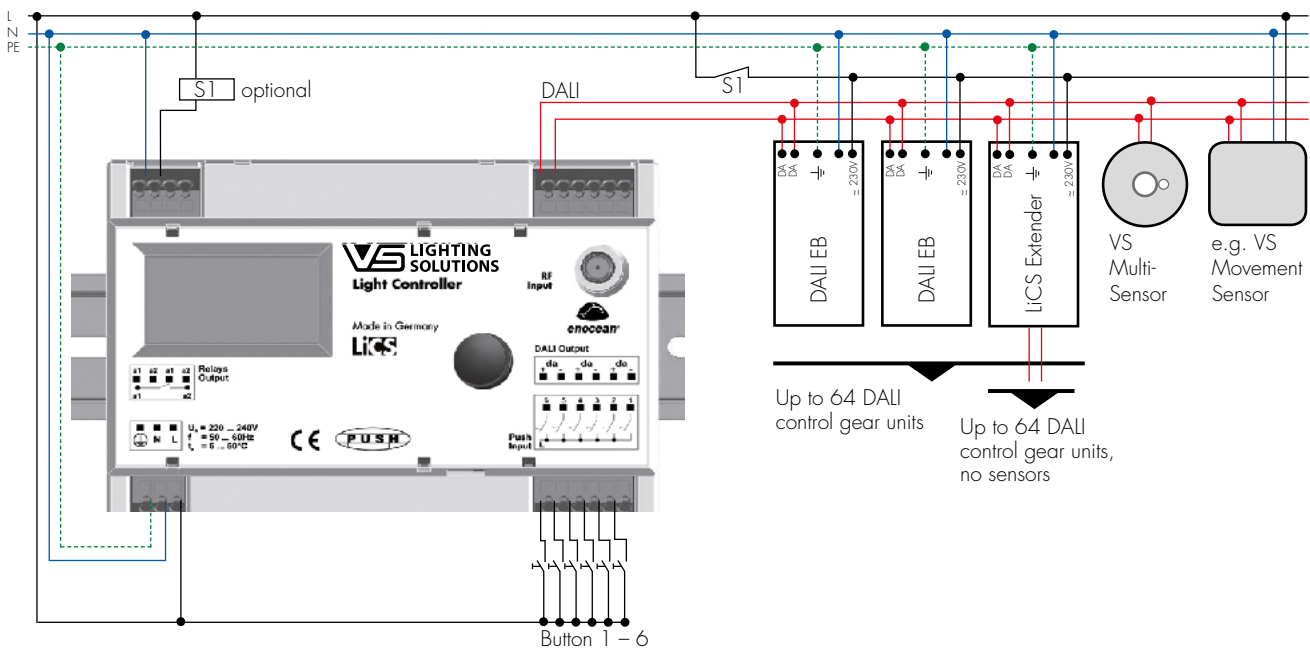
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Industrial Sensors

Further Information

- VS Industrial Sensors can only be operated in conjunction with a VS Light Controller from the LiCS Indoor range.
- Please refer to the respective VS manual for exact instructions on sensor configuration.
- To ensure safe sensor operation, the maximum ambient temperature must not be exceeded.
- When positioning the sensor, care should be taken to ensure its detection field is not blocked by objects, furniture, etc..
- Devices with moving parts, e.g. fans, can already trigger the sensor to detect motion.

Circuit Diagram: Industrial Sensor



Technical Details

Industrial Sensors	MovementSensor	BrightnessSensor
Ref. No.	186311	186370
Control input	DALI in acc. with IEC 62386	
DALI-based current uptake	2 mA	4 mA
Ambient temperature t_a	-5 to 50 °C	0 to 50 °C
Degree of protection	IP65	
Protection class	II	-
Weight	151 g	140 g
CE requirement	Safety in acc. with EN 61347-1 and EN 61347-2-11	

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Industrial Sensors

Sales Text (Data Logger)

Developed to detect movement in buildings with high ceilings (up to 8 m) and inaccessible installation sites with cord-grip requirements or with elevated requirements regarding dust and humidity. As a MovementSensor, the sensor can be activated in one of two modes: automatic = ON/OFF or semiautomatic = OFF. If the sensor detects motion when in "automatic" mode, lighting will be switched on at 100% and a countdown will start. Each new detection will reactivate the countdown (time can be set between 10 seconds and 90 minutes); once the countdown has elapsed, lighting will be switched off again. When in "semiautomatic" mode, lighting must be switched on manually, e.g. using a push button. After that, the sensor must detect motion to start a countdown. Each further detection within the countdown period will then reactivate the countdown from the start. Lighting will be switched off once the countdown has elapsed (time can be set between 10 seconds and 90 minutes).

Text for Invitations to Tender- MovementSensor (Data Logger)

Data Logger Type: motion detection device for surface mounting in an IP65-protected casing on high ceilings. The logged data are then used by the light controller to address electronic control gear. Parameters are clearly defined by the light controller. These data, along with the power supply, are transmitted via the bus system. The maximum mounting height is 8 m. The non-linear detection field is dependent on the installation height. The data logger (sensor) is additionally suitable for wall installation up to a height of 12 m (frontal). The light controller is used to configure data logger (sensor) parameters. Parameters cannot be set at the installation site of the data logger (sensor).

Interfaces: power supply and transmitter of logged data at the DALI bus. DALI bus for transmitting logged data.

Light Controller Types: for installation in a distribution board with an antenna jack for self-sufficient installation with a data logger (sensor) / installation in a distribution board for self-sufficient installation with a data logger (sensor) / with a cord grip for self-sufficient installation with a data logger (sensor) / installation in a luminaire for self-sufficient installation with a data logger (sensor) made by Vossloh-Schwabe Deutschland GmbH or comparable.

MovementSensor: high-frequency movement sensor that provides feedback when motion is detected. Light controller calls up defined settings.

Ambient temperature: -5 °C...50 °C
Dimensions (L x W x H): 98 x 73.2 x 34 mm
Casing material: PA6GB30, grey, gasket CR
Voltage supply: 230 V L, N (± 10%)
DALI-based current uptake: 2 mA
Power consumption: 0.7 W
Connection terminals: push-in, max. 1.5 mm²
Protection class: II
Degree of protection: IP65

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Industrial Sensors

Text for Invitations to Tender – BrightnessSensor (Data Logger)

Data Logger Type: for surface mounting in an IP65-protected casing for logging photometric values. The logged data are used by upstream light controllers for addressing electronic control gear. The light controller clearly defines the measured parameters. Both the logged data and the power supply are transmitted via the bus system. The surface mounting height is limited by the reflection of the electric light in the photometric data logger. The parameters of the photometric data logger are configured using the light controller. The parameters of the photometric data logger cannot be configured at the site of installation.

Interface: transmitter of logged data at the DALI bus.

Light Controller Types: for installation in a distribution board with an antenna jack for self-sufficient installation with a data logger (sensor) / installation in a distribution board for self-sufficient installation with a data logger (sensor) / with a cord grip for self-sufficient installation with a data logger (sensor) / installation in a luminaire for self-sufficient installation with a data logger (sensor) made by Vossloh-Schwabe Deutschland GmbH or comparable.

BrightnessSensor: photometric data logger, control dependent on logged photometric data and light controller settings.

Ambient temperature: 0 °C...50 °C

Dimensions (L x W x H): 98 x 73.2 x 34 mm

Casing material: PA6GB30, grey, gasket CR

DALI-based current uptake: 4 mA

Connection terminals: push-in, max. 1.5 mm²

Degree of protection: IP65

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