Assembly instructions for mounting and installing of electronic control-gear for LED´s

Regulations

DIN VDE 0100	Regulations for erection of power installations with nominal voltages up to 1000 V
EN 61347-1	Devices for lamps – part 1: general and safety requirements
EN 61347-2-13	Lamp control gear - Part 2-13: Particular requirements for DC or AC supplied electronic control gear for LED modules
EN 62384	DC or AC supplied electronic control gear for LED modules – Performance requirements
EN 61000-3-2	Electromagnetic Compatibility (EMC) – part 3: maximum values – main section part 2: maximum values for mains harmonics (device input current up to and including 16 A per conductor)
EN 55015	Maximum values and methods of measurement for RFI suppression in electrical lighting installations and similar electrical appliances
EN 61547	Installations for general lighting purposes – EMC immunity requirements

Mechanical mounting of LED-control gears

Mounting position	any position is allowed
Clearance	min. of 0.1 m from walls, ceilings, insulation; min. of 0.1 m from other electronic converters: min. of 0.25 m from sources of heat (lamp)
Surface	Solid; device must not sink into insulating material
Mounting location	In dry rooms or in luminaries, cases, casings or similar in the instance of built-in or independent converters
Fastening	By screws, ø4 mm.
Heat transfer	If for installation in a luminary by sufficient heat transfer must be ensured between the control gear and the luminary casing. During operation, the tc point must not exceed the specified value (see temperature stated on the label)

VS control gear safety functions

Overheating protection
The temperature reduces output current of the control gear in the event of overheating.

Short circuit protection
The control gear is electronically protected in the event of a short-circuit on the secondary side; once the short-circuit has been eliminated, the converter will switch on again automatically.

No Load protection The control gear is protected against no load operation. After triggering the control gear must be restarted manually by off/on.

Should any of the above-mentioned safety functions be triggered, disconnect the converter from the power supply for at least one minute, then find and eliminate the cause of the problem.

Protection against transient mains peaks Values compliant with EN 61547 (immunity)

Dimming – frequency 976Hz

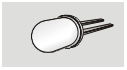
1-10V Dimmable by 1-10V interface

Current selection

Selection of current Selectable by rotary switch

Default setting 1 – 900mA

Adjustment	Nominal Current mA
1	900
2	1050
3	1200
4	1400



Thermal protection of module

Protection component NTC thermistor on LED module with nominal value 220kΩ

NTC on LED module 220kΩ	
R (kΩ)	**Nominal current (%)**
34	100
27	60
16	0 (off)

Selection of automatic cut-outs for VS converters

Release reaction — Release reaction of automatic cut-outs in accordance with VDE 0641, part 11 for B-, C-characteristics. The following values are guidelines and may vary depending on the respective circuit breaker system.

No. of converters — The maximum number of VS converters applies to cases where the devices are switched on simultaneously. Specifications apply to single-poled fuses. The number of permissible ballasts must be reduced by 20 % for multi-pole fuses. The considered circuit impedance equals 400 mΩ (approx. 20 m [2.5 mm²] of conductor from the power supply to the distributor and a further 15 m to the luminary).

Possible number of control gear				
Current source	Type of automatic cutout			
	B 10 A	B 16 A	C 10 A	C 16 A
ECXd 1400.025	32	52	32	52

Electrical installation

Conductors — Primary, 1-10 interface and Secondary conductor cross section: min. 0.5mm² and max 1.5 mm²
NTC conductor cross section: min. 0.2mm² and max 0.5 mm²

Cross section	Max lead length of secondary conductors	
	build-in	independent
0,5 mm²	1 m	tbd
0,75 mm²	1 m	tbd
1,0 mm²	1 m	tbd
1,5 mm²	1 m	tbd

Connections — Push in terminals.

Terminals primary — 1x2 – 2xMains
1x2 – 1-10V interface

Terminals secondary — 1x2 – NTC input
1x2 – Secondary output

Wiring — Primary wires must be as short as possible, and shouldn't cross or be besides with secondary wires.

Secondary load — The RFI requirements according EN 55015 for in series connected LED-Modules are fulfilled when the sum of forward voltages of LED-loads isn't below or above the values showed in table 1 under U_{SEC} (with load).

Parallel connection — Secondary side parallel connection not admissible

Switching on and off — On the secondary side NOT admissible

Change load — Change of LED load only with switched off control gear.

Lead preperation	
a	8.5-9.5 mm

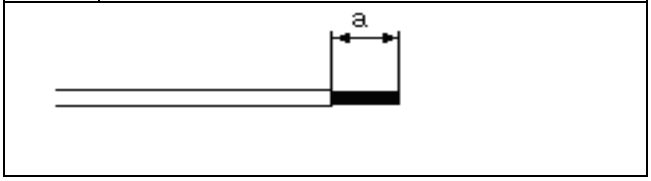


Table 1

Electronic control gear for LEDs												
Type	**Ref. no.**	U_{PRI} 0/ 50/60 Hz [V]	Nominal Input current (I_{PRI}) [mA]	U_{SEC} (with load) [V]	U_{SEC} (max) [V]	$P_{SEC\ max.}$ [W]	Nominal output current (I_{SEC}) [A]	Max. tc temp. t_c (°C)	Min/Max. Ambient temperature t_a [°C]	Protection class	Degree of protection	Weight [g]
ECXd 1400.025	**186208**	198-264 220-240	350-265 315-290	20-43	52	60	0,9 +5/-10% 1,05 +5/-10% 1,2 +5/-10% 1,4 +5/-10%	85	-20/50	II	IP20	230
ECXd 1400.025	**186209**	176-264 220-240	350-265 315-290	20-43	52	60	0,9 +5/-10% 1,05 +5/-10% 1,2 +5/-10% 1,4 +5/-10%	85	-20/50	II	IP20	270