LCN-HU

Universal switch- and dimming module with exd.funcions for DIN rail mounting

The LCN-HU Universal DIN rail mounted module is a sensor/actuator module for the LCN Bus system.

It has three 0 -10V dc outputs for control of electronic ballasts which can also be connected for DSI or DALI applications. Additionally, two of the four outputs run parallel on electronic switch- dimmable outputs at 230V respectively.

Furthermore, additional sensors and actuators can be connected through the LCN-HU's T-, I- and P- ports.

The internal operating programme can be freely parametrised using the LCN system software LCN-PRO.

Field of application:

- Theatre standard high grade lighting control, sophisticated lighting effects and daylight dependent lighting control.
- Simple RGBW control with electronic ballasts.
- Control of solar shading and conservatories.
- Individual room control: cooling, heating and ventilation.
- Access control with IR remote control and transponders.
- Automatic control with numerous timers and associated logical operations.
- Hierarchical logical operations - authorisation.
- Alarm systems with multiple zones and complex requirements
- Associated logical operations across installation/facility boundaries including: lighting‹-› solar shading ‹-› alarm ‹-› entry restriction, etc.
- High performance through cost effective multiple application of sensors and actuators.

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

Hardware:

230V PSU 50/60Hz (110V version available).

Two 230V 500VA zero voltage electronic switching or dimming outputs (phase cut-on).

3 analogue 0 - 10V outputs, switchable to DALI or DSI

T-Port for connection of up to 8 keys via key converter or A/D converter (LCN-AD2), etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-ULT (transponder reader),LCN-GTxD (Glas Touch-Keypad) 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.

Note:

For control/activation of external relays via the electronic outputs, the internal suppression of radio interference can be switched off using the micro switch or a base load module (LCN-C2GH) is needed. Care is to be taken with regard to the conventional relays' holding current. For detailed instructions please refer to the installation instructions. The operation of LCN-R1U and LCN-DDR is not possible.

Operating Programme:

Four outputs, two of which are 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 are capable of storing up to 100 light scenes (each storing brightness and blending time).

Three analogue channels 0-10V, alternatively three DSI channels or three DALI groups.

Position control for motors including drive limiting.

Connection for 8 keys (with key converter) which can distinguish between the **Hit**, **Hold** and **Release** functions: 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/control panel functions with 4 states: **On, Off, Flash** and **Flicker**. Four summing operations each with 12 inputs for logical operations and hierarchal fault signal processing in compliance with DIN.

Decoding of the IR receiver. Immediate evaluation or via main computer. Functions for key levels, ciphered transmission, transmission distinction, transponder combinable, person 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, can also be used for control, counting/calculating.
- Transponder data processing for up to 16 transponders (unlimited when using visualisation software).
- Control with independent and associated logical operations/processes, single key locking and unlocking, hierarchical authorisation.
- Four timers (1s.. 45 days), 2 relay timers, periodic clock.
- Override during power failure for up to 20 sec with power failure recognition, etc.
- Four level acknowledgement and notification system.
- Automatic creation of status reporting for visualisation and much more.

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Technical Data:

Connection:

Supply voltage:	230V AC ±15%, 50/60Hz (110V AC ±15% type available)
Input power:	0.5W power consumption
Terminals:	Screwless, max. 16A
Cable type:	Single or multi-core max. 2.5mm^2, or with insulated ferrules max.1.5mm^2

Electronic Outputs:

Load output:	Zero-voltage switch or phase-cut-on dimmer
Resolution:	200 dimming levels
Switching capacity:	500VA (500W @ cosφ=1)
Overload rating:	1kW max.10s
Power dissipation:	1% d. Aparent power 10W heat dissipation at full load
Minimum load:	- none -
Fuse per output:	2.5 AF
Fuse fault identification:	Yes
Temperature limiter:	Yes

Control outputs:

Conductor type:	max. 0.8mm Ø
0/10V output:	
Source current	max. 0.5mA
Load current:	max. 40mA
DSI mode:	Max 20 electronic ballasts
DALI mode:	Max 16 electronic ballasts

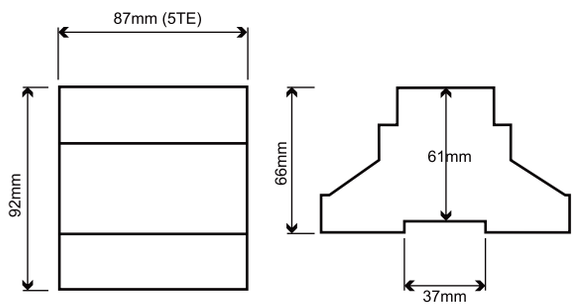
Ports: T-, I-, P- Port available

General Details:

Operating temperature:	-10℃ to +40℃
Humidity:	max. 80% rel., non condensing
Environmental conditions:	stationary installation according to VDE 632,VDE 637,
Safety classification:	IP 20

Dimensions:

(L x W x H): 87mm x 92mm x 66mm

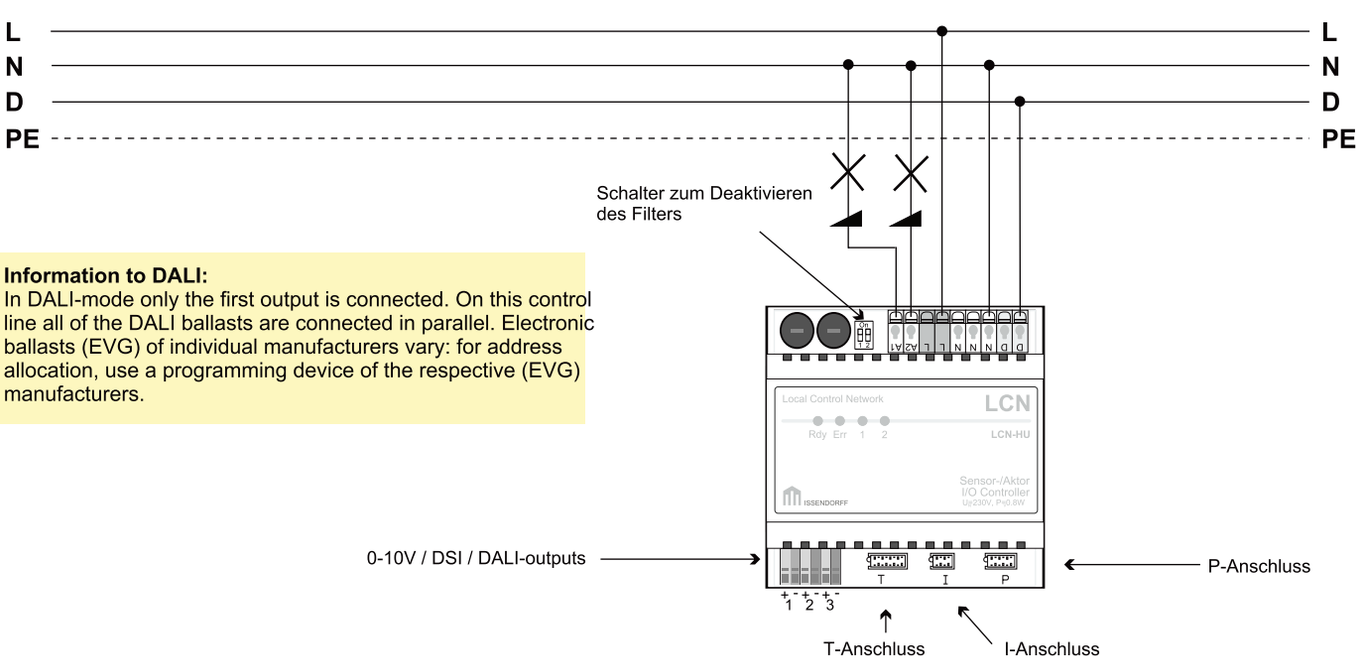


Height: 66mm
61mm via DIN rail

Space requirement: 5TE

Assembly: REG on 35 mm mounting rail (DIN 50022)

Circuit Diagram:



Information to DALI:
In DALI-mode only the first output is connected. On this control line all of the DALI ballasts are connected in parallel. Electronic ballasts (EVG) of individual manufacturers vary: for address allocation, use a programming device of the respective (EVG) manufacturers.