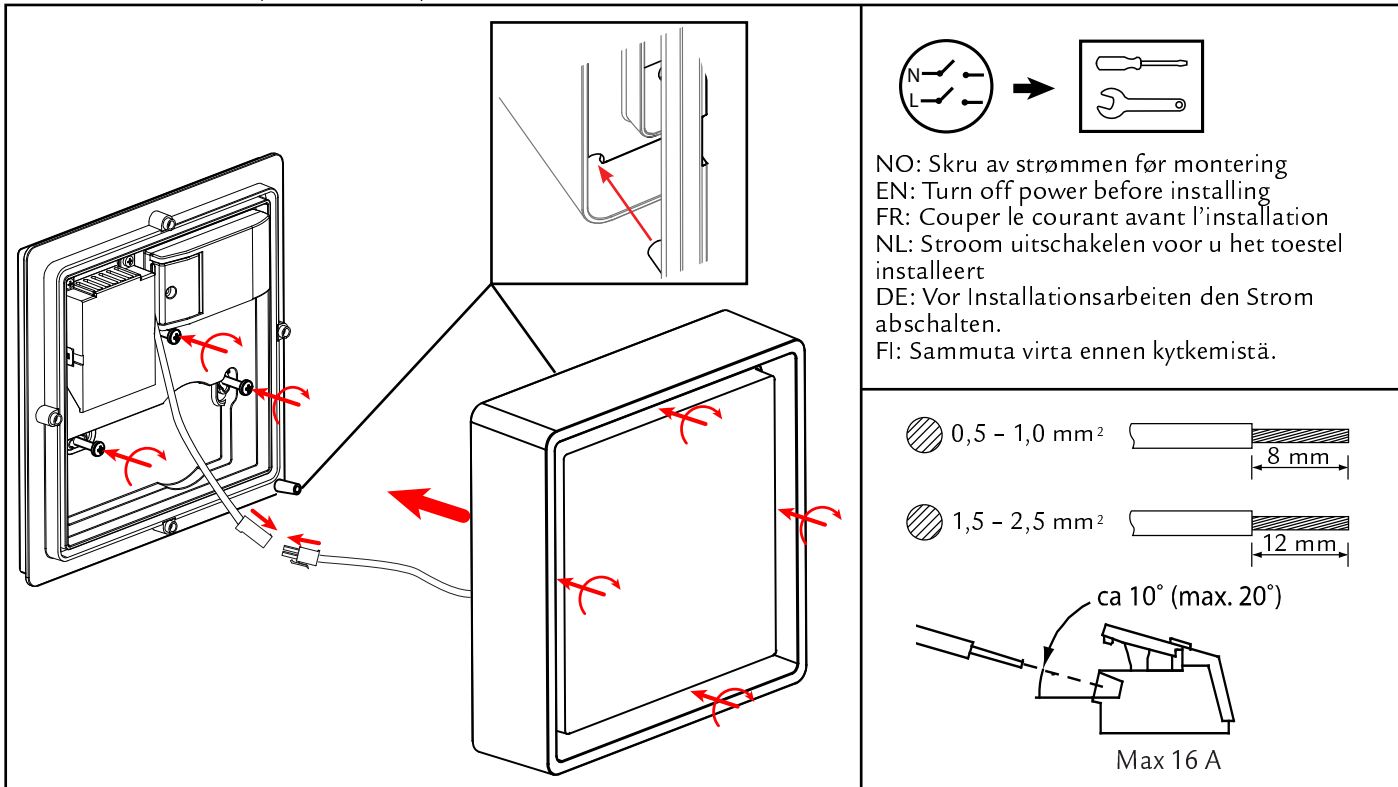


# Frame Square/Wall Frame Square Maxi



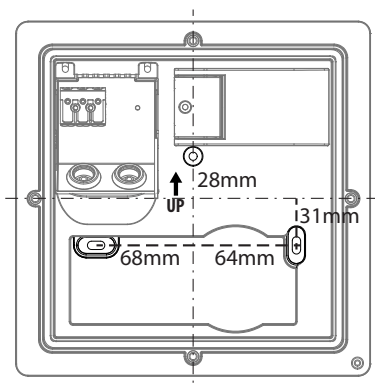
☐ ⚡ CE IP66 IK10

220-240V, 50/60Hz (Sensor 50Hz)

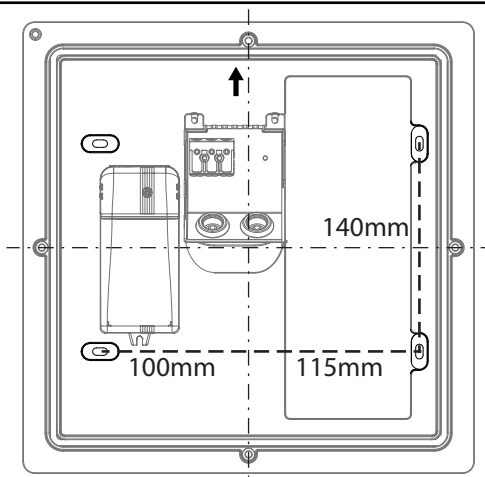


NO: Kan kun installeres av en registrert installasjonsvirksomhet  
EN: Only to be installed by an authorized electrician  
FR: Doit être installé par un électricien autorisé  
NL: Mag alleen geïnstalleerd worden door een bevoegde elektricien  
DE: Dieses Produkt darf nur durch autorisiertes Personal (z. B. Elektro-Installateur) angeschlossen und in Betrieb genommen werden.  
FI: Asentaa saa vain valtuutettu sähköasentaja.

Frame  
Square/Wall



Frame  
Square  
Maxi



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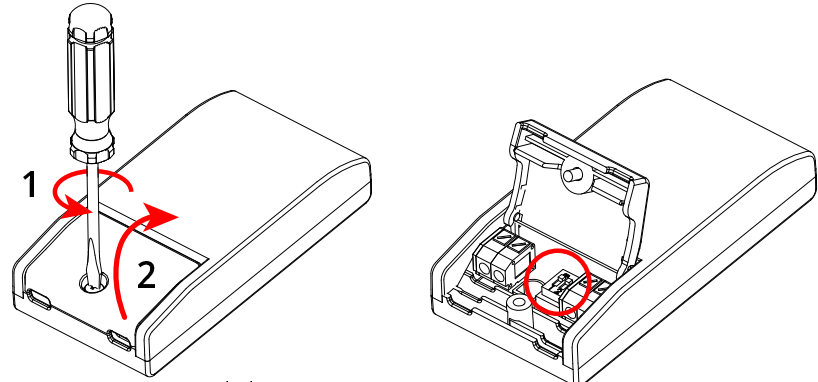
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Rev: 6.6.2018

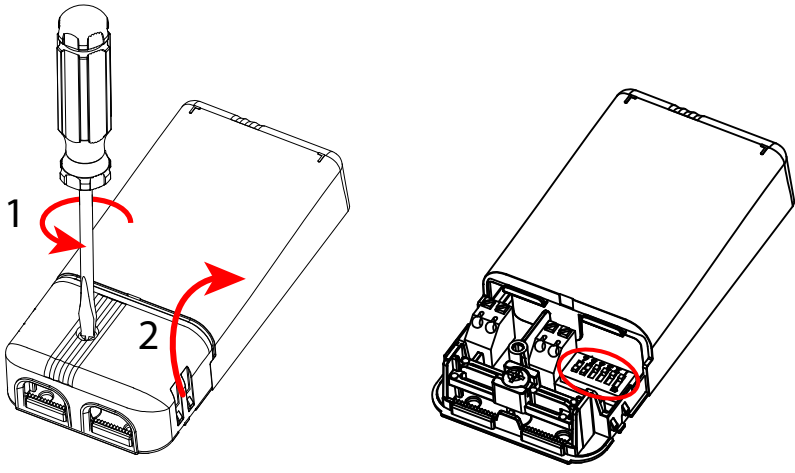
# Frame Square/Wall







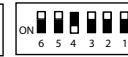


Standard

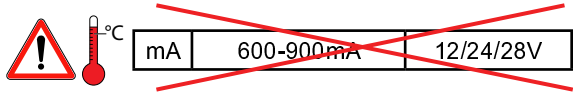
				
mA	<b>180</b>	205	230	255
W	<b>5,8</b>	6,6	7,5	8,3
lm	<b>100%</b>	114%	130%	140%

# Frame Square Maxi



Standard

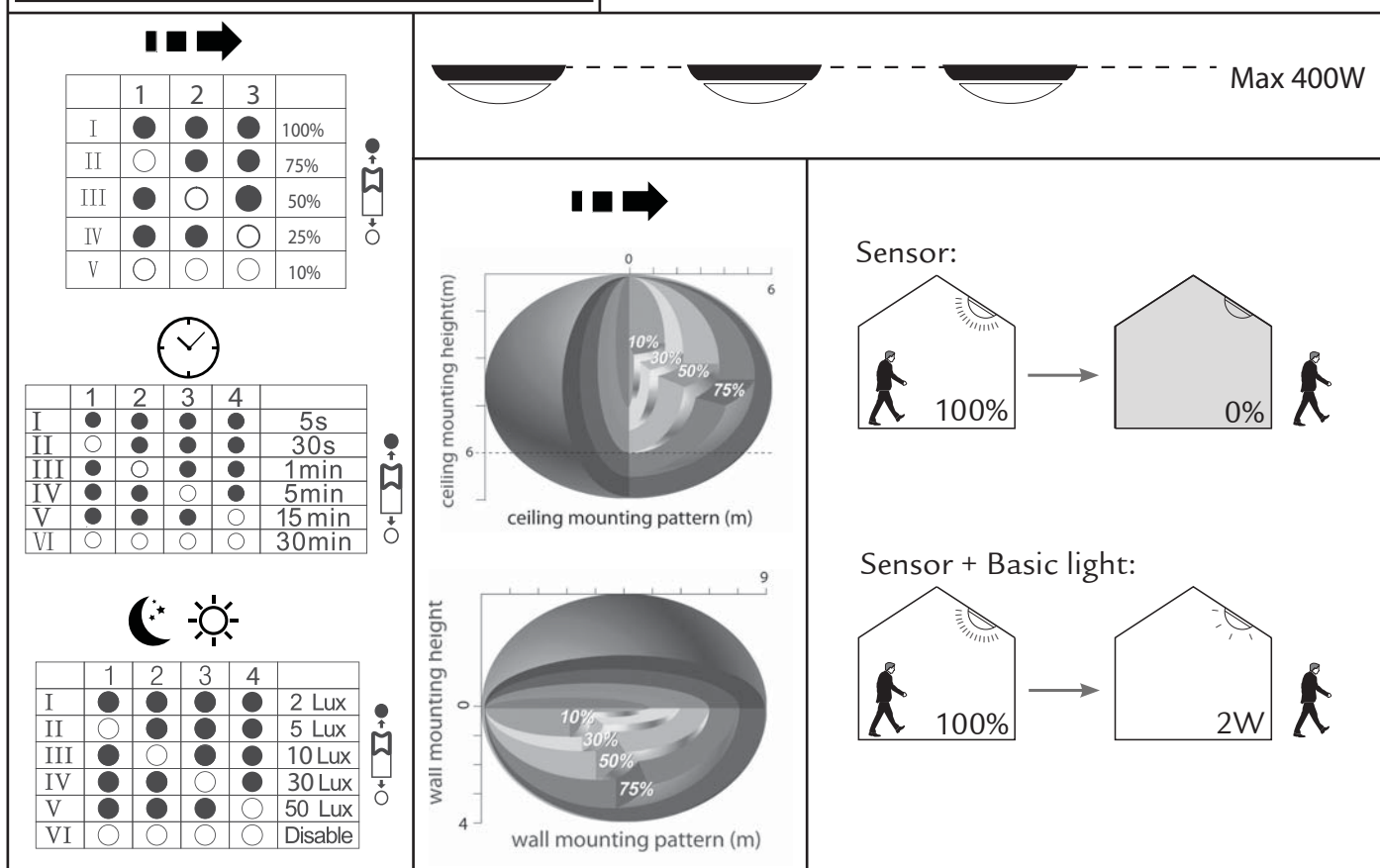
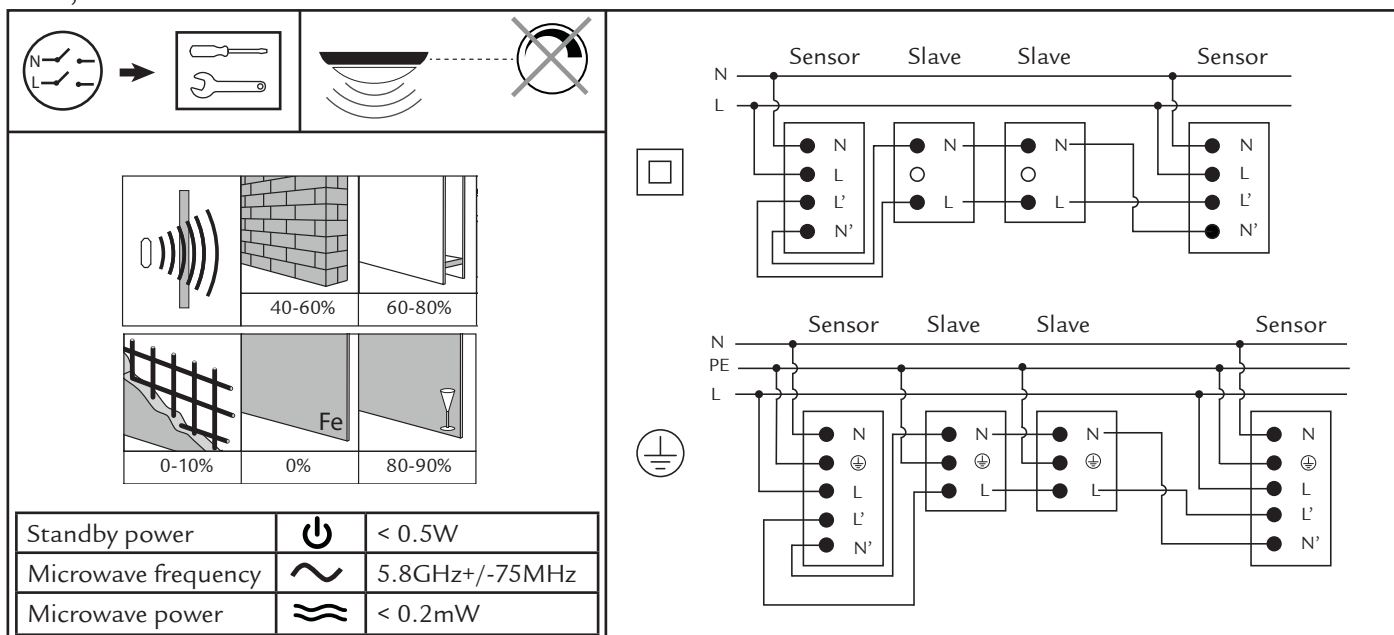
							
mA	250	300	350	400	450	500	<b>550</b>
W	10	12	14	16	18	20	<b>22</b>
lm	45%	55%	64%	73%	82%	90%	<b>100%</b>



# HC009S sensor



230V, 50Hz



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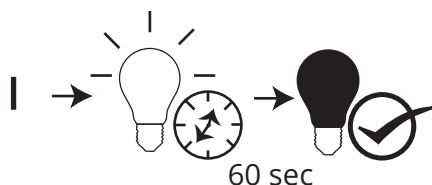
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Rev: 11.10.2017


# Twilight sensor

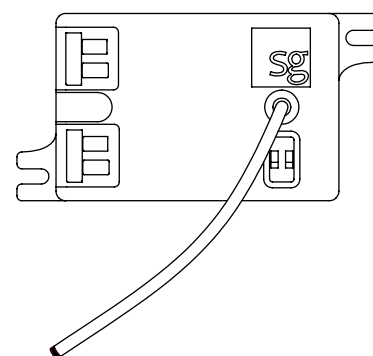
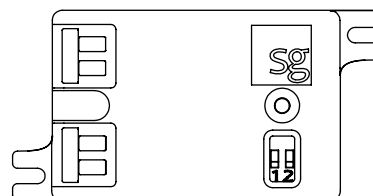










230V, 50/60Hz



	< 0,5 W
Max.	200 W

IR	
<del>IR</del>	LED



SWITCH		SENSOR		
S1	S2	Sensor LUX Level	Open (LUX)	Close (LUX)
 ON	ON		100	150
 ON	OFF		80	130
 OFF	ON		70	120
 OFF	OFF		50	100

Standard

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## INSTALLATION AND OPERATION INSTRUCTIONS FOR LDM RANGE EMERGENCY LIGHTING PRODUCTS

### INTRODUCTION

The LDM range comprises a high quality emergency LED control module complying to international safety and performance standards IEC 61347-1, IEC 61347-2-7, IEC 61347-2-13, IEC 62384 and IEC 60598-2-22, and an appropriate high temperature NiCad or LiFePO<sub>4</sub> battery pack. The DALI/Self-test modules also comply with IEC62386-202 and IEC 62034.

It is essential that Emergency Lighting equipment is installed and operated correctly to ensure compliance with the relevant directives and to optimise long-term performance.

Install equipment in accordance with the relevant national requirements including ICEL 1004 and ensure that each complete luminaire complies with the Electro Magnetic Compatibility Directive and the Low Voltage Directive. Compliance is indicated by application of the CE Mark. Installation of equipment must be carried out by competent persons and suitable tests on the completed luminaire must be carried out to ensure compliance to relevant standards.

### GENERAL GUIDELINES

The important factors relating to compliance are summarised below:

- The LDM emergency LED control module and associated battery pack must be suitably positioned to avoid high temperatures. Note: the ambient temperature range for the module and battery pack is 0 - 50°C, and the value of  $t_c$  for the module is 60°C. In some cases where the luminaire is physically too small to house the emergency lighting equipment or if the ambient temperature within the luminaire is too high, a fully remote unit will be required.
- The modules are supplied with push wire terminal blocks suitable for 0.5 – 1.5mm<sup>2</sup> cables, except for the indicator LED terminals which are suitable for 0.4 – 0.8mm<sup>2</sup> cables. All cables between the control module and the LED luminaire must be as short as possible and be of an approved heat resisting type.
- The battery charger healthy indicator LED (for the DALI/Self-test module the indicator LED is a bi-colour local status LED) should be positioned so that it is clearly visible when the luminaire is installed.
- Mains supply cables and LED circuit cables should be physically segregated.

Note:

- a) The LDM range is protected against battery reversal by means of a resettable PCB mounted fuse.
- b) The battery charger healthy indicator LED for the standard LDM will flash triple pulses if the load terminals are open circuit.

### OPERATION AND TESTING

- The LED luminaire should be installed in accordance with Original Equipment Manufacturers instructions.
- Wiring complying with the relevant wiring regulations should include a permanent 230/240 volt 50Hz supply for battery charging and monitoring purposes.
- Luminaires incorporating LDM equipment should be connected to the normal mains supplies for a minimum of 24 hours before operating in emergency lighting mode as the batteries require a 24 hour charge before they will provide full rated duration. (NOTE DALI/Self-test modules have a self-commissioning mode which charges the battery, does a full duration test and then re-charges the battery).

All emergency lighting installations should be regularly tested, and the results recorded. The appropriate test schedule is detailed in BS 5266. The test schedule should cover the recommended minimum assessments (given below) but should not include an excessive number of tests if battery life is to be optimised:

Monthly - luminaires should be put into emergency lighting operation for a period not exceeding one quarter of the rated duration. Each luminaire should be inspected for satisfactory LED starting and stable operation. When the normal mains supply is re-instated, the battery charge healthy indicator should be on.

Annually - the monthly test should be carried out, but the luminaire should also be operated for its full rated duration.

Note:

- a) Tests should be carried out at times where the building will not be re-occupied until the batteries have fully re-charged.
- b) Failure to achieve rated duration indicates that the batteries have reached the end of their useful life and they should be replaced immediately.

### SAFETY INFORMATION

The LDM emergency LED control modules do not rely upon a luminaire enclosure to provide protection against accidental contact with live parts.

The LDM emergency LED control modules feature double/reinforced insulation and the outputs to the LED luminaire (for outputs <100V), battery and local indicator LED are SELV outputs.

The electronics and batteries will be damaged by excessive temperatures and it is therefore important that they are always operated within the declared 'ta' ambient temperature range.

Batteries have a typical life expectancy of four to five years. Old batteries should be handled by specialist waste disposal experts, and under no circumstances should they be pierced or incinerated.

### WIRING CONNECTIONS

For typical wiring connections see over.

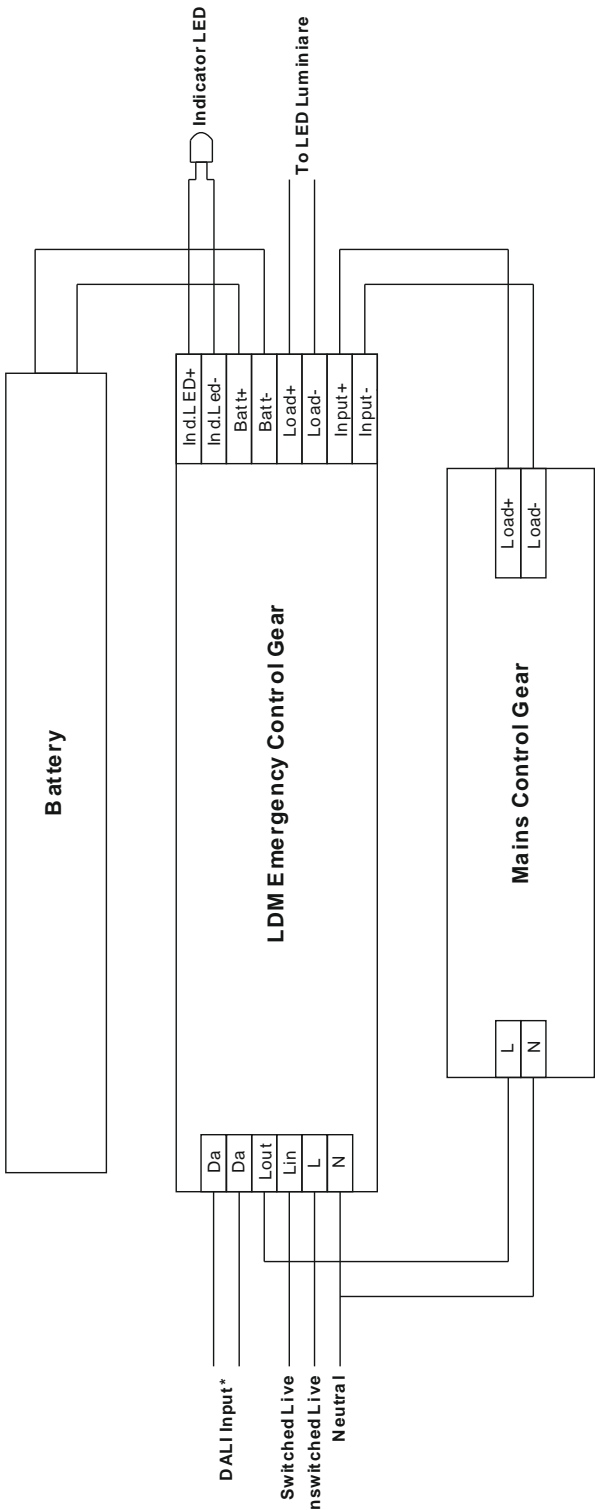
**DALI COMMUNICATION (DALI/ST MODULES ONLY)**

DALI modules will respond to DALI commands from a suitable control unit, and these commands can be used to initiate function and duration tests at prescribed times. The status flags for the module are set after a test, for reporting and logging of the results.

DALI /Self-test module local LED indicator

Green LED	Permanently on	System OK/mains operation mode
	Slow flash	Duration test/commissioning
	Fast flash	Function test
Red LED	Permanently on	LED luminaire fault
	Slow flash	Battery/test failure
	Fast flash	Battery charging failure

Slow flash – a flash every 2 seconds, Fast flash – a flash every 0.5 second



TYPICAL WIRING DIAGRAM FOR  
LDM RANGE OF CONTROL GEAR

\* DALI Emergency  
Control Gear only