



105~150W Class II Constant Current Mode LED Driver **ELGT-150-C series**



■ Features

- Metal housing design with functional Ground
- Class II design
- Constant Current mode output
- Built-in active PFC function
- No load / Standby power consumption <0.5W
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer;
3 in 1 dimming (dim-to-off); Smart timer dimming; DALI;
- Typical lifetime>50000 hours
- 5 years warranty

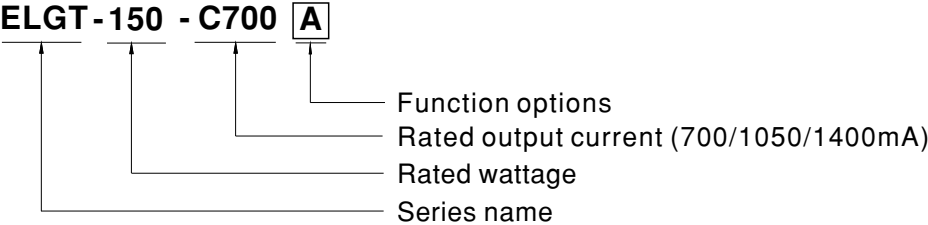
■ Applications

- LED street lighting
- LED harbor lighting
- LED bay lighting
- LED greenhouse lighting
- LED flood lighting
- Comply with class II application

■ Description

ELGT-150-C series is a 105~150W LED AC/DC classII driver featuring the constant current mode and high voltage output. ELGT-150-C operates from 100~305VAC and offers models with different rated current ranging between 700mA and 1400mA. Thanks to the high efficiency up to 92%, with the fanless design, the entire series is able to operate for -40℃~+90℃ 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. ELGT-150-C is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding



| Type | IP Level | Function |
|-------|----------|---|
| Blank | IP67 | Io fixed. |
| A | IP65 | Io adjustable through built-in potentiometer. |
| B | IP67 | 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance) |
| AB | IP65 | Io adjustable through built-in potentiometer& 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance) |
| DA | IP67 | DALI control technology. |
| D2 | IP67 | Built-in Smart timer dimming and programmable function. |

SPECIFICATION

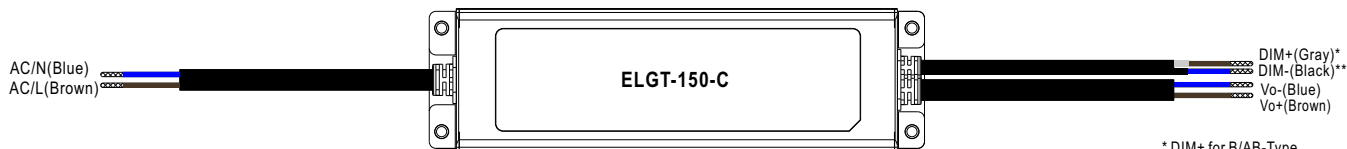
| MODEL | | ELGT-150-C700 □ | ELGT-150-C1050 □ | ELGT-150-C1400 □ |
|-----------------------------------|--|---|------------------|---------------------|
| OUTPUT | RATED CURRENT | 700mA | 1050mA | 1400mA |
| | RATED POWER | 200VAC ~ 305VAC | | |
| | | 149.8W | 150.15W | 149.8W |
| | | 100VAC ~ 180VAC | | |
| | | 105W | 105W | 105W |
| | CONSTANT CURRENT REGION <small>Note.2</small> | 107 ~ 214V | 72 ~ 143V | 54 ~ 107V |
| | OPEN CIRCUIT VOLTAGE _(max.) | 225V | 151V | 115V |
| | CURRENT ADJ. RANGE | Adjustable for A/AB-Type only (via built-in potentiometer) | | |
| | | 350 ~ 700mA | 525 ~ 1050mA | 700 ~ 1400mA |
| CURRENT RIPPLE | 5.0% max. @rated current | | | |
| CURRENT TOLERANCE | ±5.0% | | | |
| SET UP TIME <small>Note.4</small> | 1600ms/115VAC 500ms/230VAC | | | |
| INPUT | VOLTAGE RANGE <small>Note.3</small> | 100 ~ 305VAC 142 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section) | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | |
| | POWER FACTOR <small>(Typ.)</small> | PF ≥ 0.97/115VAC, PF ≥ 0.95/230VAC, PF ≥ 0.92/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section) | | |
| | TOTAL HARMONIC DISTORTION | THD< 20%(@load≥50%/115VC; @load≥60%/230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section) | | |
| | EFFICIENCY <small>(Typ.)</small> | 92% | 92% | 91% |
| | AC CURRENT <small>(Typ.)</small> | 1.7A / 115VAC 0.9A / 230VAC 0.7A/277VAC | | |
| | INRUSH CURRENT _(Typ.) | COLD START 65A(twidth=485μs measured at 50% Ipeak)/230VAC; Per NEMA 410 | | |
| | MAX. No. of PSUs on 16A CIRCUIT BREAKER | 3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC | | |
| | LEAKAGE CURRENT | <0.7mA / 240VAC | | |
| | NO LOAD / STANDBY POWER CONSUMPTION | No load power consumption <0.5W for Blank / A / D2-Type Standby power consumption <0.5W for B / DA-Type | | |
| PROTECTION | SHORT CIRCUIT | Hiccup mode, recovers automatically after fault condition is removed | | |
| | OVER VOLTAGE | 230 ~ 265V | 155 ~ 180V | 128 ~ 150V |
| | | Shut down o/p voltage, re-power on to recover | | |
| | OVER TEMPERATURE | Shut down o/p voltage, re-power on to recover | | |
| ENVIRONMENT | WORKING TEMP. | Tcase=-40 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section) | | |
| | MAX. CASE TEMP. | Tcase=+90℃ | | |
| | WORKING HUMIDITY | 20 ~ 95% RH non-condensing | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80℃, 10 ~ 95% RH | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 60℃) | | |
| | VIBRATION | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes | | |
| SAFETY & EMC | SAFETY STANDARDS | ENEC BS EN/EN61347-1(except for AB-Type), BS EN/EN61347-2-13(except for AB-Type) independent, BS EN/EN62384(except for AB-Type); GB19510.1(except for AB-Type), GB19510.14(except for AB-Type); EAC TP TC 004;IP65 or IP67 approved | | |
| | DALI STANDARDS | Compliance to IEC62386-101, 102, 207 for DA-Type only | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC I/P-CASE:3.75KVAC O/P-CASE:1.5KVAC | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH | | |
| | EMC EMISSION | Compliance to BS EN/EN55015,BS EN/EN61000-3-2 Class C (@load ≥ 60%) ; BS EN/EN61000-3-3; GB/T17743, 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-Earth 6KV, Line-Line 4KV);EAC TP TC 020 | | |
| OTHERS | MTBF | 1098.95K hrs min. Telcordia SR-332 (Bellcore) | 308.5Khrs min. | MIL-HDBK-217F (25℃) |
| | DIMENSION | 219*63*35.5 mm (L*W*H) | | |
| | PACKING | 0.95Kg; 16pcs / 16.0kg / 0.77CUFT | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature. 2. Please refer to "DRIVING METHODS OF LED MODULE". For DA-Type, Constant Current region is 60%~100% of maximum voltage under rated power delivery. 3. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 4. 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. 5. 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. 6. 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℃ or less. 7. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com 8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 9. 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 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 File Name:ELGT-150-C-SPEC 2021-09-03 | | | |

ELGT-150-C series

Functional block diagram of the PFC control system. The diagram shows the signal flow from the input (I/P) through an EMI filter and rectifiers, a PFC circuit, power switching, and rectifiers with a filter to the output (Vo+ and Vo-). It also includes a detection circuit with O.L.P. and O.V.P. comparators, and a PWM & PFC control block. The diagram is labeled "CASE :FUNCTIONAL GROUND".

◎ This characteristic applies to Blank/A/B/AB/D2-Type,
For DA-Type, the Constant Current area is 60%~100% Vo.

■ DIMMING OPERATION



* DIM+ for B/AB-Type
DA+ for DA-Type
PROG+ for D2-Type
** DIM- for B/AB-Type
DA- for DA-Type
PROG- for D2-Type

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

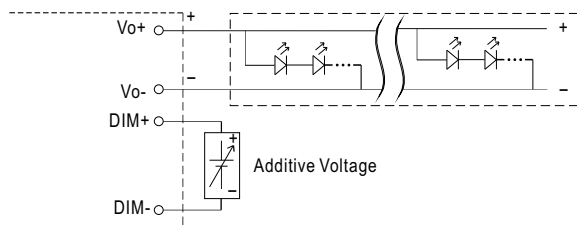
Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:

0 ~ 10VDC, or 10V PWM signal or resistance.

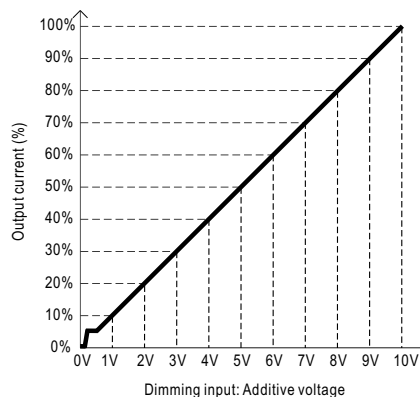
Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.

Dimming source current from power supply: 100 μ A (typ.)

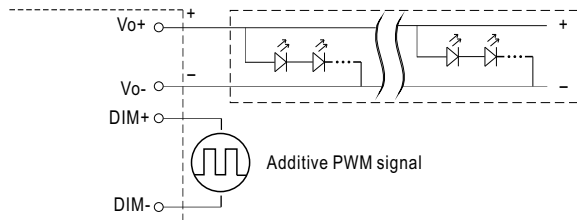
◎ Applying additive 0 ~ 10VDC



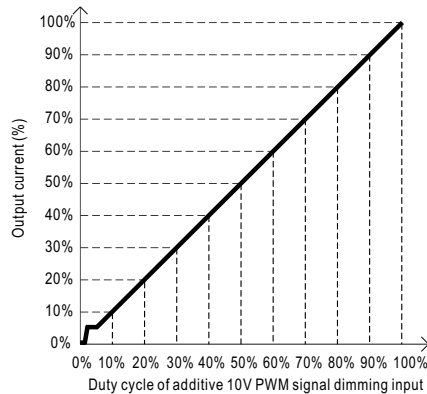
"DO NOT connect "DIM- to Vo-"



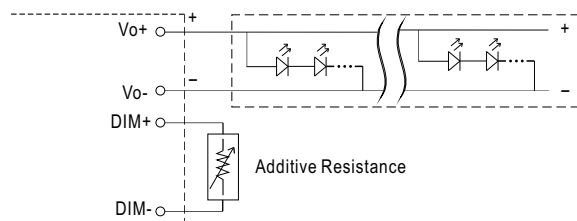
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



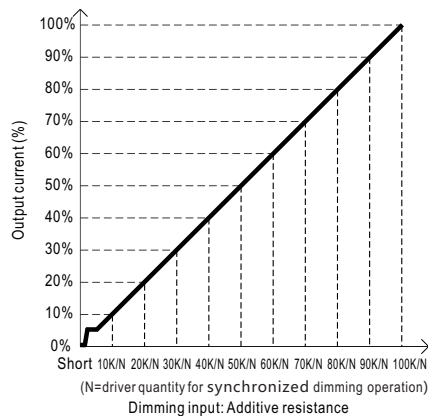
"DO NOT connect "DIM- to Vo-"



◎ Applying additive resistance:



"DO NOT connect "DIM- to Vo-"



Note : 1. Min. dimming level is about 8% and the output current is not defined when $0\% < I_{out} < 8\%$.

2. The output current could drop down to 0% when dimming input is about 0k Ω or 0Vdc, or 10V PWM signal with 0% duty cycle.



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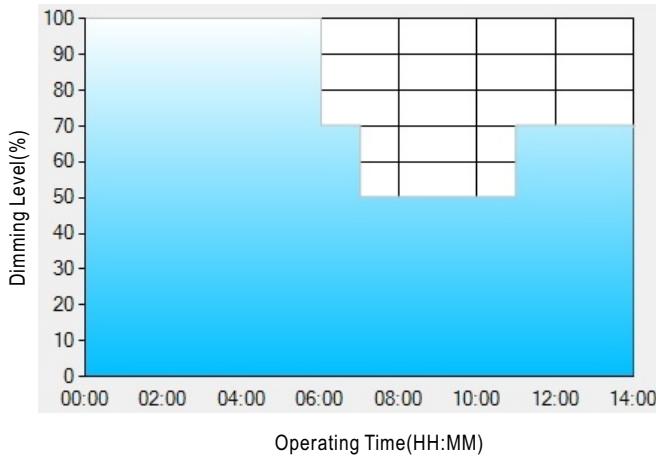
※ DALI Interface (primary side; for DA-Type)

- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.

※ Smart timer dimming function (for D2-Type by User definition)

MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex : ◎ D01-Type: the profile recommended for residential lighting



Set up for D01-Type in Smart timer dimming software program:

| | T1 | T2 | T3 | T4 |
|---------|-------|-------|-------|-----|
| TIME** | 06:00 | 07:00 | 11:00 | --- |
| LEVEL** | 100% | 70% | 50% | 70% |

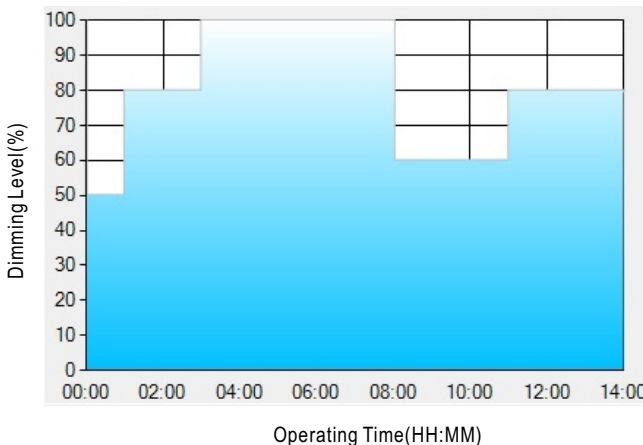
** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

- [1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
- [2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex : ◎ D02-Type: the profile recommended for street lighting



Set up for D02-Type in Smart timer dimming software program:

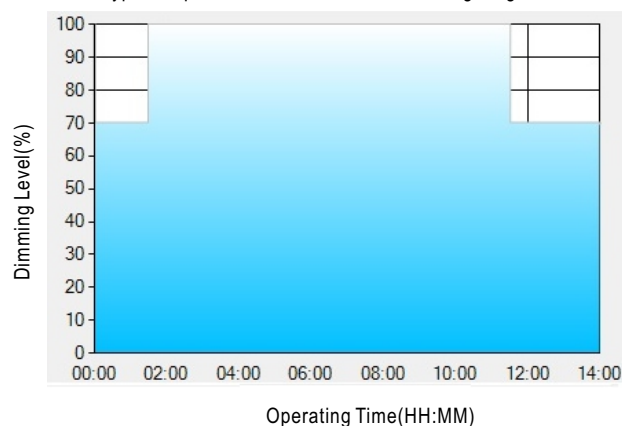
| | T1 | T2 | T3 | T4 | T5 |
|---------|-------|-------|------|-------|-----|
| TIME** | 01:00 | 03:00 | 8:00 | 11:00 | --- |
| LEVEL** | 50% | 80% | 100% | 60% | 80% |

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

- [1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
- [2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.
- [5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

Ex: © D03-Type: the profile recommended for tunnel lighting



Set up for D03-Type in Smart timer dimming software program:

| | T1 | T2 | T3 |
|---------|-------|-------|-----|
| TIME** | 01:30 | 11:00 | --- |
| LEVEL** | 70% | 100% | 70% |

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

[1] The power supply will switch to the constant current level at 70% starting from 4:30pm.

[2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.

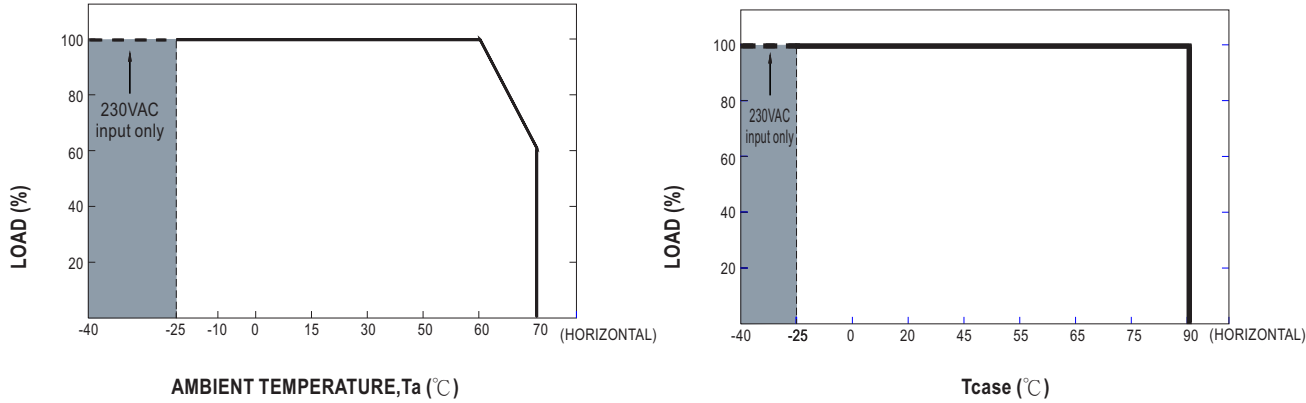
[3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

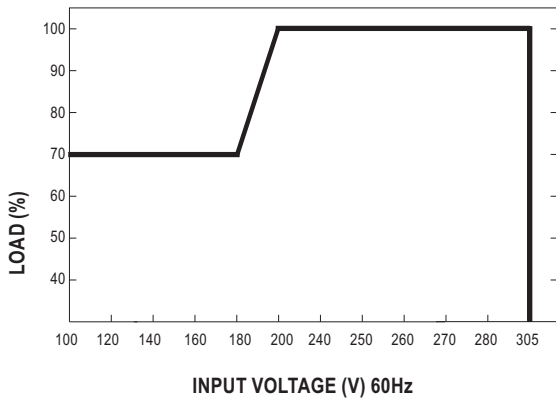


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■ OUTPUT LOAD vs TEMPERATURE(NOTE 7.)



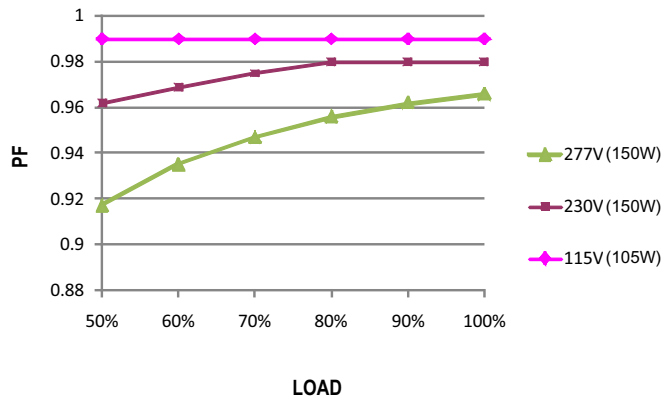
■ STATIC CHARACTERISTIC



※De-rating is needed under low input voltage.

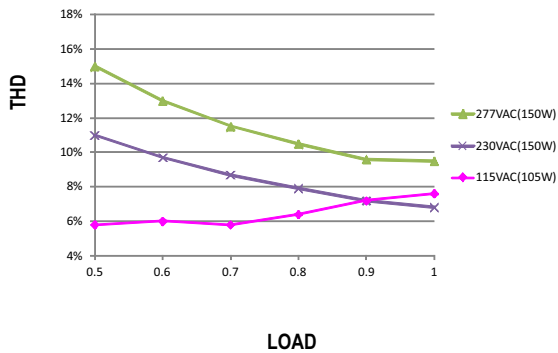
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75°C



■ TOTAL HARMONIC DISTORTION (THD)

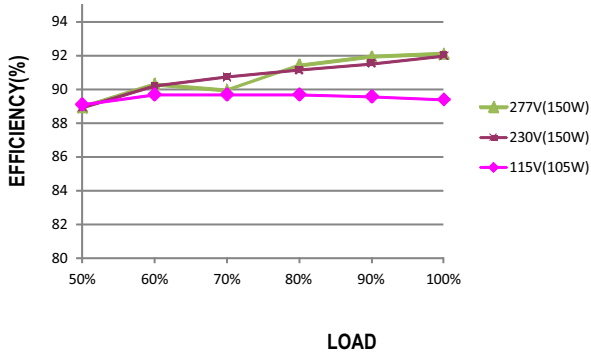
※ 700mA Model, Tcase at 75°C



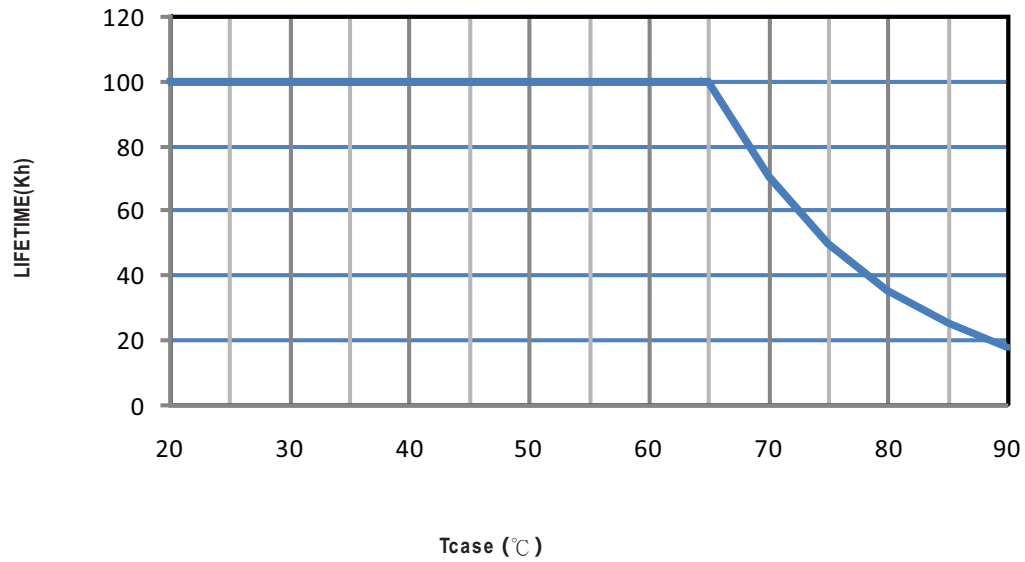
■ EFFICIENCY vs LOAD

ELGT-150-C series possess superior working efficiency that up to 92% can be reached in field applications.

※ 700mA Model, Tcase at 75°C



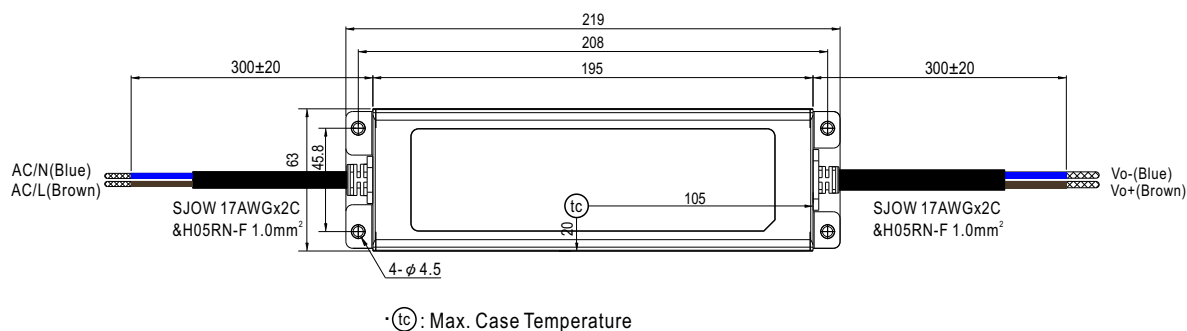
■ LIFE TIME



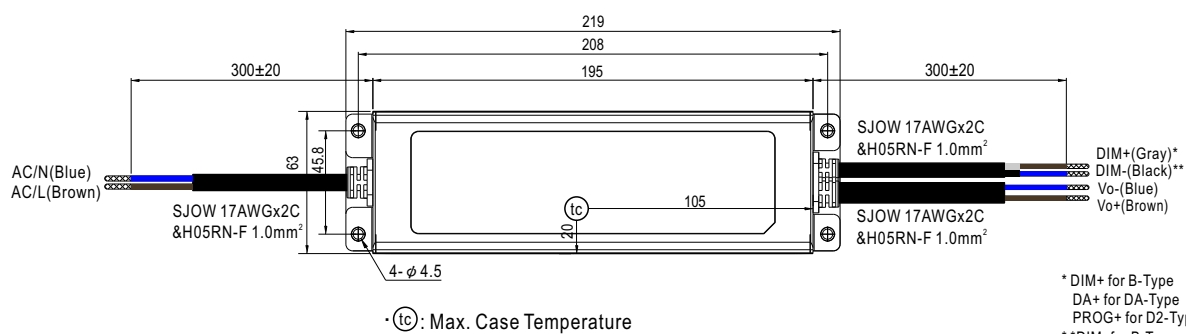
ELGT-150-C series

※ Blank-Type

CASE NO.: 237A Unit:mm



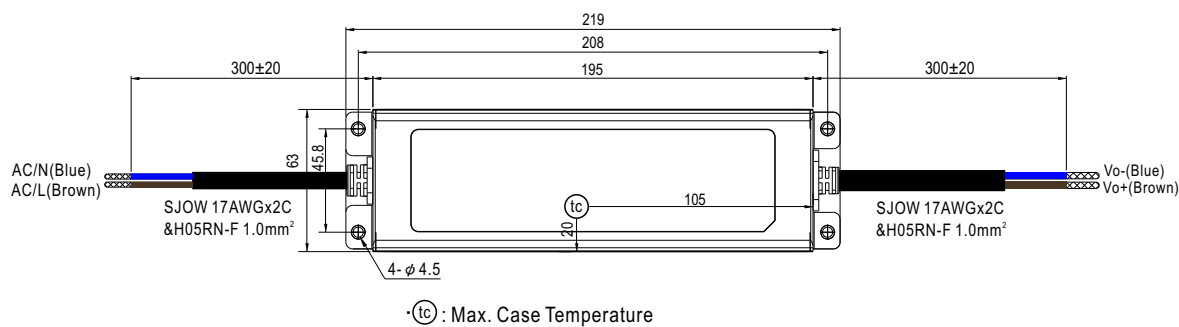
※ B/DA/D2-Type



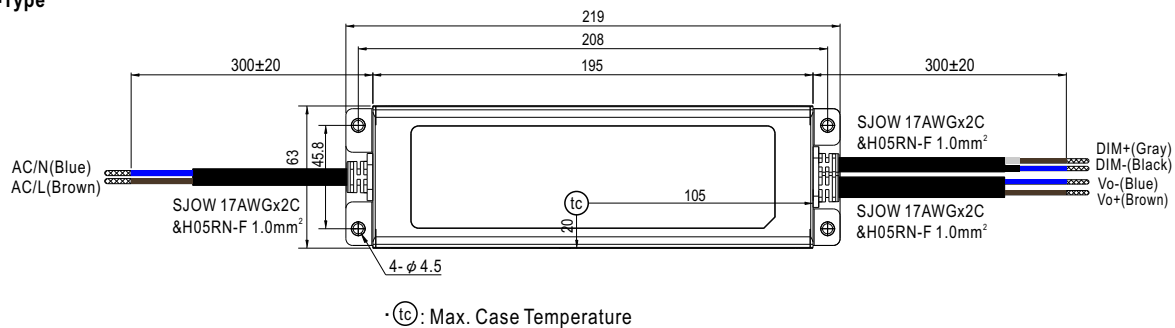
- * DIM+ for B-Type
DA+ for DA-Type
PROG+ for D2-Type
- * DIM- for B-Type
DA- for DA-Type
PROG- for D2-Type



※ A-Type



※ AB-Type



■ MANUAL INSTALLATION

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