

# LCN-SH

## Switch- and Dimming Module DIN rail mounted

### Functional Specifications:

#### Operating Programme:

Three outputs, two of which are hard wired electronic outputs for switching, dimming, brightness and blending control which can all be set individually. Two timing circuits (10ms .. 40min) enabling momentary timers, staircase lighting, etc.

All 3 outputs have the possibility to store up to 100 light scenes. (each storing brightness and blending time)

Generation of two DSI signals, three DALI-groups respectively.

Motor position control with drive limit switches

Connection for 8 keys (with adapter cable LCN-T8) which can distinguish the **Hit**, **Hold** and **Release** function: each of the 3 commands can be sent to 2 addresses (modules or groups).

In total 32 keys in 4 tables = 192 commands to 64 target addresses.

LCN Tableau function/Panelboard with 4 states: **On**, **Off**, **Blink** and **Flicker**. Four summing operations with 12 logic inputs for each and hierarchal fault signal processing in compliance with DIN.

Decoding of the IR receiver. Evaluation direct or over main computer. Functions for key levels, ciphered transmission, transmission distinction, transponder (evaluation of serial numbers), personal identification.

Further functions :

- Two freely parametable continuous action controllers. Results and any variables can be distributed on the bus
- Analogue value data processing over 5 thresholds with hysteresis, also can be used for control, counting/calculating
- Transponder data processing for up to 16 transponders (unlimited amount with use of the visualization software)
- Control with independent and logic operation, single key locking and unlocking, hierarchical reporting
- Four timers (1s.. 45 days), 2 relay timers, cycling clock generator
- Override during power failure for up to 20 sec with power failure recognition, etc.
- Four level reporting and acknowledgement
- Function reporting: execution of commands are clearly confirmed
- Automatic creation of status reporting for the visualization
- Constant monitoring for over temp and overloading of peripheries with automatic shutdown
- Status reporting (self monitoring)

#### Hardware:

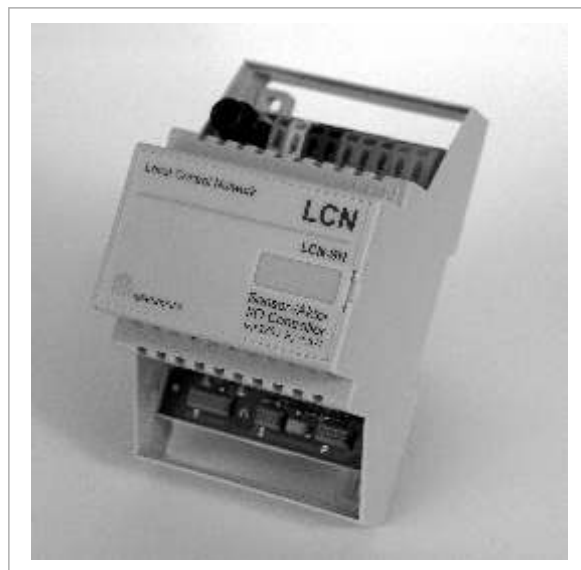
230V PSU 50/60Hz (120V version available).

2 electronic switch outputs 230V, max. 300VA: Zero-voltage switching or dimmable (phase cut-on)

T-Port for connection of up to 8 keys via key converter LCN-TU4x or A/D converter (LCN-AD1), etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-UT (transponder reader), etc.

P-Port connection as digital in-/output for further peripheries such as relays LCN-R8H, LCN-R4M2H or LCN-R2H, LCN B8x (binary sensor), LCN-BS4 (current sensor), etc.



#### Description:

The LCN-SH DIN rail mounted module is a sensor/actuator module for the LCN Bus system. It has two switching/dimming electronic outputs at 230V. It has a further output which is not hard wired but can also be used for DALI applications.

Furthermore through its T and I ports additional sensors and actuators can be connected.

Parameters for the internal operating program can be set using the system software LCN-P or LCN-PRO.

The module is usually mounted to a DIN Rail inside the distribution box, a direct installation is also possible.

#### Field of application:

- High grade lighting control at theatre level, splendid lighting effects realized from daylight dependent lighting control.
- Control of shading for conservatories, with up to 4 motor pairs with LCN-R4M2H.
- Individual room control: Cooling, heating and venting.
- Access control with IR remote control and transponder.
- Automatic control with many timers and logic operations.
- Hierarchical logic operations from reporting.
- Alarm systems, also with more zones and complex requirements, supervised loop, pre alarms etc.
- Logic operations over trade boundaries: passing over: Lighting ↔ Shading ↔ Alarm ↔ Entry, etc  
= Cost efficient functionality by multiple use of sensors and actuators.

**Note :** All functions can used independently and are also available to be used simultaneously.

#### Note:

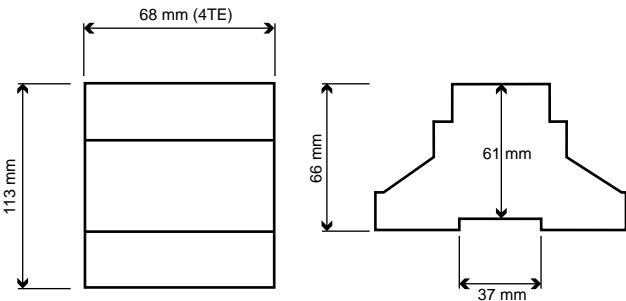
When relays are to be connected directly to the electronic outputs the internal filter can be switched off using the micro switch or a capacitive load module (LCN-C2GH) is needed. Care is to be taken with ref to the relay contact holding current.

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**Dimensions:**

**Mass** (W x L x H): 68 mm x 113 mm x 66 mm



**Height:** 66mm  
61mm via DIN rail

**Space requirement:** 4TE

**Assembly:** on 35 mm mounting rail (DIN 50022) or screw fixture

**Technical Data:**

<b>Connection:</b>	
Supply voltage:	230V~ ±15%, 50/60Hz
Input power:	<0,4W power consumption
Terminals:	Screwless, max. 16A
Cable type:	Single or multi core max. 2,5mm <sup>2</sup> or with insulated ferrules 1,5mm <sup>2</sup>
<b>Electronic Outputs:</b>	
Load output:	Zero-voltage switch or phase-cut-on dimmer
Resolution:	200 dimming levels
Switching capacity:	300VA @ 230V (300W @ cos =1)
Heat dissipation:	1% d. apparent power
	Max. 6W full load
Overload capacity:	1kW max.10s
Minimum load:	- none -
Fuse for both outputs:	3,15 AF
Fuse fault message:	Yes
Temperature monitoring:	Yes
<b>Ports:</b>	
T- Port	Available
I - Port	Available
P- Port	Available
<b>General Details:</b>	
Operating temperature:	-10°C to +40°C
Humidity:	max. 80% rel., no condensation
Environmental conditions:	stationary installation according to VDE 632,VDE 637,
	IP 20
Safety classification:	IP 20

**Circuit Diagram**

