



60W Constant Voltage + Constant Current LED Driver

HLG-60H series



■ Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

■ Applications

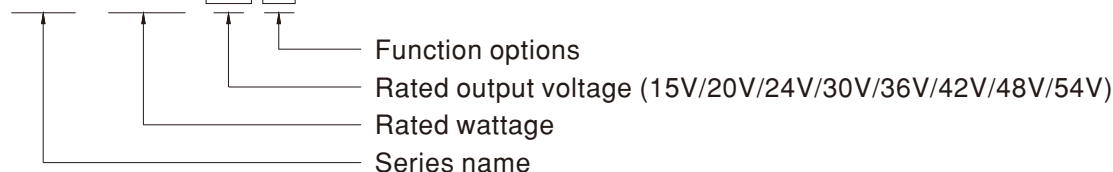
- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type “HL” for use in Class I , Division 2 hazardous (Classified) location.

■ Description

HLG-60H series is a 60W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-60H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 15V and 54V. Thanks to the high efficiency up to 90.5%, with the fanless design, the entire series is able to operate for -40°C ~ +80°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-60H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding

HLG - 60H - 42 A

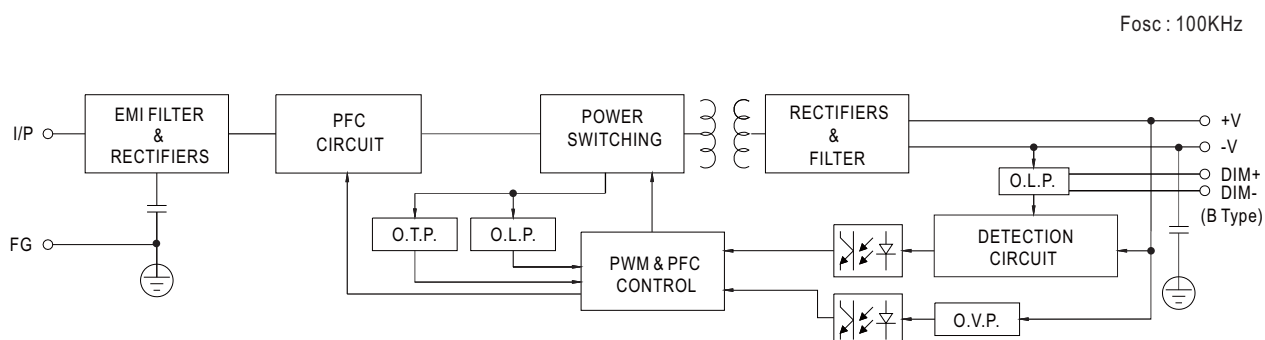


| Type | IP Level | Function | Note |
|-------|----------|--|------------|
| Blank | IP67 | Io and Vo fixed | In Stock |
| A | IP65 | Io and Vo adjustable through built-in potentiometer | In Stock |
| B | IP67 | 3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance) | In Stock |
| AB | IP65 | Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance) | In Stock |
| D | IP67 | Timer dimming function, contact MEAN WELL for details(safety pending). | By request |

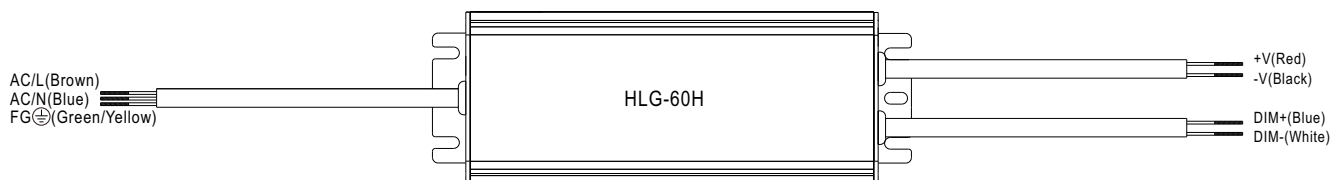


SPECIFICATION

| MODEL | | HLG-60H-15 | HLG-60H-20 | HLG-60H-24 | HLG-60H-30 | HLG-60H-36 | HLG-60H-42 | HLG-60H-48 | HLG-60H-54 |
|--------------|---|---|------------|------------|------------|------------|------------|------------|------------|
| OUTPUT | DC VOLTAGE | 15V | 20V | 24V | 30V | 36V | 42V | 48V | 54V |
| | CONSTANT CURRENT REGION <small>Note.4</small> | 9 ~ 15V | 12 ~ 20V | 14.4 ~ 24V | 18 ~ 30V | 21.6 ~ 36V | 25.2 ~ 42V | 28.8 ~ 48V | 32.4 ~ 54V |
| | RATED CURRENT | 4A | 3A | 2.5A | 2A | 1.7A | 1.45A | 1.3A | 1.15A |
| | RATED POWER | 60W | 60W | 60W | 60W | 61.2W | 60.9W | 62.4W | 62.1W |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 200mVp-p | 300mVp-p | 300mVp-p | 300mVp-p |
| | VOLTAGE ADJ. RANGE | Adjustable for A/AB-Type only (via built-in potentiometer) 13.5 ~ 17V 17 ~ 22V 22 ~ 27V 27 ~ 33V 33 ~ 40V 40 ~ 46V 44 ~ 53V 49 ~ 58V | | | | | | | |
| | CURRENT ADJ. RANGE | Adjustable for A/AB-Type only (via built-in potentiometer) 2.4 ~ 4A 1.8 ~ 3A 1.5 ~ 2.5A 1.2 ~ 2A 1 ~ 1.7A 0.87 ~ 1.45A 0.78 ~ 1.3A 0.69 ~ 1.15A | | | | | | | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ± 2.0% | ± 1.0% | ± 1.0% | ± 1.0% | ± 1.0% | ± 1.0% | ± 1.0% | ± 1.0% |
| | LINE REGULATION | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% |
| | LOAD REGULATION | ± 1.5% | ± 1.0% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% |
| INPUT | SETUP, RISE TIME <small>Note.6</small> | 500ms,80ms/115VAC 500ms,80ms/230VAC | | | | | | | |
| | HOLD UP TIME (Typ.) | 16ms / 115VAC, 230VAC | | | | | | | |
| | VOLTAGE RANGE <small>Note.5</small> | 90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section) | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | |
| | POWER FACTOR (Typ.) | PF ≥ 0.98/115VAC, PF ≥ 0.95/230VAC, PF ≥ 0.92/277VAC @ 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 (THD)" section) | | | | | | | |
| | EFFICIENCY (Typ.) | 87.5% | 89% | 89.5% | 90% | 90% | 90% | 90.5% | 90.5% |
| | AC CURRENT (Typ.) | 0.64A / 115VAC 0.32A / 230VAC 0.3A / 277VAC | | | | | | | |
| | INRUSH CURRENT(Typ.) | COLD START 55A(t _{width} =265μs measured at 50% I _{peak}) at 230VAC; Per NEMA 410 | | | | | | | |
| | MAX. No. of PSUs on 16A CIRCUIT BREAKER | 9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC | | | | | | | |
| PROTECTION | OVER CURRENT <small>Note.4</small> | 95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed | | | | | | | |
| | SHORT CIRCUIT | Hiccup mode, recovers automatically after fault condition is removed | | | | | | | |
| | OVER VOLTAGE | 18 ~ 24V | 23 ~ 30V | 28 ~ 35V | 35 ~ 43V | 41 ~ 49V | 48 ~ 58V | 54 ~ 65V | 59 ~ 68V |
| | OVER TEMPERATURE | Shut down o/p voltage, re-power on to recover | | | | | | | |
| | WORKING TEMP. | T _{case} = -40 ~ +80°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section) | | | | | | | |
| ENVIRONMENT | MAX. CASE TEMP. | T _{case} = +80°C | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 95% RH non-condensing | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH | | | | | | | |
| | TEMP. COEFFICIENT | ± 0.03%/°C (0 ~ 60°C) | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes | | | | | | | |
| SAFETY & EMC | SAFETY STANDARDS <small>Note.8</small> | UL8750(type"HL"), CSA C22.2 No. 250.0-08, EN/AS/NZS 61347-1,EN/AS/NZS 61347-2-13 independent, GB19510.1,GB19510.14,EAC TP TC 004,KC61347-1,KC61347-2-13(except for AB-type), IP65 or IP67 approved ; J61347-1, J61347-2-13 (except for B,AB and D-type) ; design refer to UL60950-1, TUV EN60950-1, EN60335-1 | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | |
| | EMC EMISSION <small>Note.8</small> | Compliance to EN55015, EN61000-3-2 Class C (@ load ≥ 60%) ; EN61000-3-3,GB17743 and GB17625.1, EAC TP TC 020 | | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020 | | | | | | | |
| OTHERS | MTBF | 1132K hrs min. Telcordia SR-332 (Bellcore) ; 338K hrs min. MIL-HDBK-217F (25°C) | | | | | | | |
| | DIMENSION | 171*61.5*36.8mm (L*W*H) | | | | | | | |
| | PACKING | 0.73Kg; 20pcs/15.6Kg/0.9CUFT | | | | | | | |
| NOTE | | <ol style="list-style-type: none">All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.Tolerance : includes set up tolerance, line regulation and load regulation.Please refer to "DRIVING METHODS OF LED MODULE".De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.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.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.To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.This series meets the typical life expectancy of >62,000 hours of operation when T_{case}, particularly (T_c) point (or TMP, per DLC), is about 70°C or less.Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.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).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 | | | | | | | |



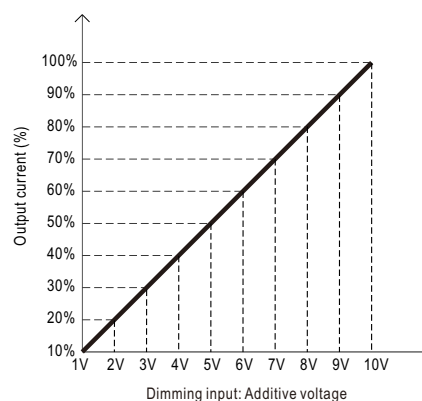
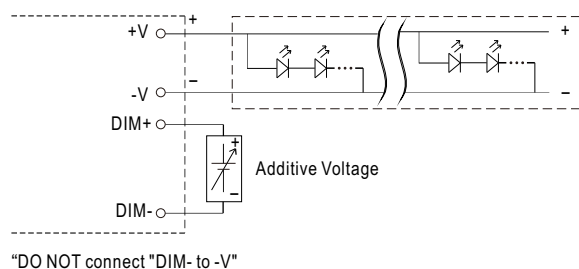
DIMMING OPERATION



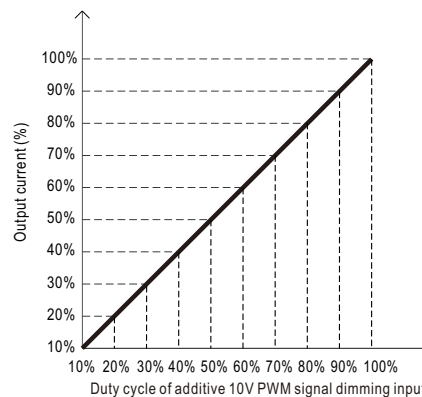
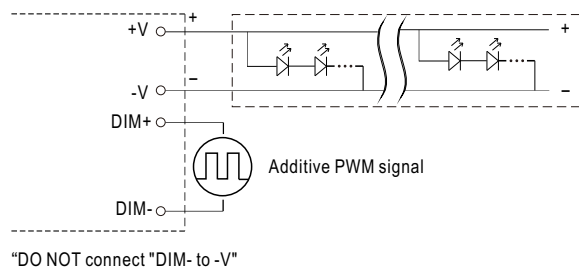
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 μ A (typ.)

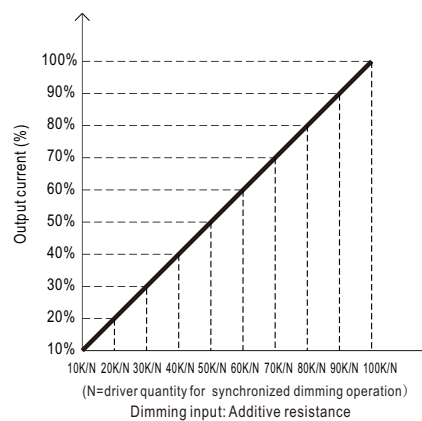
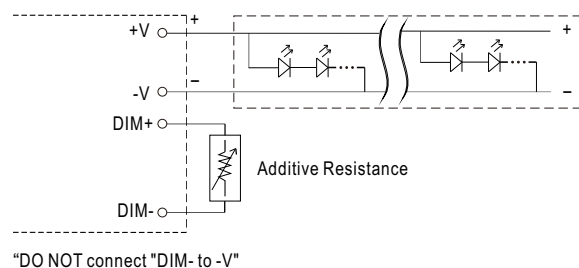
◎ Applying additive 1 ~ 10VDC



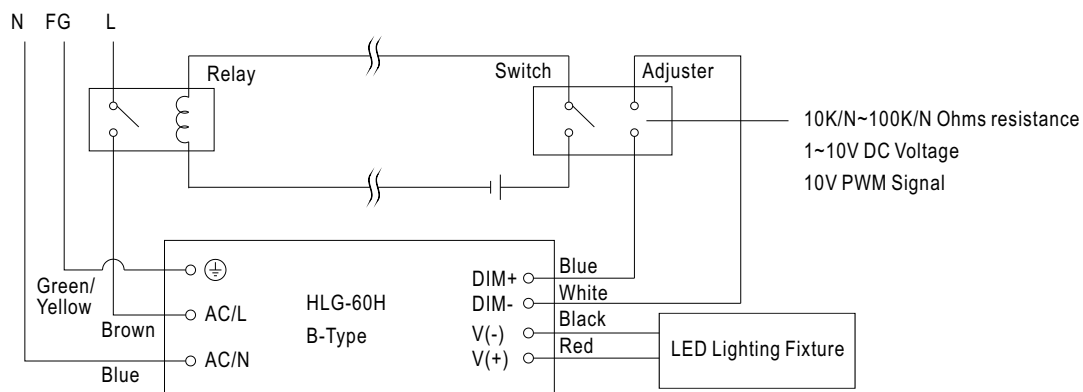
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



◎ Applying additive resistance:

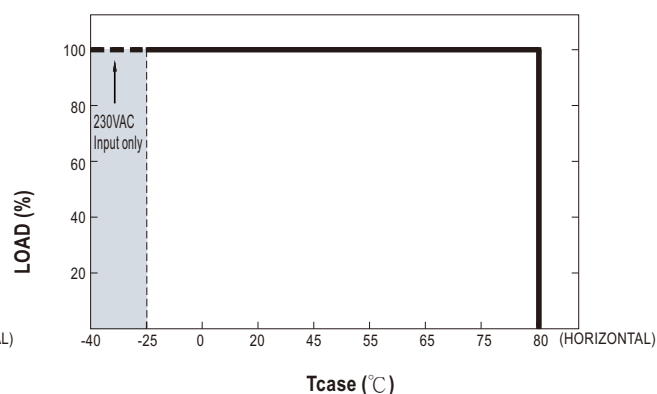
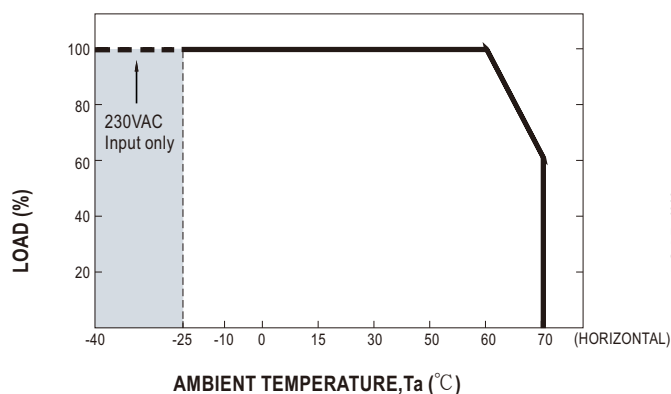


Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.

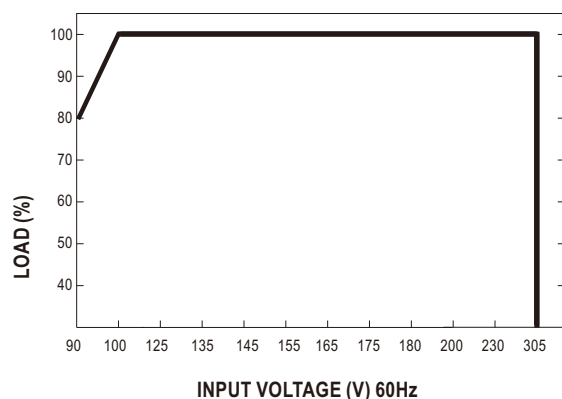


Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)



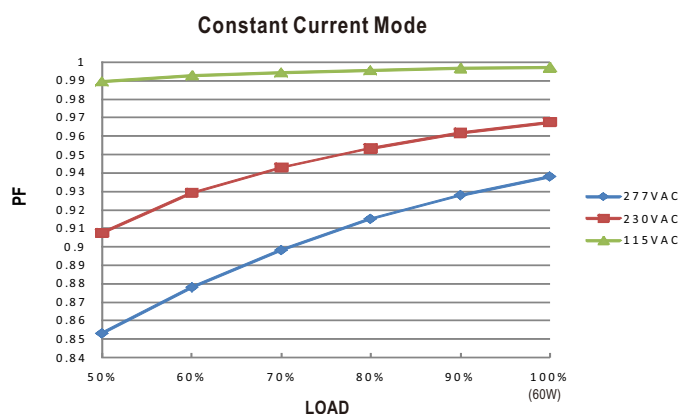
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

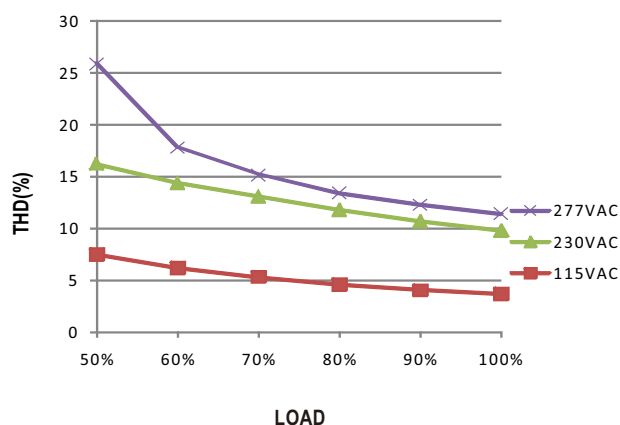
■ POWER FACTOR(PF) CHARACTERISTIC

※ T_{case} at 70°C



■ TOTAL HARMONIC DISTORTION (THD)

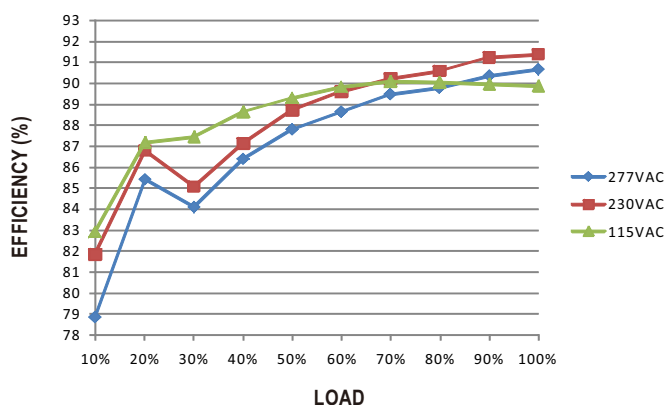
※ 48V Model, T_{case} at 70°C



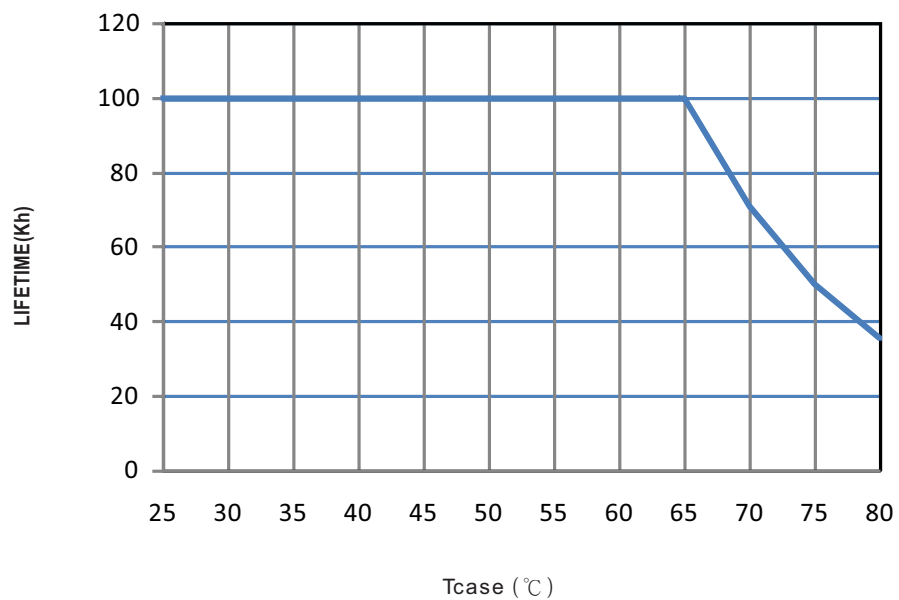
■ EFFICIENCY vs LOAD

HLG-60H series possess superior working efficiency that up to 90.5% can be reached in field applications.

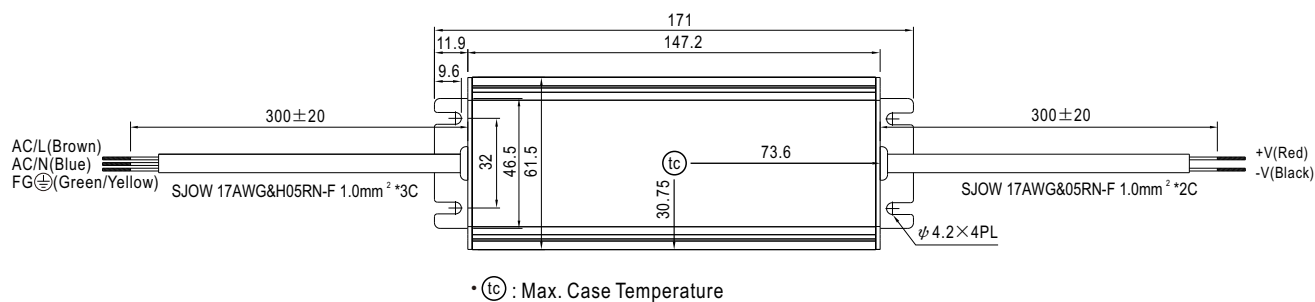
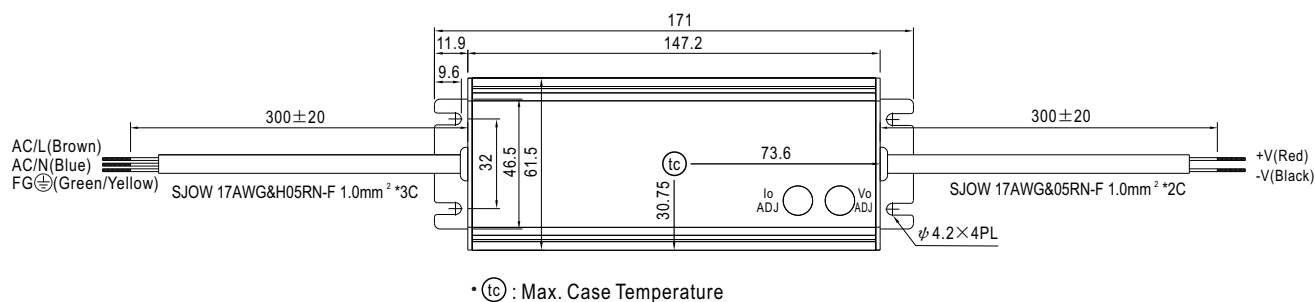
※ 48V Model, T_{case} at 70°C



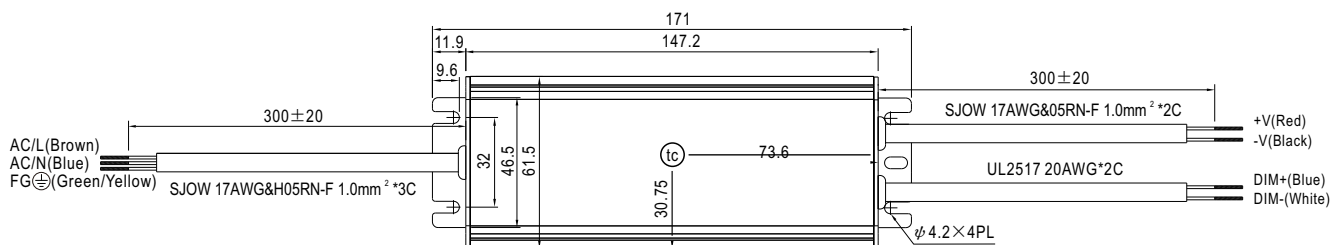
■ LIFE TIME



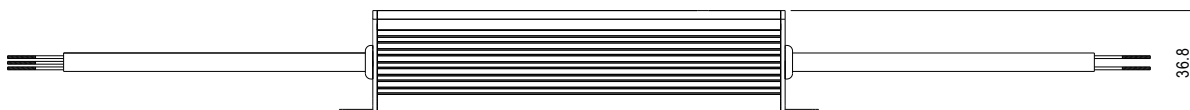
Case No.957B Unit:mm

MECHANICAL SPECIFICATION
※Blank/D-Type

※A-Type


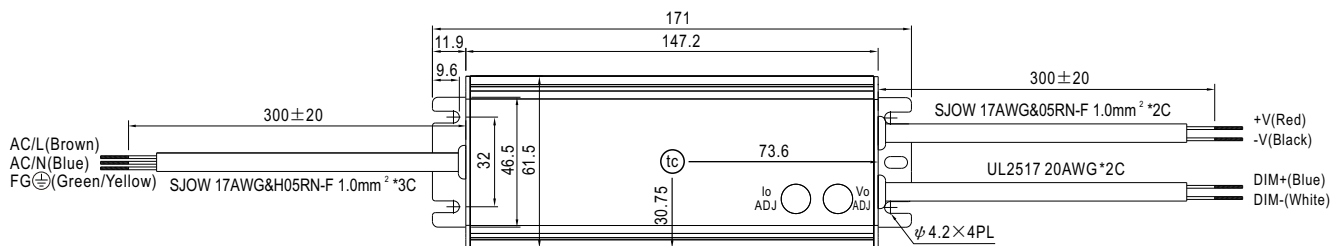
※B-Type



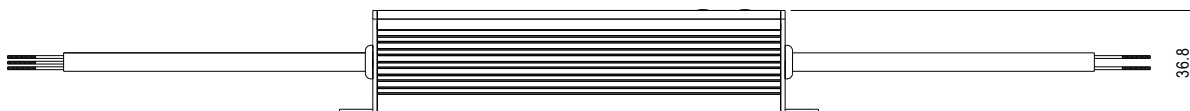
• (tc) : Max. Case Temperature



※AB-Type



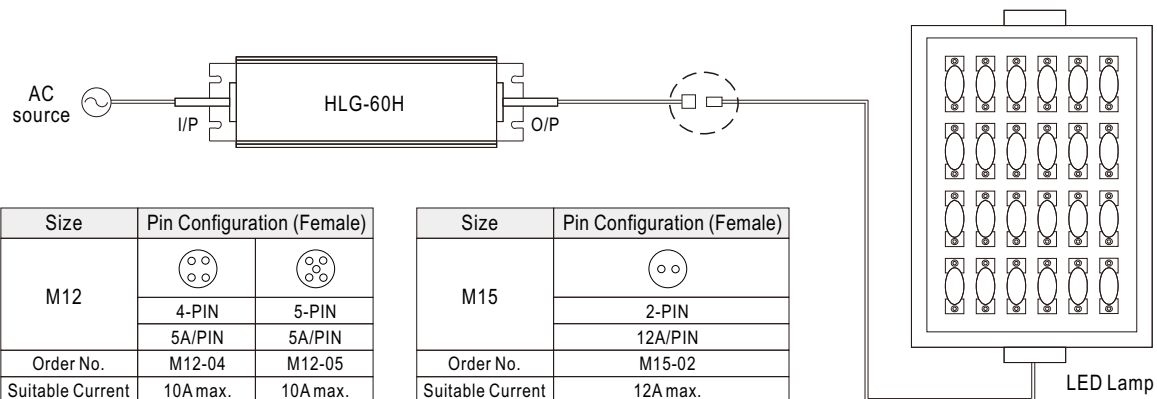
• (tc) : Max. Case Temperature



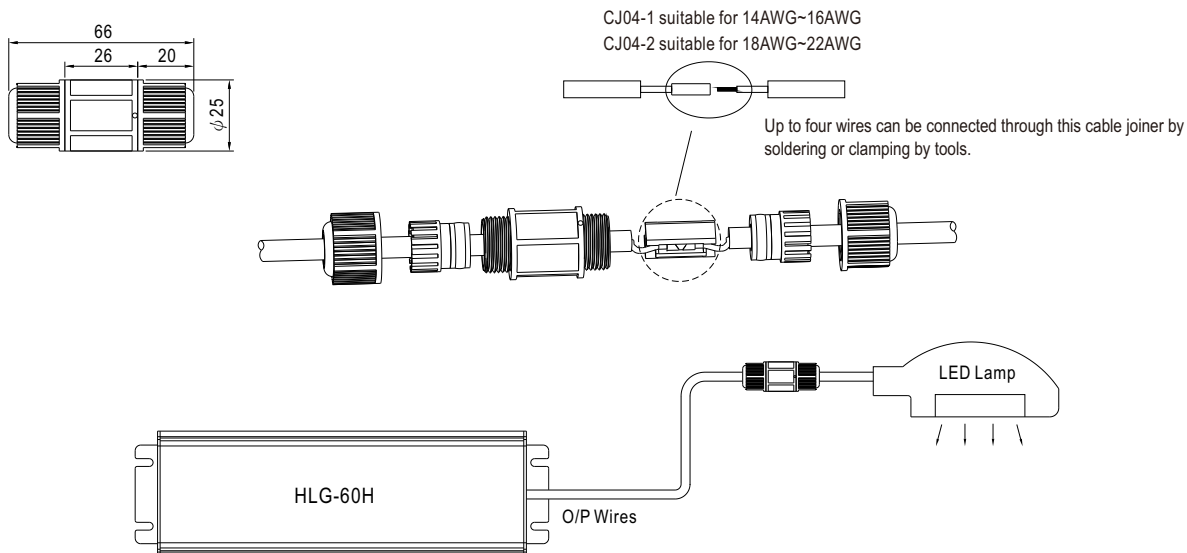
■ WATERPROOF CONNECTION

※ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-60H to operate in dry/wet/damp or outdoor environment.



※ Cable Joiner



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>