



200W Constant Voltage PWM Output KNX LED Driver **PWM-200KN** series



■ Features

- Constant Voltage PWM style output with user changeable frequency up to 4KHz compliant IEEE1789-2015 and EU Ecodesign SVM requirement
- Min. dimming level 0.01%
- Plastic housing with class II design
- Standby power consumption < 0.5W
- Support KNX Data Secure
- No need KNX-DALI gateway
- Typical lifetime > 50000 hours
- 5 years warranty

■ Applications

- LED strip lighting
- Indoor LED lighting
- LED decorative lighting
- LED architecture lighting
- Type "HL" for use in class I, division 2 hazardous (classified) location.
- Cove lighting
- Industrial lighting

■ GTIN CODE

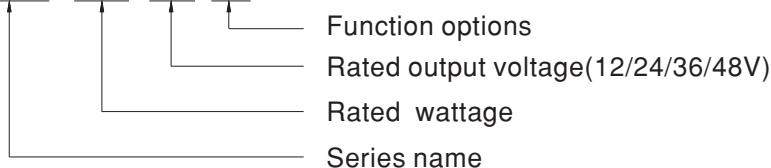
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

■ Description

PWM-200KN series is a 200W AC/DC LED driver featuring the constant voltage mode with PWM style output, which is able to maintain the colour temperature and the brightness homogeneity when driving all kinds of LED strips and constant voltage LED bulbs. The built-in KNX interface is to avoid using the complicated KNX-DALI gateway and equipped with KNX Data Secure. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. PWM-200KN operates from 100~305VAC and offers models with output voltage between 12V & 48V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40°C ~ +85°C case temperature under free air convection. The minimal dimming level low to 0.01% is suitable for low light level applications e.g. cinema. The output frequency is changeable up to 4KHz complaint IEEE1789-2015 no risk requirement and EU Ecodesign stroboscopic visibility measure (SVM) requirement providing a great solution for health concern due to light flickering.

■ Model Encoding

PWM - 200 - 48



| Type | Function | Note |
|------|------------------------|----------|
| KN | KNX control technology | In stock |

SPECIFICATION

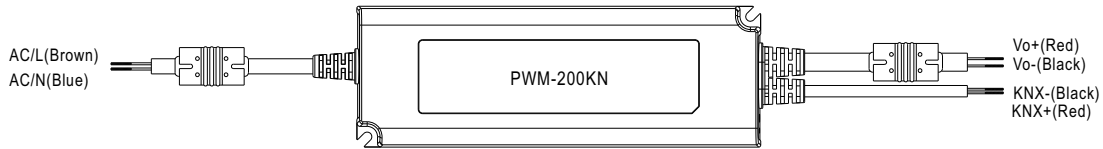
| MODEL | | PWM-200-12 <input type="checkbox"/> | PWM-200-24 <input type="checkbox"/> | PWM-200-36 <input type="checkbox"/> | PWM-200-48 <input type="checkbox"/> |
|--------------|--|--|-------------------------------------|-------------------------------------|-------------------------------------|
| OUTPUT | DC VOLTAGE | 12V | 24V | 36V | 48V |
| | RATED CURRENT | 15A | 8.3A | 5.55A | 4.17A |
| | RATED POWER | 180W | 199.2W | 199.8W | 200.1W |
| | DIMMING RANGE | 0 ~ 100% | | | |
| | PWM FREQUENCY (Typ.) | 200~4000Hz user changable via ETS | | | |
| | SETUP, RISE TIME Note.2 | 500ms, 80ms/230VAC, 1200ms, 80ms/115VAC | | | |
| | HOLD UP TIME (Typ.) | 10ms/230VAC or 115VAC | | | |
| INPUT | VOLTAGE RANGE Note.3 | 100 ~ 305VAC 142 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section) | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | |
| | POWER FACTOR (Typ.) | PF>0.97/115VAC, PF>0.96/230VAC, PF>0.94/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section) | | | |
| | TOTAL HARMONIC DISTORTION | THD<20%(@load≥60%/115VAC, 230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION" section) | | | |
| | EFFICIENCY (Typ.) | 92% | 93% | 94% | 94% |
| | AC CURRENT (Typ.) | 2.2A / 115VAC | 1.1A / 230VAC | 0.9A / 277VAC | |
| | INRUSH CURRENT (Typ.) | COLD START 65A(twidth=550μs measured at 50% Ipeak) at 230VAC; Per NEMA 410 | | | |
| | MAX. NO. of PSUs on 16A CIRCUIT BREAKER | 3 units (circuit breaker of type B) / 5 units (circuit breaker of type C) at 230VAC | | | |
| | LEAKAGE CURRENT | <0.75mA / 277VAC | | | |
| | STANDBY POWER CONSUMPTION | standby power consumption<0.5W when dimming off | | | |
| PROTECTION | OVERLOAD | 108 ~ 135% rated output power Hiccup mode or Constant current limiting, recovers automatically after fault condition is removed | | | |
| | SHORT CIRCUIT | Shut down o/p voltage, re-power on to recover | | | |
| | OVER VOLTAGE | 13 ~ 18V | 27 ~ 34V | 41 ~ 49V | 53 ~ 65V |
| | OVER TEMPERATURE | Shut down o/p voltage, re-power on to recover after fault condition is removed | | | |
| ENVIRONMENT | WORKING TEMP. | Tcase=-40 ~ +85°C (Please refer to " OUTPUT LOAD vs TEMPERATURE" section) | | | |
| | MAX. CASE TEMP. | Tcase=+85°C | | | |
| | WORKING HUMIDITY | 20 ~ 95% RH non-condensing | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | |
| SAFETY & EMC | SAFETY STANDARDS Note.5 | UI8750(type "HL"), CSA C22.2 No. 250.13-12; ENEC BS EN/EN61347-1, BS EN/EN61347-2-13,BS EN/EN62384 independent, EAC TP TC 004, GB19510.1,GB19510.14, IS15885(Part2/Sec13)(except for 36V) approved; Design refer to BS EN/EN60335-1, According to BS EN/EN61347-2-13 appendix J suitable for emergency installations | | | |
| | KNX STANDARDS | Certified protocol | | | |
| | WITHSTAND VOLTAGE | I/P-O/P: 3.75KVAC | | | |
| | ISOLATION RESISTANCE | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH | | | |
| | EMC EMISSION Note.6 | Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load≥60%) ; BS EN/EN61000-3-3, GB/T 17743, GB17625.1;EAC TP TC 020 | | | |
| EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level (surge immunity, Line-Line 2KV),EAC TP TC 020 | | | | |
| OTHERS | MTBF | 1658.9 K hrs min. Telcordia SR-332 (Bellcore) ; 170 .0K hrs min. MIL-HDBK-217F (25°C) | | | |
| | DIMENSION | 195*68*39.5mm (L*W*H) | | | |
| | PACKING | 1.03Kg; 12pcs/13.4Kg/0.71CUFT | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 3. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 4. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. (as available on https://www.meanwell.com/Upload/PDF/EML_statement_en.pdf) 5. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75°C or less. 6. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com 7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). 8. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf 9. It is not recommended to connect to capacitive loads 10. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains. ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx | | | | |



200W PWM Output KNX LED Driver

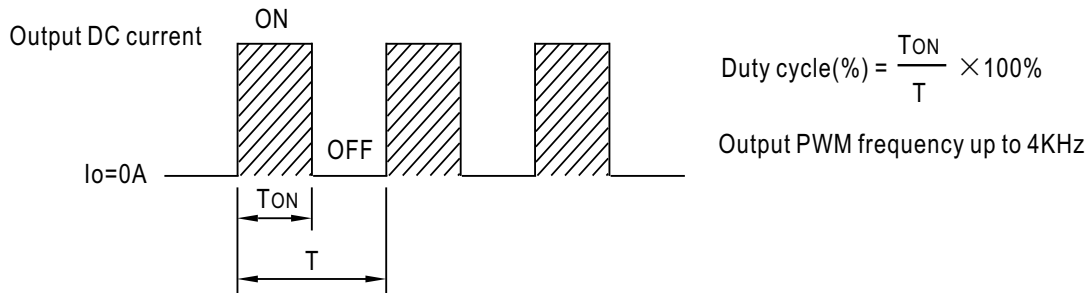
PWM-200KN series

■ DIMMING OPERATION



※ **Dimming principle for PWM style output**

- Dimming is achieved by varying the duty cycle of the output current.



※ **KNXInterface**

- Apply KNX signal between KNX+ and KNX-.

The application program(database) can be downloaded via Online Catalogs from ETS or via <http://www.meanwell.com/productCatalog.aspx>

| Parametrization options | Description |
|-------------------------|--|
| Switch functions | Turn on brightness Dimming speed for turn on/off Switch telegram and status Switch on/off delay |
| Dimming | Dimming speed for 0~100% Allow switch on via relative dimming |
| Brightness value | Dimming speed for transition brightness values Permit set switch on and off brightness via value Brightness value and status |

More parameters can be found in the ETS application database and instruction manual

The device is equipped with KNX Data Secure. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed specialist knowledge is required. A device certificate, which is attached to the device, is required for the first configuration. After configuration and ready for runtime (daily) operation, it is recommended to remove the certificate from the device and to store it securely. For details, please refer to the instruction manual.

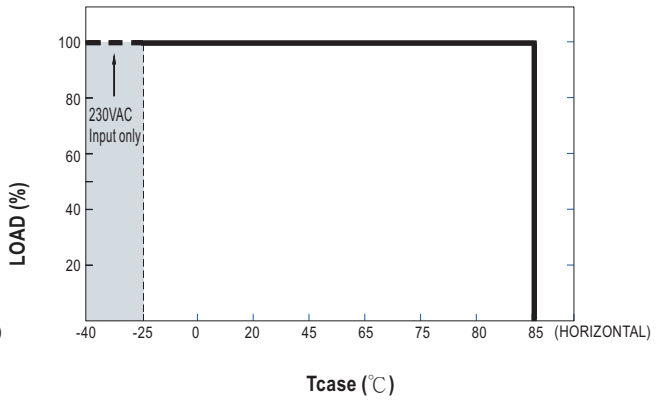
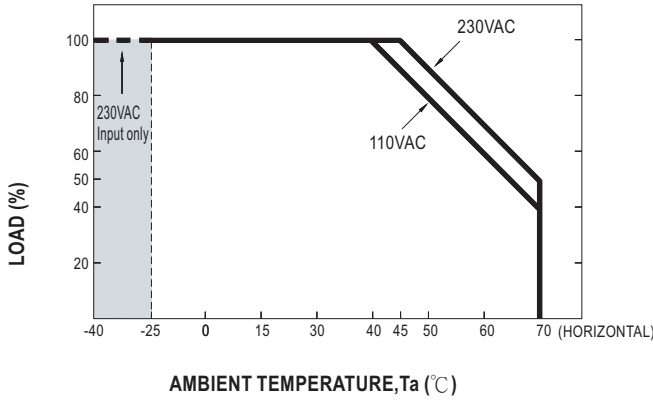




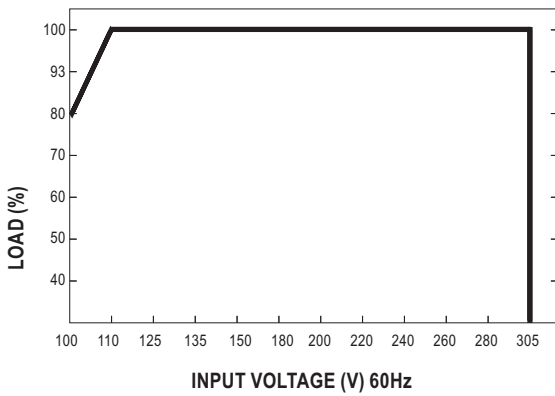
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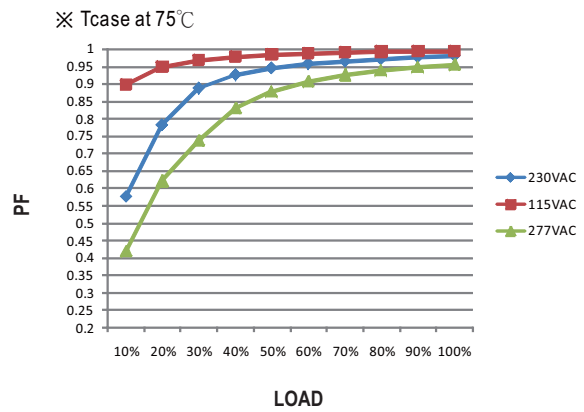
OUTPUT LOAD vs TEMPERATURE



STATIC CHARACTERISTIC

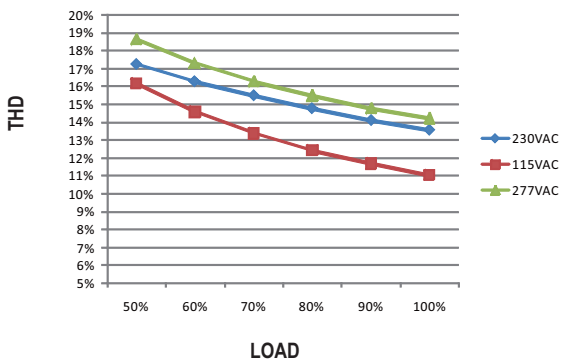


POWER FACTOR (PF) CHARACTERISTIC



TOTAL HARMONIC DISTORTION (THD)

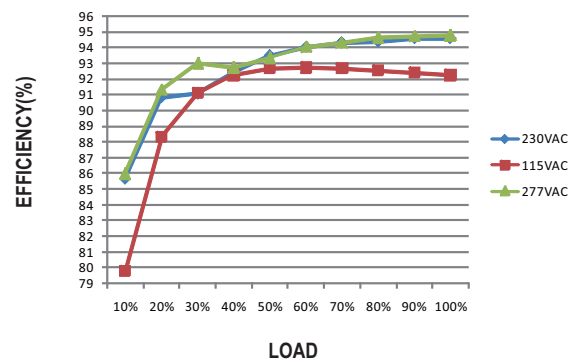
※ 48V Model, T_{case} at 75°C



EFFICIENCY vs LOAD

PWM-200KN series possess superior working efficiency that up to 94% can be reached in field applications.

※ 48V Model, T_{case} at 75°C

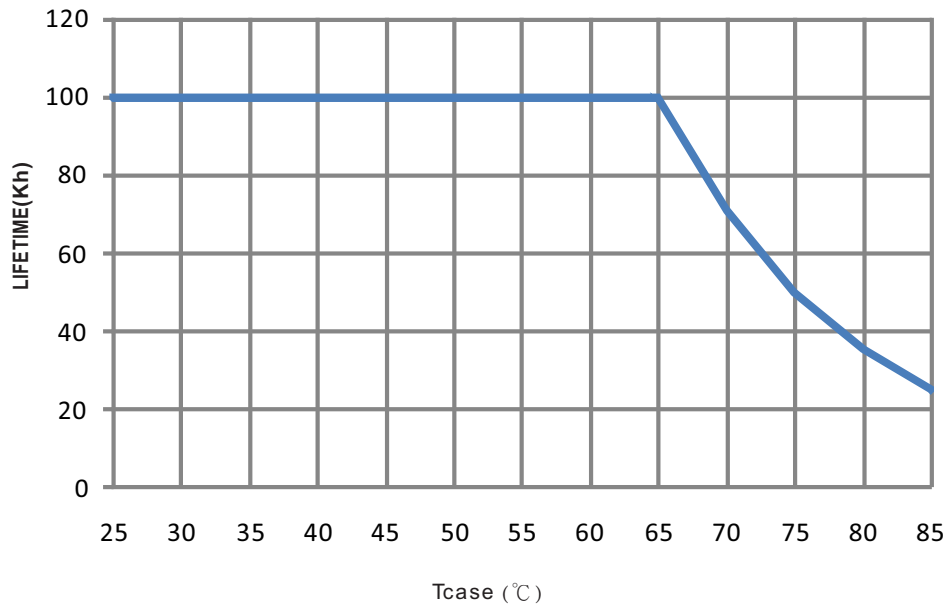




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PWM-200KN series

■ LIFE TIME

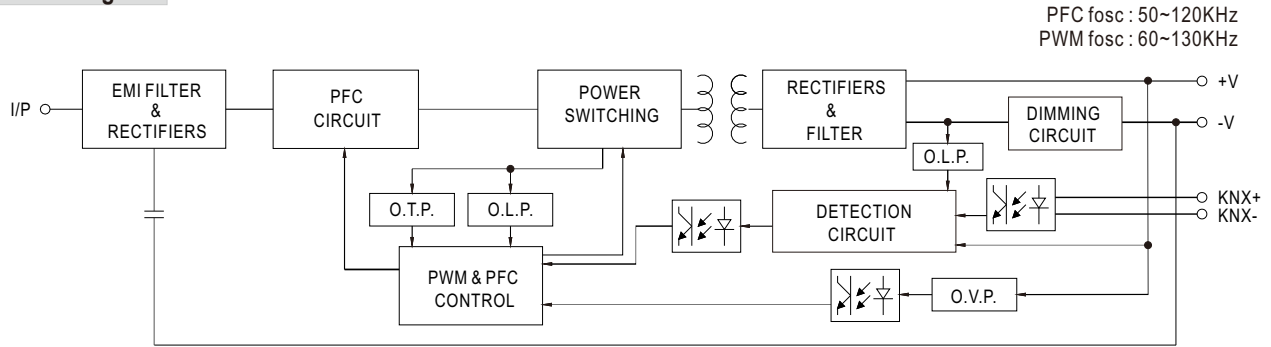




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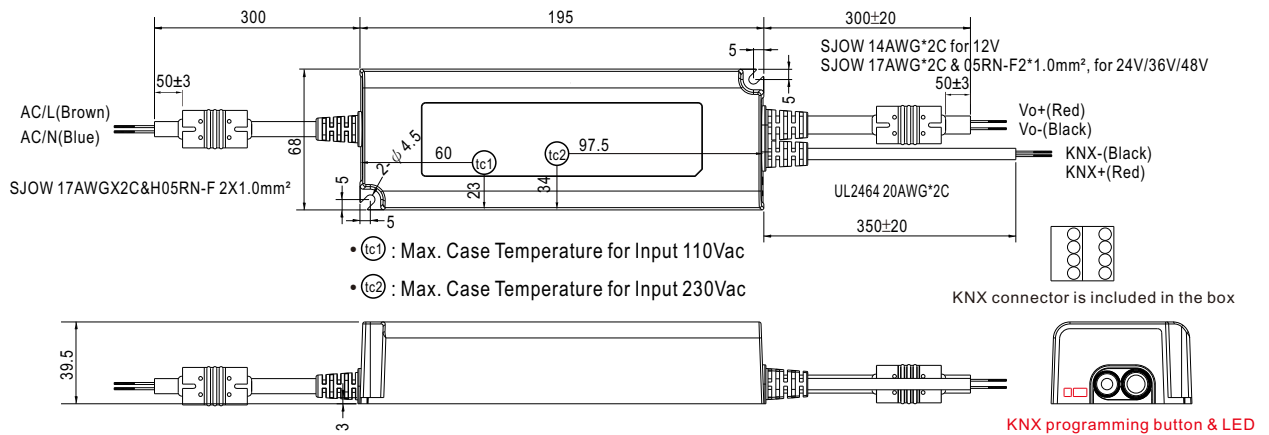
PWM-200KN series

Block Diagram



Mechanical Specification

Case No. PWM-200 Unit:mm

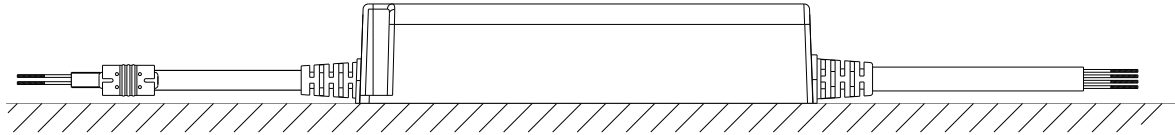




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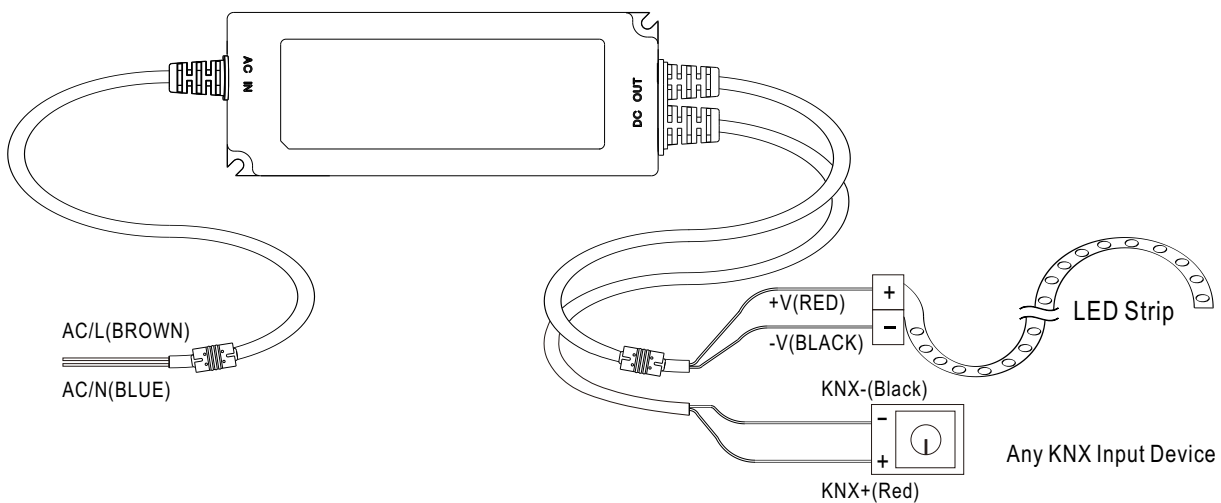
PWM-200KN series

■ Recommend Mounting Direction



■ Installation Manual

◎ Connection for KN-type



◎ Cautions

- Before commencing any installation or maintenance work, please disconnect the power supply from the utility. Ensure that it cannot be re-connected inadvertently!
- Keep proper ventilation around the unit and do not stack any object on it. Also a 10-15 cm clearance must be kept when the adjacent device is a heat source.
- Mounting orientations other than standard orientation or operate under high ambient temperature may increase the internal component temperature and will require a de-rating in output current.
- Current rating of an approved primary /secondary cable should be greater than or equal to that of the unit. Please refer to its specification.
- For LED drivers with waterproof connectors, verify that the linkage between the unit and the lighting fixture is tight so that water cannot intrude into the system.
- Tc max. is identified on the product label. Please make sure that temperature of Tc point will not exceed limit.
- DO NOT connect "KNX- to -V".
- The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.