

1992 **25** LCN
YEARS 2017
High-End Building Management

LCN | Bus Modules

LCN-UPP

Universal switch- and dimming module for flush-mounting

The LCN-UPP flush mounted module is a sensor-actuator 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 be used for DALI applications.

Apart from this, additional sensors and actuators can be connected through ist T- and I-ports. Parameters for the internal operating programme can be set using the system software LCN-PRO.

The LCN-UPP is decentrally installed in a wall cavity using flush mounted switch or junction boxes.

Field of application:

- High grade, theatre standard lighting control, sophisticated lighting effects and daylight dependent lighting control.
- Control of solar shading and conservatories.
- Individual room control: cooling, heating and ventilation.
- Access control with IR remote control and transponder.
- Automatic control with numerous timers and associated logical operations/processes.
- Tableau/control panel installations with 4 LED states and hierarchical logical operations for authorising and displaying.
- Alarm systems with multiple zones and complex requirements, blocking locks, early warning alarm systems etc.
- Associated logical operations across installation/facility boundaries including: lighting (->) shade (->) alarm (->) entry, etc = high performance through the cost efficient use of multiple sensors and actuators.
- All functions can be used independently and are also available to be used simultaneously.

Hardware:

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

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

T-Port for connection of up to 8 keys via key converter LCN-T8, LCN-TEx or key sensors LCN-GT12, LCN-GT6 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), LCN-BT4H/R (Binary input) etc.

Note:

For dimming, the LCN-FI1 (filter) is necessary!

When operating conventional motors with built-in limit switches, an LCN-R2U is to be used.



Operating programs:

Four outputs, two of which are electronic outputs for switching, dimming, brightness and blending controls which can all be set individually. Two timing circuits (10ms .. 40min) enabling momentary timers, staircase lighting, etc. All 3 outputs have the capacity for storing up to 100 light scenes. (each storing brightness and blending time).

The LCN-UPP supports two DSI signals, three DALI-groups respectively (through LCN-DDR). Additionally, all of the DALI and DSI-elements can be directly controlled via the LCN-DDR.

Connection for either 8 conventional keys (with adapter cable LCN-T8), 4 EnOcean radio switch (LCN-T4ER) or KNX/EIB standard sensor-keys (LCN-TEx), eg. 4 fold = 8 keys with 3 commands each being sent to 2 addresses (modules or groups). In total 32 keys in 4 tables = 192 commands to 64 target addresses.

The keys support 3 functions: **Hit**, **Hold** and **Release**.

With the adapter LCN-TEx standard EIB key sensors can be connected. Support and parametrisation of the LED's on standard EIB key sensors.

Tableau/control panel functions for 12 lights with 4 states: **On**, **Off**, **Flash** and **Flicker**. Four logical operations for hierarchical fault signal processing in compliance with DIN.

Decoding of the IR-remote control receiver. Immediate evaluation or via a main computer. Functions for key levels, ciphered transmission, transmission distinction, transponder combinable, person identification.

Further functions :

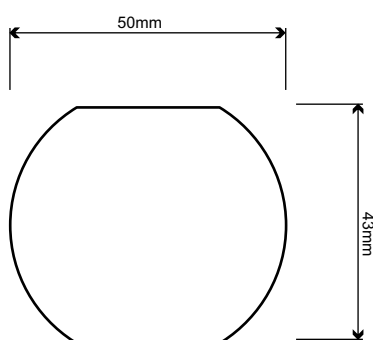
- Two freely parametrable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 5 thresholds with hysteresis; can also be used for control, counting/calculating.
- Transponder data processing of up to 16 transponders (unlimited amount with use of the visualisation software).
- Control with independent and logical operations, single key locking and unlocking, hierarchical switch authorisation.
- Four timers (1s.. 45 days), two timers (relay) periodic clock.
- Override during power failure for up to 20 sec with power failure recognition, etc.
- Four level acknowledgement and notification system.

LCN-UPP

Universal switch- and dimming module for flush-mounting

Dimensions:

Ø x H: 50mm x 20mm



Assembly:

de-centralized installation in deep flush-mounted box

Technical Data:

Connection:
 Supply voltage: 230V AC ±15%, 50/60Hz
 (110V AC ±15% type available)
 Power consumption: 0.5W power consumption
 Supply connection: Litz wires 0,75 mm² (with insulated ferrules)

Electronic outputs:
 Load output: Zero-voltage switch or phase-cut on dimmer
 Resolution: 200 dimming levels
 Max. load per output: 300VA @ 230V (cosφ=1)
 150VA @ 110V (cosφ=1)
 (When installed in solid walls.)
 When installed in thermal insulated walls, max power is reduced. When installed in the same box as FI1 or NU16 the max power is reduced by 1/3, see installation manual.

Temperature monitor: Yes
 Overload capacity: 1kW max.10s
 Power dissipation: 0.7% apparant power max 4W full load
 Minimum load: - none -

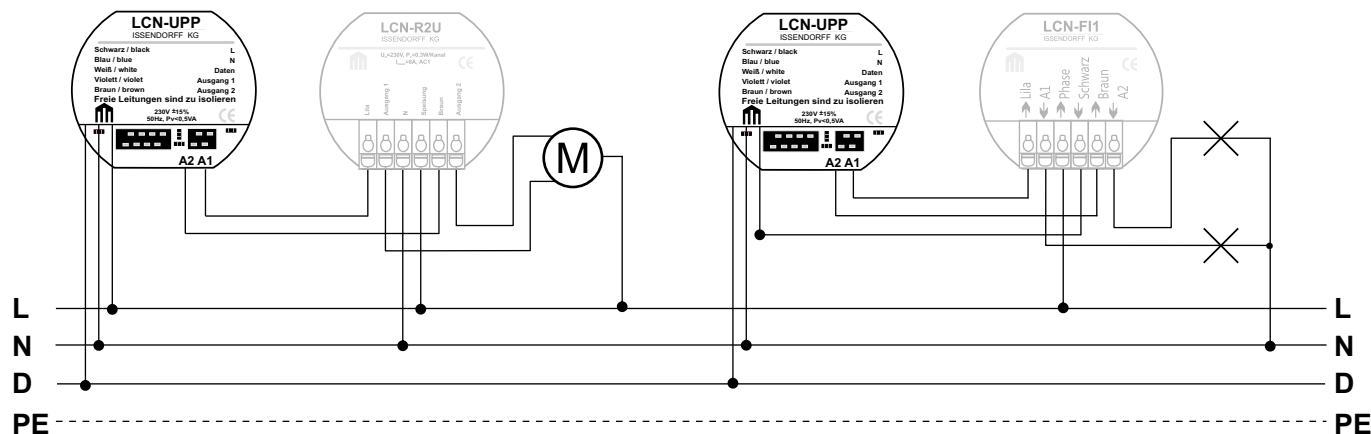
Ports:
 T-Port: Available
 I- Port: Available

General details:
 Operating temperature: -10°C to +40°C
 Humidity: max. 80% rel., non condensing
 Environmental conditions: Stationary installation according to VDE 632, VDE 637,
 Safety classification: IP 20 when installed in a deep wall box

Circuit diagram:

Example: Motor Controller with relais LCN-R2U

Example: Dimming - Here's a noise filter LCN - FI1 be provided



LCN-UPU

Universal switch- and dimming module for flush mounting with leading and trailing-edge dimming

The LCN-UPU is a sensor-actuator module for building installation with the LCN Bus system. It has two switching/dimming electronic outputs at 230V. The outputs can be operated as leading and trailing-edge dimmer or in switching operation as a zero voltage switch. They each have timers, for choosing separate dimming ramps and switching times. Two further outputs are simulated and are not connected to the outside. Apart from this, additional sensors and actuators can be connected through I-T- and I-L-ports. Parameters for the internal operating programme can be set using the system software LCN-PRO.

Application field:

- High grade theatre standard lighting control
- Control of solar shading and conservatories
- Individual room control: cooling, heating and ventilation
- Access control with IR remote control and transponder
- Automatic control with numerous timers and associated logical operations/processes
- Tableau/control panel installations with 4 LED states and hierarchical logical operations for authorising and displaying
- Alarm systems with multiple zones and complex requirements, blocking locks, early warning alarm systems etc.
- Associated logical operations across installation/facility boundaries including: lighting ↔ shade ↔ alarm ↔ access, etc. =high performance through the cost efficient use of multiple sensors and actuators.
- Note: All functions can be used independently and are also available to be used simultaneously.

Hardware equipment:

230V power supply 50Hz/60Hz (110VAC version available)

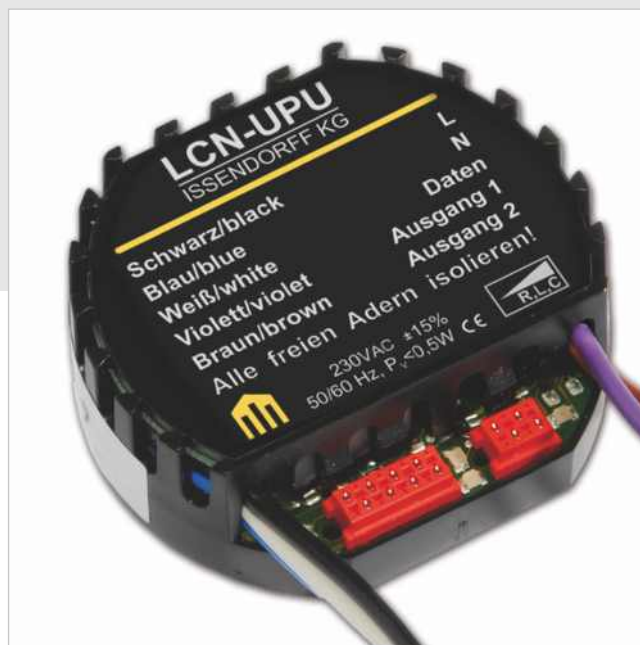
2 electronic switch outputs 230V, max. 300VA: zero-voltage switching or dimming (phase cut-on)

T-Port for connection of up to 8 keys via key converter LCN- T8, LCN-TEx, or LCN-GT12, LCN-GT6 etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-GRT/-GBL/-GUS (indoor sensors), LCN-ULT (transponder reader), LCN-UT (transponder reader), LCN-GTxD (glas touch-keypad), LCN-BT4H/R (push button converter or binary input), etc. etc.

Note:

For dimming, the LCN-F11 (filter) is necessary!
When operating conventional motors with built-in limit switches, an LCN-R2U is to be used.
For detailed information, please refer to the installation instructions.



Function description:

Operating programs:

Four outputs, two of which are electronic outputs for switching, dimming, brightness and blending controls which can all be set individually. Two timing circuits (10ms .. 40min) enabling momentary timers, staircase lighting, etc. All 4 outputs have the capacity for storing up to 100 light scenes. (each storing brightness and blending time).

The LCN-UPU supports four DALI-groups (through LCN-DDR). Additionally, all of the DALI elements can be directly controlled via the LCN-DDR.

Connection for either 8 conventional keys (with adapter cable LCN-T8), 4 EnOcean radio switch (LCN-T4ER) or KNX/EIB standard sensor-keys (LCN-TEx), e.g. 4 fold = 8 keys with 3 commands each being sent to 2 addresses (modules or groups). In total 32 keys in 4 tables = 192 commands to 64 target addresses.

The keys support 3 functions: **Hit**, **Hold** and **Release**.

Tableau/control panel functions for 12 lights with 4 states: **On**, **Off**, **Flash** and **Flicker**. Four logical operations for hierarchical fault signal processing in compliance with DIN.

Decoding of the IR-remote control receiver. Immediate evaluation or via a main computer. Functions for key levels, ciphered transmission, transmission distinction, transponder combinable, person identification.

Further functions:

- Two freely parametrable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 4 thresholds with hysteresis; can also be used for control, counting/calculating.
- Transponder data processing of up to 16 transponders (unlimited amount with use of the visualisation software).
- Control with independent and logical operations, single key locking and unlocking, hierarchical switch authorisation.
- Four timers (1s.. 45 days), two timers (relay) periodic clock.
- Override during power failure for up to 20s with power failure recognition, etc.
- Four level acknowledgement and notification system.
- 12 variables and much more

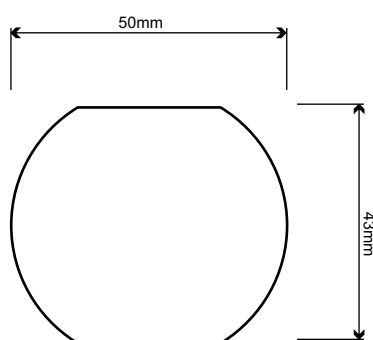
LCN-UPU

Universal switch- and dimming module for flush mounting with leading and trailing-edge dimming

- sensor/actuator module
- 2 switching/dimming electronic outputs at 230V, 300VA
- leading and trailing - edge dimming
- two simulated outputs
- T- and I-ports
- de-centralized installation

Dimensions:

(Ø x H): 50mm x 20mm



Assembly: de-centralized installation in deep flush-mounted box

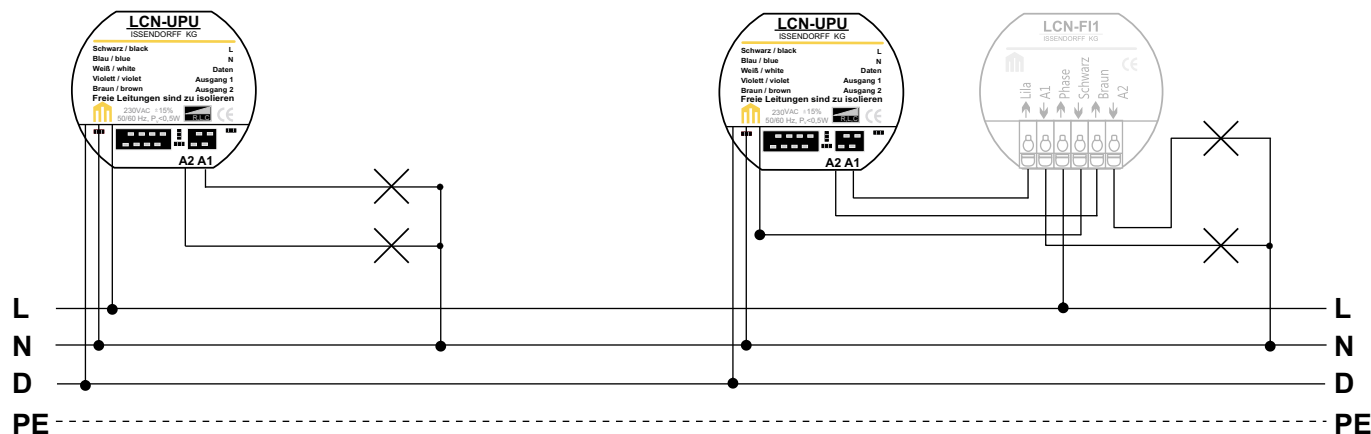
Technical data

Connection	
Power supply:	230V AC ±15%, 50/60Hz (110V AC type available)
Power consumption:	<0,5W
Power connection:	5 wires with end sleeves 0,75mm ²
Connection sensor side:	T- and I-connection
Electronic outputs	
Load output:	2x Zero-voltage switch or phase-cut on dimmer
Resolution:	200 steps in dimming operation
Switching capacity:	300VA (cos φ=1) with solid walls, each 150VA with full thermal insulation
Overload capacity:	each 1kW max. 10s
Power dissipation:	1% from the apparent power
Minimum load:	- not required -
General details:	
Operating temperature:	-10°C to +60°C
Humidity:	max. 80% rel., non condensing
Environmental conditions:	stationary installation according to VDE
Safety classification:	IP 20

Circuit diagram:

Example: leading edge dimming

Example: trailing edge - For dimming, the LCN-FI1 (filter) is necessary!



LCN-UMR

Universal shutter / blind module for flush-mounting

The universal shutter module LCN-UMR is a sensor-actuator module for a rolling - / shutter motor control. It has two switchable, interlocked 230V relay outputs.

Furthermore, the LCN-UMR has T- and I-ports for receiving further LCN sensors and actuators. The internal operating program can be programmed by the LCN system software LCN-PRO.

Description:

- Control of roller shutters and awning motors
 - Control of shading and darkening
 - Decentralized control of screens or partitions
 - Individual room control: Cooling, Heating, Ventilation
 - Access control with IR remote control and transponder
 - Automatic control with many timers and links
 - Tableau systems with 4 states / LED and hierarchical relationships of permissions and ads
 - Alarm systems, also with multiple zones and complex conditions, block lock, pre-alarm, etc.
 - Links over trade boundaries:
- Lighting "shading" Alarm "entry, etc.= High functionality with cost-effective multiple use of sensors and actuators

Hardware:

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

2 x Relay 230V / 6A (interlocked)

T-Port for connection of up to 8 keys via key converter LCN- T8, LCN- TEx, or LCN-GT12, LCN-GT6 etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-GRT/-GBL/-GUS (indoor sensors), LCN-ULT (transponder reader), LCN-UT (transponder reader), LCN-GTxD (glas touch-keypad), LCN-BT4H/R (push button converter or binary input), etc. etc.

Note:

The module has no protection for the outputs. Therefore, a circuit breaker 6A (B characteristic) is to be used. For detailed information, please refer to the installation instructions.



Function description:

Operating programs:

Two switchable, interlocked 230V relay outputs.

The module does not switch the outputs or optionally made after 70 or 140 seconds.

Connection for either conventional 8 keys (with adapter cable LCN-T8) or KNX / EIB standard touch sensors (LCN- Tex), eg 4x = 8 keys each with 3 commands to each 2 addresses

(Modules or groups). A total of 32 keys in 4 tables = 192 commands to 64 goals.

The key support 3 functions: short, long, Los.

Tableau functions for 12 lamps with 4 states: on, off, blinking, flickering. Four logic operations for hierarchical alarm processing gem. DIN.

Decoding the IR remote control receiver. Evaluation directly or through the central computer. Functions for key levels, coded transmission, transmitter distinctive, with transponder

combined, pedestrian recognition.

More functions:

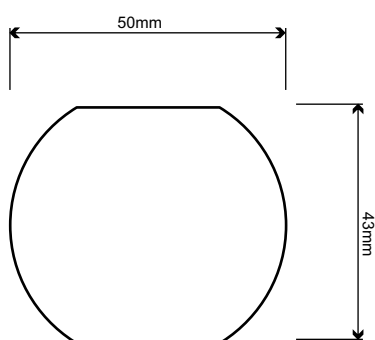
- Two freely programmable continuous controller. Readings and control variables can be arbitrarily distributed in the bus
- Analog value processing via switching thresholds or regulator
- Transponder data processing for up to 16 transponders (unlimited with operation of visualization)
- Control with dependencies and linkages, blocking and releasing of individual key / tactile hierarchical permissions
- 4 timer (1s..45Tage), 2 timers (relay), periodic timer
- Bridging power failures up to 20 seconds, with power failure detection, etc.
- 4-level acknowledgment and reporting
- U.v.m. 12 variables

LCN-UMR

Universal shutter / blind module for flush-mounting

Dimensions:

Ø x H: 50mm x 20mm



Assembly:

de-centralized installation in deep flush-mounted box

Technical Data:

Connection:
 Supply voltage: 230V AC ±15%, 50/60Hz
 (110V AC ±15% type available)
 Power consumption: < 0,5W
 Supply Connection: Litz wires 0,75 mm² (with insulated ferrules)

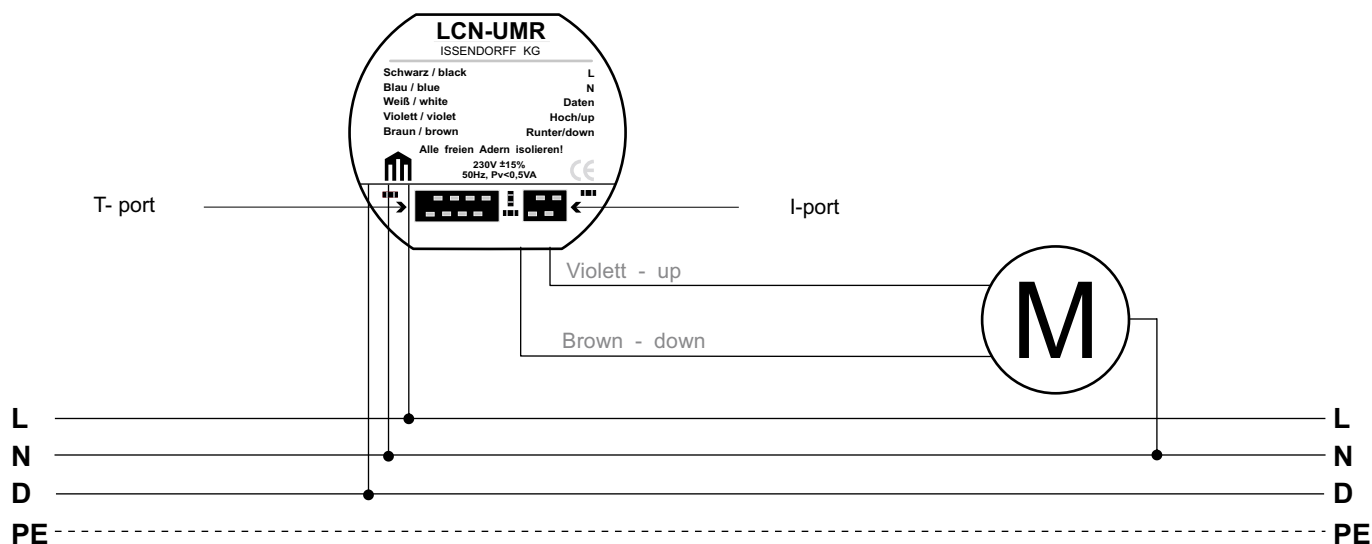
Ports:
 T-Port Available
 I- Port Available

Outputs
 Typ: 2 x relay / 5A, interlocked
 Mechanical life: 10⁶ switching cycles
 Switching capacity: recommended max. 800W
 Inrush current: max. 50A 8/10µs

General details:
 Operating temperature: -10°C to +40°C
 Humidity: max. 80% rel., non condensing
 Environmental conditions: Stationary installation according to VDE 632, VDE 637,

Safety classification: IP 20 when installed in a deep wall box

Circuit diagram:

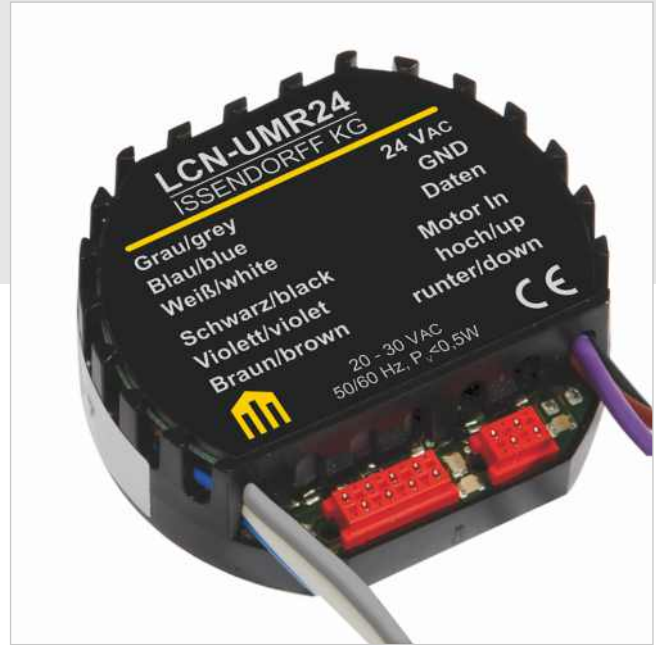


LCN-UMR24

Universal shutter / blind module 24V for flush-mounting

The universal shutter module LCN-UMR24 is a sensor-actuator module for a rolling - / shutter motor control. It has two switchable, 230V relay outputs.

Furthermore, the LCN-UMR24 has T- and I-ports for receiving further LCN sensors and actuators. The internal operating program can be programmed by the LCN system software LCN-PRO.



Description:

- Control of roller shutters and awning motors
- Control of shading and darkening
- Decentralized control of screens or partitions
- Individual room control: Cooling, Heating, Ventilation
- Access control with IR remote control and transponder
- Automatic control with many timers and links
- Tableau systems with 4 states / LED and hierarchical relationships of permissions and ads
- Alarm systems, also with multiple zones and complex conditions, block lock, pre-alarm, etc.
- Links over trade boundaries: Lighting "shading" Alarm "entry, etc.= High functionality with costeffective multiple use of sensors and actuators

Hardware:

2 x Relay 230V / 5A

T-Port for connection of up to 8 keys via key converter LCN-T8, LCN-TEx, LCN-TU4R or LCN-R1U (relay), LCN-GT12, LCN-GT6 etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-GRT/-GBL/-GUS (indoor sensors), LCN-ULT (transponder reader), LCN-UT (transponder reader), LCN-GTxD (glas touch-keypad), LCN-BT4H/R (push button converter or binary input), etc. etc.

Note:

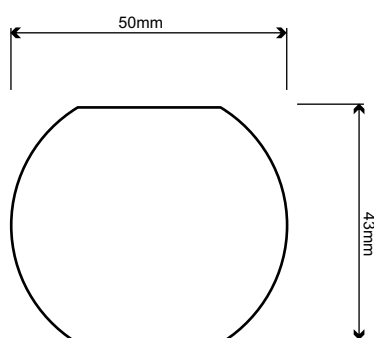
For detailed information, please refer to the installation instructions.

LCN-UMR24

Universal shutter / blind module 24V for flush-mounting

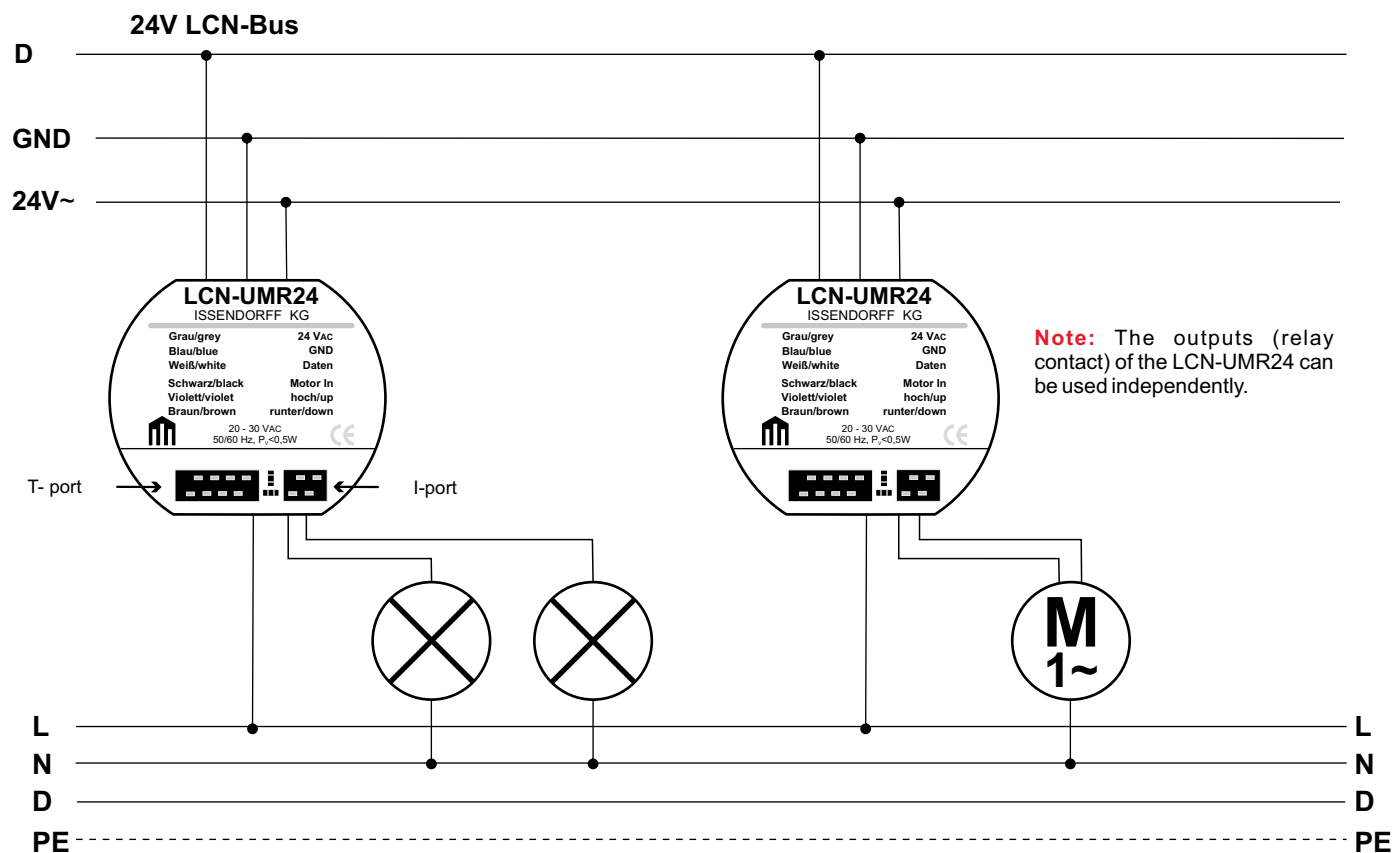
Dimensions:

Ø x H: 50mm x 20mm



Assembly: de-centralized installation in deep flush-mounted box

Circuit diagram:



Technical Data:

Connection:

Supply voltage: 20-30VAC, 50/60Hz
 Power consumption: < 0,5W
 Supply Connection: Litz wires 0,75 mm² (with insulated ferrules)

Ports:

T-Port Available
 I-Port Available

Outputs

Typ: 2 x relay / 5A, interlocked
 Mechanical life: 10⁶ switching cycles
 Switching capacity: recommended max. 800W
 Inrush current: max. 50A 8/10µs

General details:

Operating temperature: -10°C to +40°C
 Humidity: max. 80% rel., non condensing
 Environmental conditions: Stationary installation according to VDE 632, VDE 637,

Safety classification: IP 20 when installed in a deep wall box

LCN-UPS

Universal sensor module for flush-mounting

The LCN-UPS concealed module is a sensor module for the LCN Bus system. It has 3 simulated outputs of which 2 can be used for DSI applications or all 3 for DALI (in connection with the LCN-DDR).

Furthermore, additional sensors and actuators can be connected through its T and I ports. Parameters for the internal operating programme can be set using the system software LCN-PRO.

The module is decentrally installed in a wall cavity using flush mounted switch or junction boxes.

Field of application:

- Economical connection for LCN sensors and EIB push button sensors or EnOcean wireless sensor keys.
- Individual room control: cooling, heating and ventilation.
- Access control with IR remote control and transponder.
- Automatic control with numerous timers and associated logical operations/processes.
- Tableau/control panel installations with 4 LED states and hierarchical logical operations for authorising and displaying.
- Alarm systems with multiple zones and complex requirements, blocking locks, early warning alarm systems etc.
- Associated logical operations across installation/facility boundaries including: lighting ↔ shade ↔ alarm ↔ entry, etc = high performance through the cost efficient use of multiple sensors and actuators.

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

Hardware:

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

T-Port for connection of up to 8 keys via key converter LCN-T8, LCN-TE_x, or LCN-GT12, LCN-GT6 etc.

I-Port for combined connection of LCN-RR (IR-remote-control receiver), LCN-TS (temperature sensor), LCN-BMI (motion detector), LCN-GRT/-GBL/-GUS (indoor sensors), LCN-ULT (transponder reader), LCN-UT (transponder reader), LCN-GTxD (glass touchkeypad), LCN-BT4H/R (push button converter or binary input), etc. etc.

Note:

Modification of the LCN-UPS for Merten Tracent (6231 90) is to be stated when ordering.



Operating programs:

Four simulated outputs: three timers (10ms .. 40min) enabling momentary timers, staircase lighting, etc.

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

Generation of two DSI signals, three DALI-groups respectively (through LCN-DDR). Additionally all DALI elements can be directly controlled via the LCN bus.

Connection for either 8 conventional keys (with adapter cable LCN-T8), 4 EnOcean wireless keys (LCN-T4ER) or KNX/EIB standard sensor-keys (LCN-TE_x), eg. 4 fold = 8 keys with 3 commands each being sent to 2 addresses (modules or groups). In total 32 keys in 4 tables = 192 commands to 64 target addresses.

The keys support 3 functions: **Hit**, **Hold** and **Release**.

LCN tableau/panelboard function with 4 states: On, Off, Flash and Flicker. Four summing operations, each with 12 inputs for logical operations and hierarchical 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 parametrable 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 amount with use of the visualisation software).
- Control with independent and logical operation, single key locking and unlocking, hierarchical authorisation.
- Four timers (1s.. 45 days), two timers (relay), periodic clock.
- Override during power failure for up to 20 sec with power failure recognition, etc.
- Four level acknowledgement and notification system.
- Function reporting and status notification.

LCN-UPS

Universal sensor module for flush-mounting

Technical Data:

Connection:
 Supply voltage: 230V AC ±15%, 50/60Hz
 (110V AC ±15% type available)
 Input power <0,4W power consumption
 Supply connection: Litz wires 0,75 mm²
 (with insulated ferrules)

Temperature control: Yes

Electronic outputs: Not available, but internally simulated, therefore, timer, etc. usable

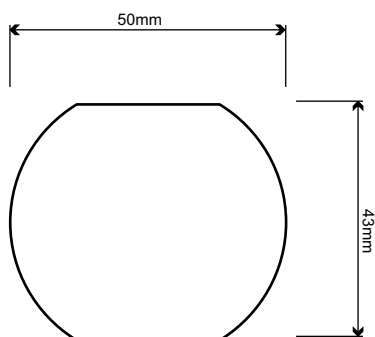
Ports:
 T-Port: Available
 I-Port: Available

General details:
 Operating temperature: -10°C to +40°C
 Humidity: Max. 80% rel., Non condensing
 Environmental conditions: Stationary installation according to VDE 632, VDE 637

Safety classification: IP 20, when installed in deep wall mounted box

Dimensions:

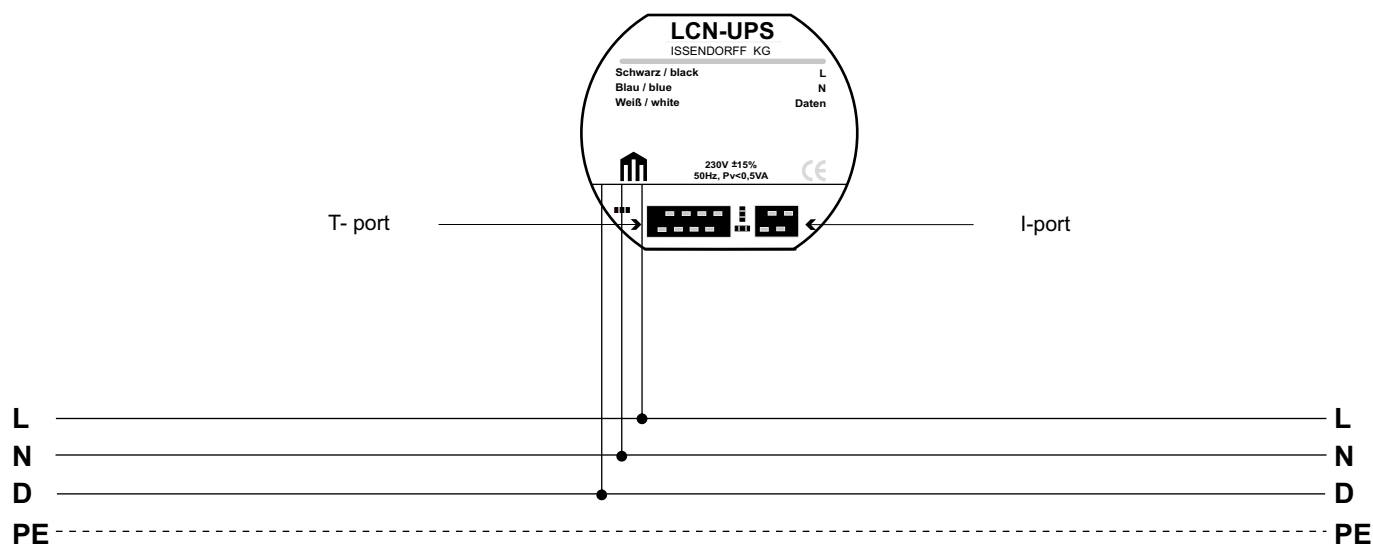
Ø x H: 50mm x 20mm



Assembly:

de-centralized installation in deep flush-mounted box

Circuit diagram:



LCN-SH

Universal switch- and dimming module for DIN rail mounting

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. Furthermore, additional sensors and actuators can be connected through its T and I ports. Parameters for the internal operating programme can be set using the system software LCN-PRO.

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

Field of application:

- Theatre standard high grade lighting control, sophisticated lighting effects and daylight dependent lighting control.
- Control of solar shading and conservatories, with up to 4 motor pairs with LCN-R4M2H.
- Individual room control: cooling, heating and ventilation.
- Access control with IR remote control and transponder.
- Automatic control with numerous timers and associated logical operations/processes.
- Hierarchical logical operations - authorisation.
- Alarm systems with multiple zones and complex requirements, blocking locks, early warning alarm systems etc.
- Associated logical operations across installation/facility boundaries including: visualisation, (-> alarm, (-> entry restriction, etc
- High performance through cost effective multiple application of sensors and actuators.

All functions can be used independently and can also be used simultaneously.

Hardware:

230V PSU 50/60Hz (110V 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 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-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 programs:

Three 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).

Motor position control with drive limit switches.

Connection for 8 keys (with adapter cable LCN-T8) 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. Direct evaluation or via main computer. Functions for key levels, ciphered transmission, transmission distinction, transponder (evaluation of serial numbers), person identification.

Further functions :

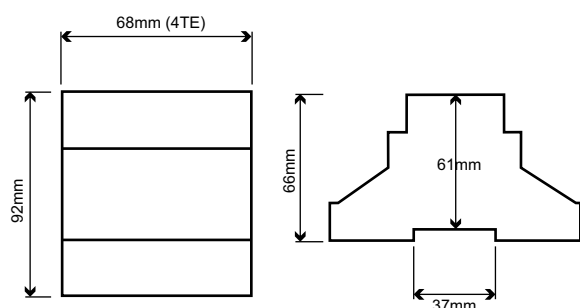
- Two freely parametrable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 5 thresholds with hysteresis; can also be used for control, counting/calculating.
- Transponder data processing for up to 16 transponders (unlimited amount when using visualisation software).
- Control with independent and logical operation, 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 reporting and acknowledgement
- Function reporting: execution of commands are clearly confirmed
- Automatic creation of status reporting for the visualization

LCN-SH

Universal switch- and dimming module for DIN rail mounting

Dimensions:

(L x W x H): 68 mm x 92 mm x 66 mm



Height: 66mm
61mm via DIN rail

Space requirement: 4TE

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

Technical Data:

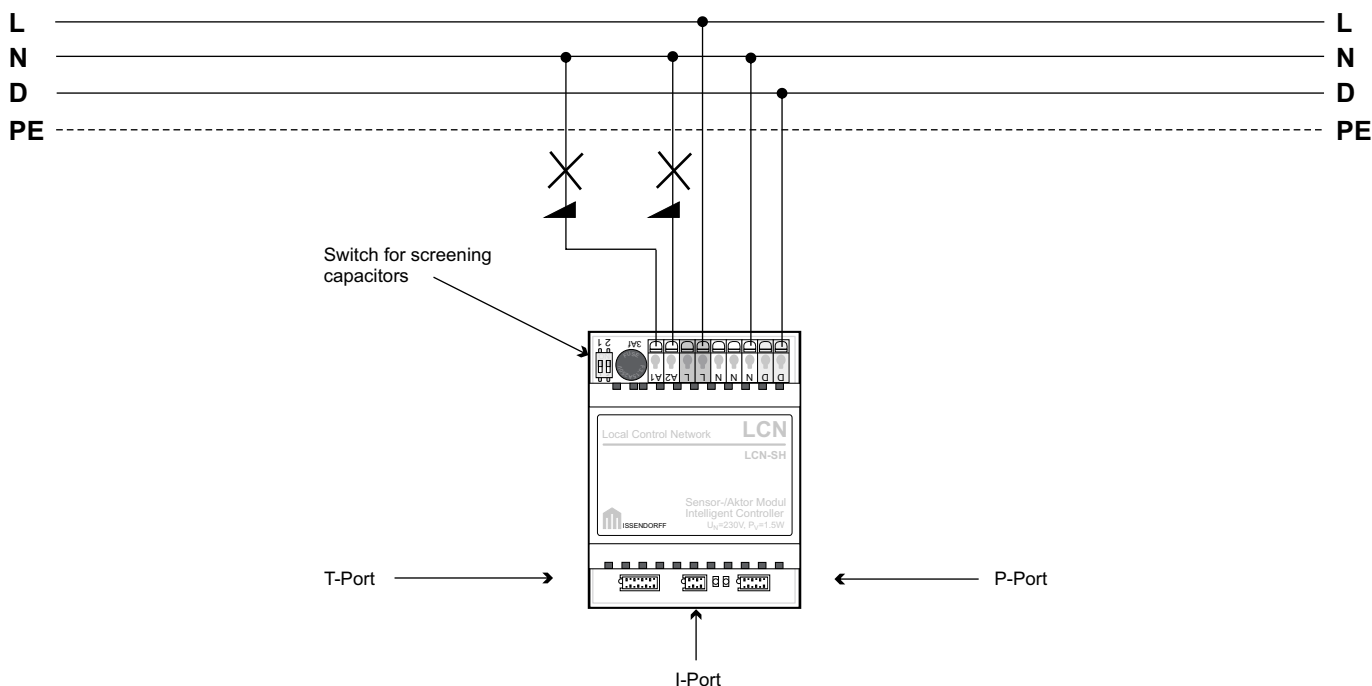
Connection:
Supply voltage: 230V AC $\pm 15\%$, 50/60Hz (110V AC $\pm 15\%$ type available)
Input power: <math><0,5W</math> power consumption
Terminals: Screwless, max. 16A
Cable type: Single or multi core max. 2,5mm² or with insulated ferrules 1,5mm²

Electronic outputs:
Load output: Zero-voltage switch or phase-cut-on dimmer
Resolution: 200 dimming levels
Switching capacity: 300VA @ 230V (300W @ $\cos\phi=1$)
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

Ports:
T-Port Available
I-Port Available
P-Port Available

General details:
Operating temperature: -10°C to +40°C
Humidity: max. 80% rel., no condensation
Environmental conditions: stationary installation according to VDE 632, VDE 637,
Safety classification: IP 20

Circuit diagram:



LCN-SHS

Universal sensor module for DIN rail mounting

The LCN-SHS DIN rail mounted module is a sensor module for the LCN Bus system.

Functionally, it corresponds to the LCN-SHS but does not have any electronic (dimmer-) outputs. Sensors and actuators can be connected through its T-, I- and P- ports. Parameters for the internal operating program can be set using the system software LCN-PRO.

The module is usually mounted on a DIN Rail inside the distribution box.

Field of application:

- Cost effective linkage of all LCN sensors and actuators for distribution integration such as key converters (e.g LCN-TU4H), binary sensors (e.g LCN-B8H) and relay Modules (e.g LCN-R8H).
- Control of solar shading for conservatories, with up to 4 motor pairs with LCN-R4M2H.
- Access control with IR remote control and transponders.
- Automatic control with numerous timers and logical operations.
- Hierarchical logical operations- authorisation.
- Alarm systems with multiple zones and complex requirements, blocking locks, early warning alarm systems etc.
- 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).

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-BS4 (current sensor), etc.

Note:

All functions can be used independently and are therefore available simultaneously. For detailed information please refer to the installation instructions. The operation of LCN-R1U and LCN-DDR is not possible.



Operating programs:

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.

Four simulated outputs: three timers (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).

Position control for motors incl. drive limit.

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 :

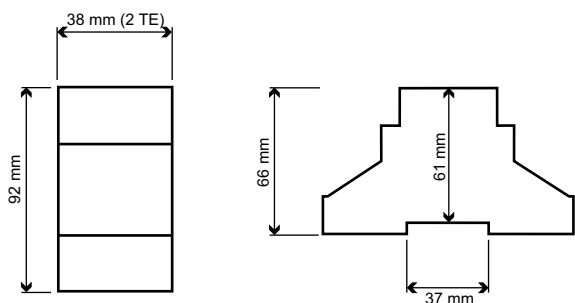
- Two freely parametable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 5 thresholds with hysteresis, can also be used for control, counting/calculating.
- Transponder data processing for up to 16 transponders (unlimited amount when using the visualisation software)
- Control with independent and logic operation, 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.
- Function reporting: execution of commands are clearly confirmed
- Automatic creation of status reporting for visualisation and more.

LCN-SHS

Universal sensor module for DIN rail mounting

Dimensions:

(L x W x H): 38 mm x 92 mm x 66 mm

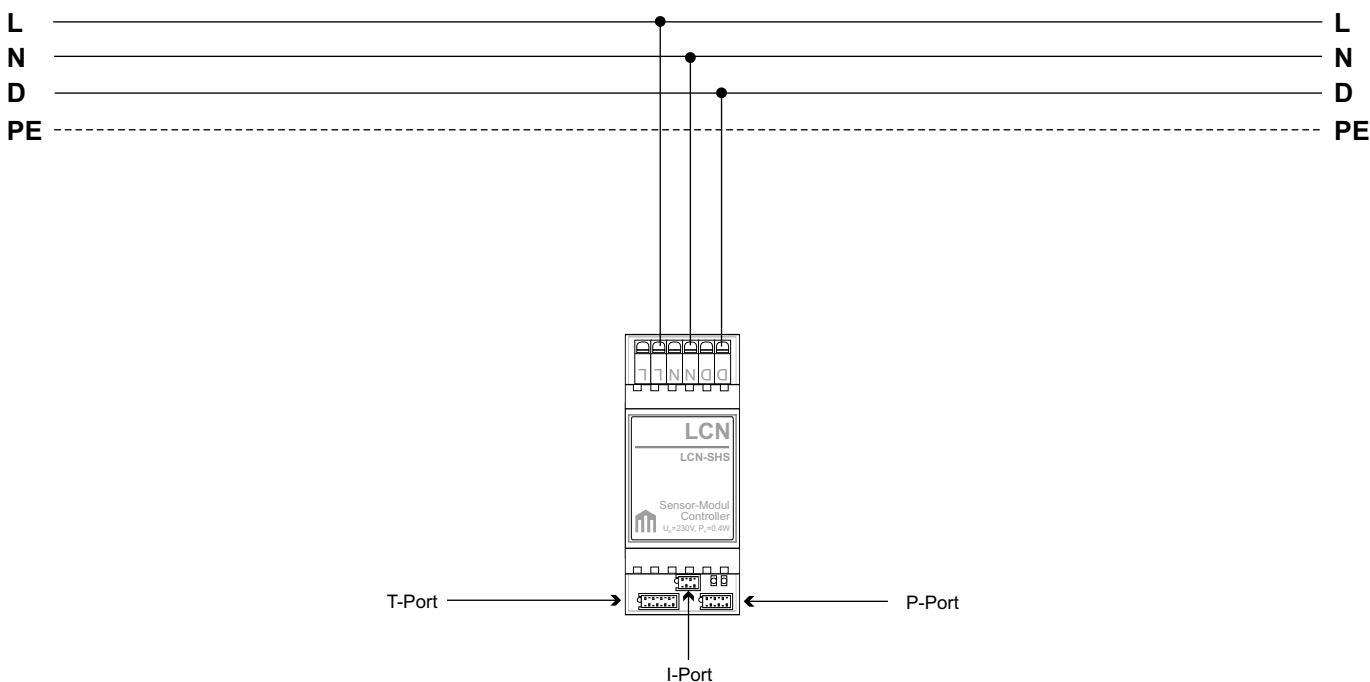


Height: 66mm
61mm via DIN rail

Space requirement: 2TE

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

Circuit diagram:



Technical Data:

Connection:
Supply voltage: 230V AC ±15%, 50/60Hz
(110V AC ±15% type available)

Input power: <0,4W power consumption

Terminals: Screwless, max. 16A

Cable type: Single or multi core max. 2,5mm² or with insulated ferrules 1,5mm²

Electronic Outputs: nonexistent, 3 simulated outputs

Ports:
T-Port Available
I-Port Available
P-Port Available

General details:
Operating temperature: -10°C to +40°C
Humidity: max. 80% rel., no condensation
Environmental conditions: stationary installation according to VDE 632, VDE 637,

Safety classification: IP 20

LCN-HU

Universal switch- and dimming module with exd.functions 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-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 programs:

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 :

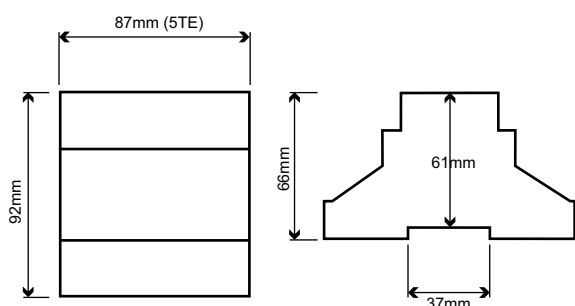
- Two freely parametable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 5 thresholds with hysteresis, can also be used for control, counting/calculating.
- Transponder data processing for up to 16 transponders (unlimited when 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.

LCN-HU

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

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)

Technical Data:

Connection:
Supply voltage: 230V AC $\pm 15\%$, 50/60Hz (110V AC $\pm 15\%$ type available)

Input power: 0.5W power consumption

Terminals: Screwless, max. 16A
Cable type: Single or multi-core max. 2.5mm², or with insulated ferrules max. 1.5mm²

Electronic outputs:

Load output: Zero-voltage switch or phase-cut-on dimmer
Resolution: 200 dimming levels
Switching capacity: 500VA (500W @ $\cos\phi=1$)
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:

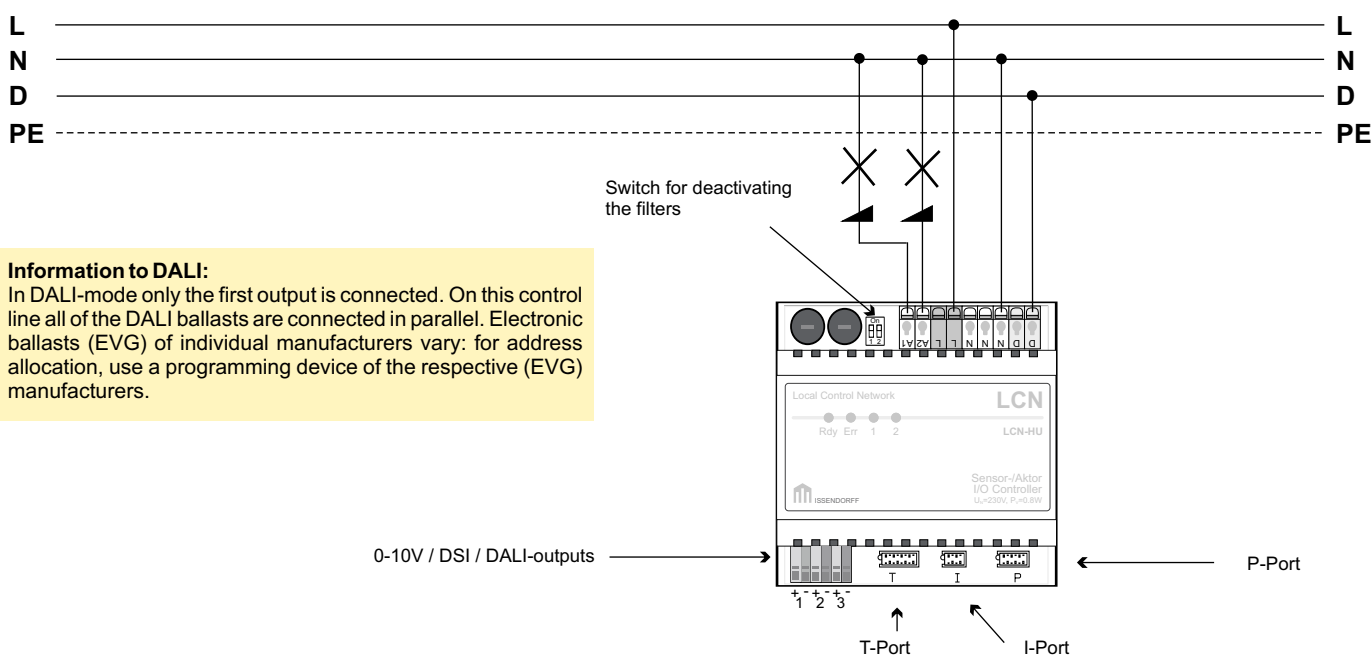
Conductor type: max. 0.8mm \varnothing
0/10V output:
Source current: max. 0.5mA
Load current: max. 40mA
DSI mode: Max 20 electronic ballasts
DALI mode: Max 16 electronic ballasts

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

General details:

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

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.

LCN-LD

High power switch- and dimming module with exd. functions

The LCN-LD power dimmer is a sensor/actuator module for the LCN bus system. It has 4 outputs, two of which are for outputs of up to 2000VA. Furthermore, it has T, I and P ports for the connection of additional LCN sensors and actuators.

Used in combination with LCN-R8H it offers a further 8 switching outputs at 16A/230V.

Individual setting of parameters is achieved using the system software LCN-PRO.

It is usually mounted using a mounting plate inside distribution boxes.

Field of application:

- Control and dimming of high power devices such as stage lights and chandeliers.
- Theatre standard, high grade lighting control, sophisticated lighting effects and daylight dependent lighting control.
- Simple RGB control with electronic ballasts.
- Automatic control with numerous timers and associated logical operations.
- 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 be used independently and are also available to be used simultaneously.

Hardware:

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

2 electronic switching outputs at 230V, max. 2000W zero-voltage switch or phase cut-on dimming.

Three analogue 0-10V outputs for DSI or DALI applications.

T-Port socket connection for 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 peripherals such as relays LCN-R8H, LCN-R4M2H or LCN-R2H, LCN B8x (binary sensor), LCN-BS4 (current sensor), etc.

Note:

Due to its high load capacity the LCN-LD requires an external circuit-breaker/cut-out switch. The LCN-LD identifies a blown fuse and reports it. For detailed information please refer to the installation instruction manual. The operation of LCN-R1U and LCN-DDR is not possible.



Operating programs:

Firmware-integrated as with LCN-HU

Three 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.

Connection for 8 keys (with adapter LCN-T8) 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 hierarchical 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:

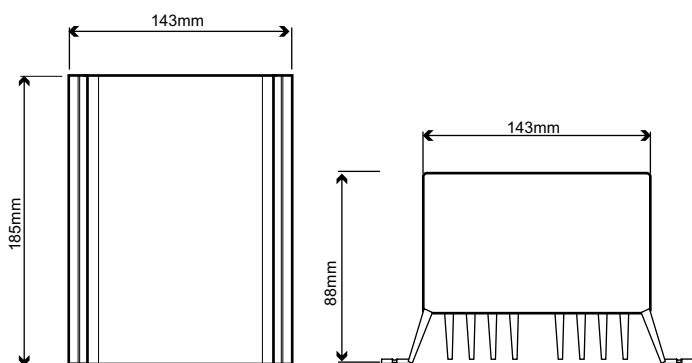
- Two freely parametable continuous action controllers. Results and any variables can be distributed on the bus.
- Analogue value data processing over 5 thresholds with hysteresis; can also be used for control, counting/calculating.
- Transponder data processing for up to 16 transponders (unlimited amount when using the visualisation software)
- Control with independent and associated logical operations, 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.

LCN-LD

High power switch- and dimming module with exd. funcions

Dimensions:

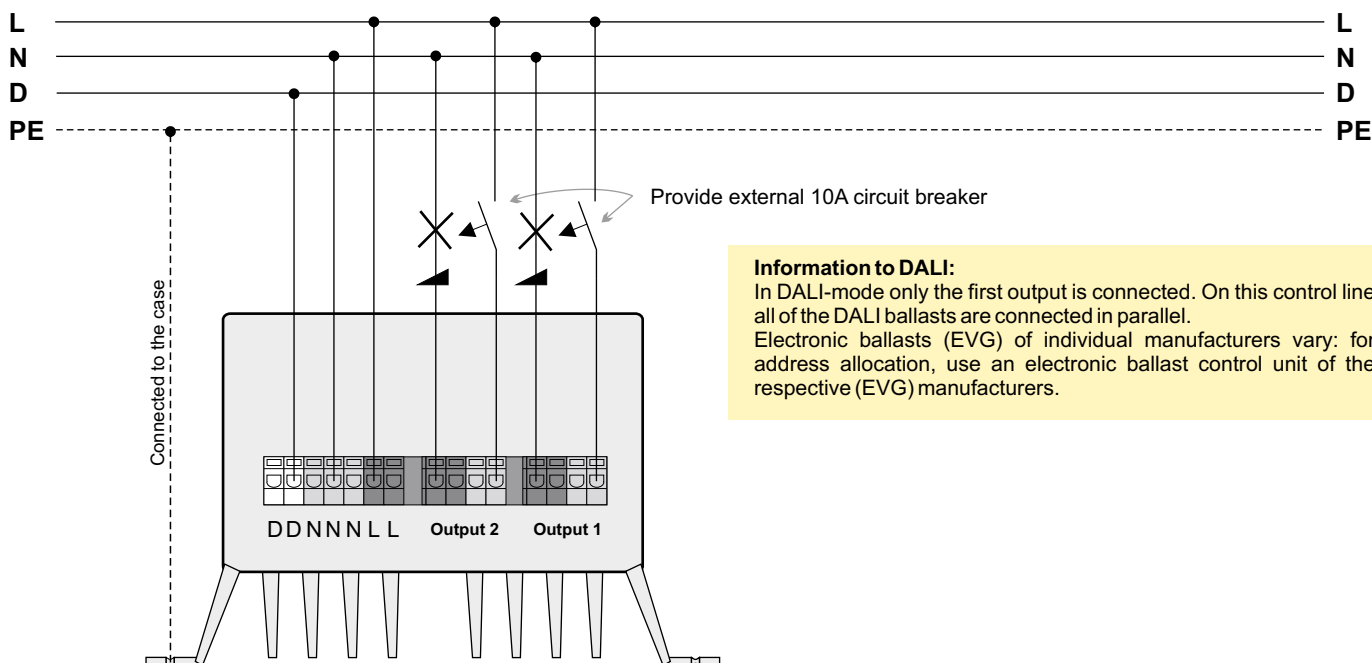
(L x W x H): 143mm x 185mm x 88mm



Assembly:

screw fixture

Circuit diagram:



Technical Data:

Connection:

Supply voltage: 230V~ ±15%, 50/60Hz
(110V AC ±15% type available)
Power input: <0.5W power consumption

Terminals: Screwless max. 16A
Cable type: Single or multi-core max 2.5mm², with insulated ferrules max 1.5mm²

Electronic Outputs:

Load outputs: Zero voltage switch or phase cut-on dimmer
Resolution: 200 steps in dimming mode
Power output: 2000VA (2kW @ cosφ=1)
Overload characteristic: 2 x 4kW max 30s
Power loss: 1% apparent power, max 50W at full load
Minimum load: 50W in dimming mode
Fuses at outputs: 10A RCD
Fuse fault identification: Yes
Temperature limiter: Yes

Control outputs:

Conductor type: max 0.8mm Ø
0/10V mode:
Supply current: max 0.5mA
Load current: max 40mA

DSI output: Max 20 electronic ballasts
DALI output: Max 16 electronic ballasts

Ports:

T-, I-, P- Port available

General details:

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

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 an electronic ballast control unit of the respective (EVG) manufacturers.

