

# ANP105 Series - 277V

Single Class 2 Output, Ballast Size,  
CV / CC Mode, Dimmable LED Driver



## Features and Applications:

- One Class 2 DC Output - 100W / 75W / 60W / 40W / 25W
- Active Power Factor Correction
- 100W / 75W / 60W: Silicone Encapsulated For Outdoor Wet and Indoor Damp and Dry Locations - IP67
- 40W / 25W: Indoor Usage - IP20
- Case Material - SECC
- Built-in EMI Filter For Low Noise
- Over-Current and Over-Voltage Protection with Auto-Recovery
- Dimmable Output in Both CV and CC Mode
- Match the Conventional Ballast Dimension

All specifications are typical at nominal input, full load, at 25°C unless otherwise stated.

### Electrical Specifications

#### INPUT

Input Voltage Range	90-305Vac (Rated 100-277Vac)
Input Frequency	47 - 63Hz
Input Current	max. 1.5A@115Vac/60Hz,full load
Inrush Current	80A @230Vac/60Hz,full load cold start
Leakage Current	0.5mA max.
Power Factor	≥0.9 at full load, entire input range
THD	<20% @ 80% load, 277Vac

#### OUTPUT

Output Regulation	5% (V for CV, I for CC mode)
Efficiency	See Table 1 @ Page 2
Over Voltage Protection	<130% nominal voltage
Short Circuit Protection	Shutdown & Auto Recovery
OTP Protection	1 or 2-Stage Protection (See Page 4 & 5 for Details)
Start-up Time	< 3 sec.
Dimming Control	0 - 10Vdc (10V for max. output)

### Safety Certifications


UL UL879 (In SAM) UL8750, UL1310 (Class 2)  
E File#: E328880, E307120  
100W/75W/60W: Wet Location



### General Specifications

Weight	TBD
Warranty Info / MTBF	Contact Amperor for detailed warranty and MTBF information
Dimension	211mm x 41.4mm x 30mm 8.31" x 1.63" x 1.18"

### Environmental Specifications

Min. Operating Temp.	-30°C @ Tambient
Max. Operating Temp.	85°C @ Tcase
2 Stage Thermal Protection	Output Drops to 50%@Tcase 85C (if applied, see page 5)
1 Stage Thermal Protection	Output Shutdown @ Tcase 95C
Storage Temp.	-40°C to +85°C
Relative Humidity	10% to 95% ( non-Condensing )
Enclosure Sealed per	100W / 75W / 60W - IP67 40W / 25W - IP20
Cooling	Conduction
RoHS	Compliant 

### EMC / Safety

Conducted Emissions	EN55015,FCC part 15 level B
Radiated Emissions	EN55015,FCC part 15 level B
Surge	EN61000-4-5, Level 4, Criteria B (L&N/PE: 4KV, L/N: 2KV)

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## Order Information

**Table1: ANP105-XXP1-277-WWW-UU Model vs. Output Specifications**

Model	Max. Output Voltage (V)	Rated Output Current (A)	Output Voltage Range (V)	Max. Output Power (W)	Min. Efficiency (115Vac input 100% load)
ANP105-35P1-277-100	35	2.8	21 ~ 35	100	89.00%
ANP105-24P1-277-100	24	4.16	15 ~ 24	100	89.00%
ANP105-24P1-277-075	24	3.2	15 ~ 24	75	89.00%
ANP105-42P1-277-060	42	1.4	25 ~ 42	60	88.00%
ANP105-24P1-277-060	24	2.5	15 ~ 24	60	88.00%
ANP105-12P1-277-060	12	5	8 ~ 12	60	88.00%
ANP105-56P1-277-040	56	0.7	48 ~ 56	40	88.00%
ANP105-40P1-277-040	40	1	32 ~ 40	40	88.00%
ANP105-30P1-277-040	30	1.4	24 ~ 30	40	88.00%
ANP105-24P1-277-040	24	1.67	15 ~ 24	40	88.00%
ANP105-24P1-277-025	24	1.04	15 ~ 24	25	88.00%

### Notes:

#### **How to Order with the Full Model Name - ANP105-XXP1-277-WWW-UU:**

**ANP105** - Amperor's Identification Name for this Driver Family

**"XX"** - Replaced by the Max. Output Voltage of the Driver. Ranging from 12 to 56.

**P1** - This Driver does not Equipped with Output Voltage and Current Adjustment Knobs.

**-277** - Rated AC Input Voltage: 100Vac - 277Vac

**"WWW"** - Replaced by the Max. Output Power of the Driver. Ranging from 25 to 100.

**"UU"** - Replaced by Dimming Options:

-**VD**: with CV mode Dimming,

-**CD**: with CC mode Dimming,

-**VN**: CV mode output without Dimming,

-**CN**: CC mode output without Dimming,

#### **Examples:**

##### **ANP105-24P1-277-100-VD:**

Max. 24V / 100W output, with CV mode dimmer built-in.

##### **ANP105-12P1-277-060-CN:**

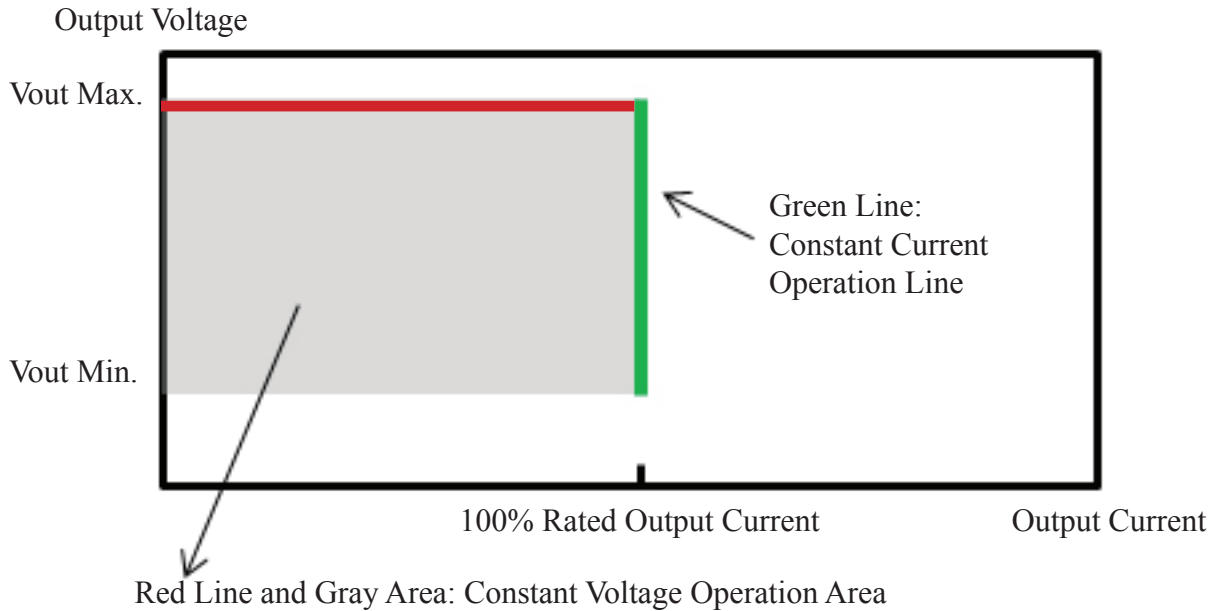
5A / 60W, CC mode output, w/o dimming function built-in.

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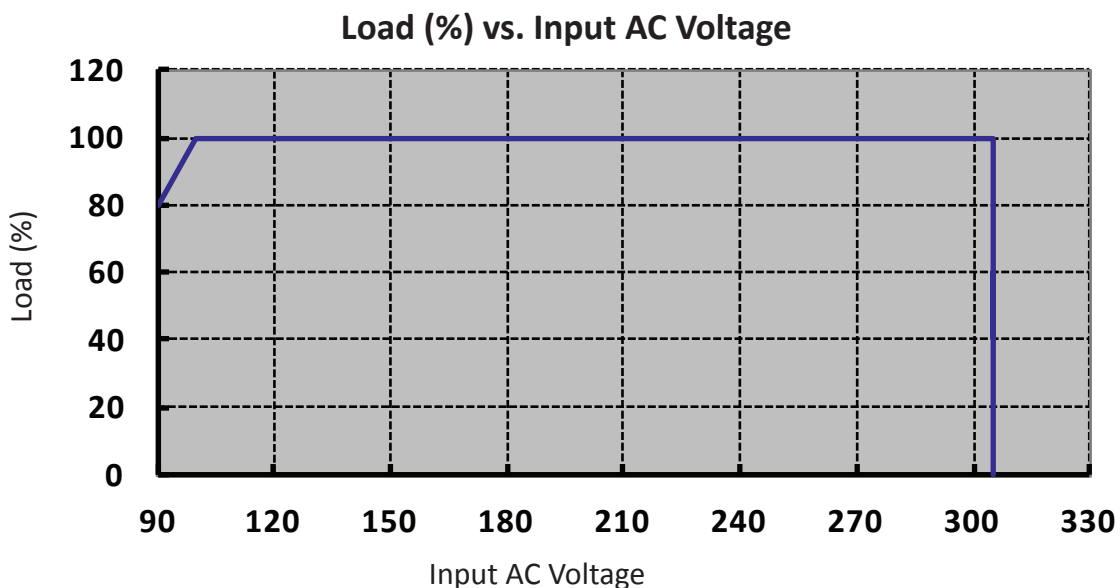


## Constant Current / Constant Voltage Operation



1. If the current draw from the load is equal to the rated output current of the driver, the driver will operate in CC mode. (on the **Green Line** above)
2. If the current draw from the load is less than the rated output current of the driver, the driver will operate in CV mode. When working with the CV mode LED light tube / module / strip, the driver operates on the **Red Line** above. Please contact Amperor for detailed explanation.

## Derating Curve - Output Current vs. Input Voltage

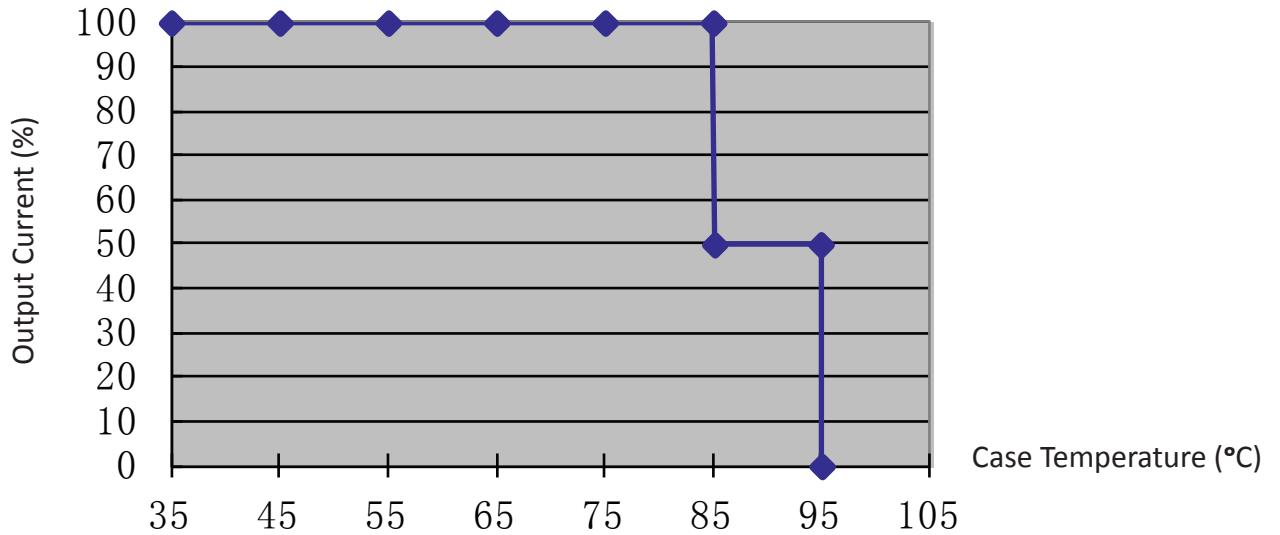


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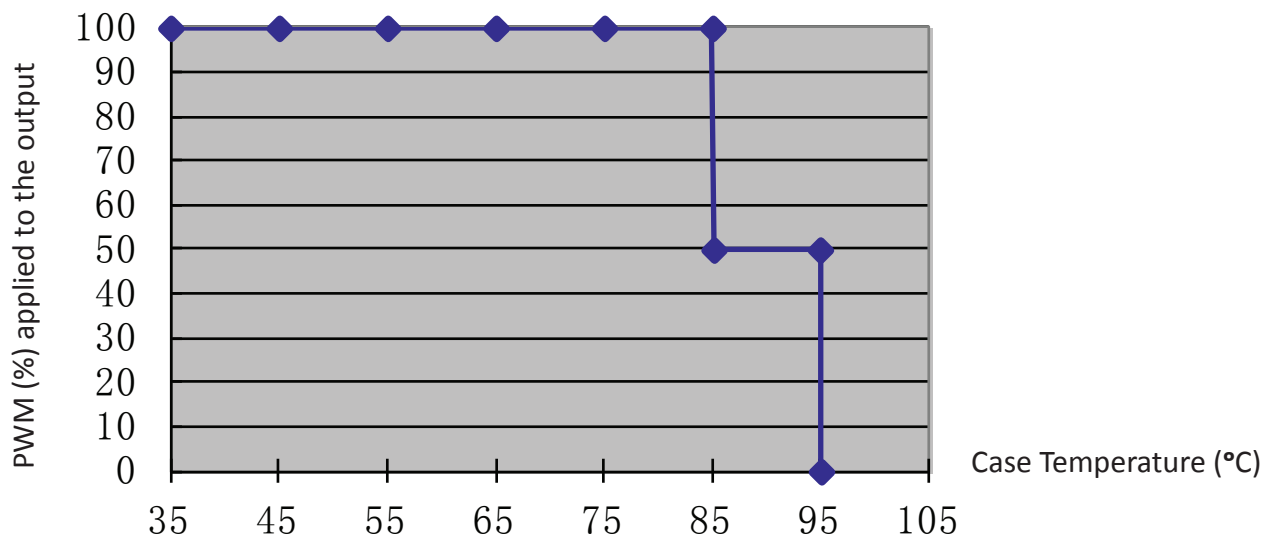


## 2 Stage OTP Operation in CC mode (both CD and CN options) - 100W / 75W



**Note:** The min. temperature the driver can operate in is -30°C (Ambient Temperature)

## 2 Stage OTP Operation in CV mode (only VD option) - 100W / 75W



**Note:** The min. temperature the driver can operate in is -30°C (Ambient Temperature)

All other models that are not listed above, is using the 1 Stage OTP scheme - the output will shut-down at  $T_{case} = 85^{\circ}C$ . See page 5 for the full list.

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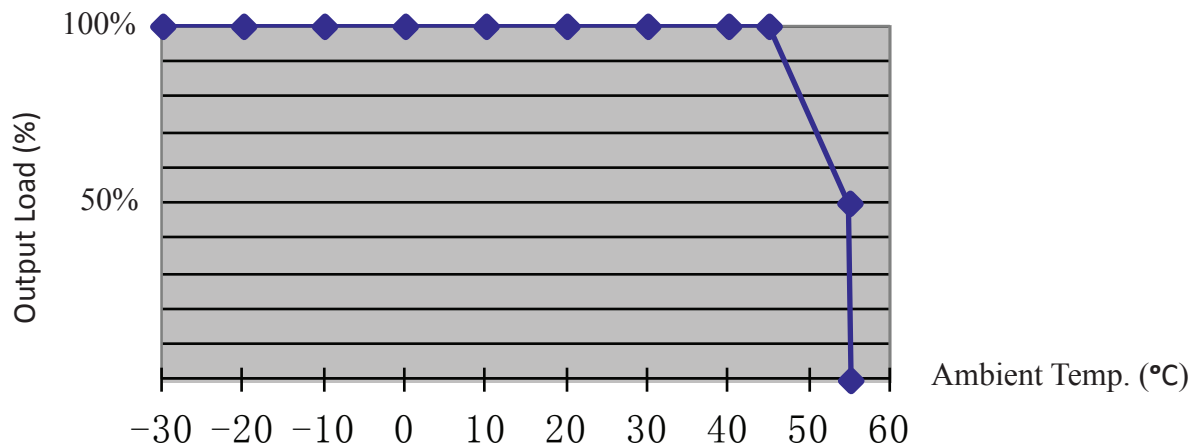
## Model Name vs. OTP Scheme Type

Model	OTP Type
ANP105-35P1-277-100-CD	2 Stage
ANP105-35P1-277-100-CN	2 Stage
ANP105-35P1-277-100-VD	2 Stage
ANP105-35P1-277-100-VN	2 Stage, Note 1
ANP105-24P1-277-100-CD	2 Stage
ANP105-24P1-277-100-CN	2 Stage
ANP105-24P1-277-100-VD	2 Stage
ANP105-24P1-277-100-VN	2 Stage, Note 1
ANP105-24P1-277-075-CD	2 Stage
ANP105-24P1-277-075-CN	2 Stage
ANP105-24P1-277-075-VD	2 Stage
ANP105-24P1-277-075-VN	2 Stage, Note 1
ANP105-42P1-277-060-CD	1 Stage
ANP105-42P1-277-060-CN	1 Stage
ANP105-42P1-277-060-VD	1 Stage
ANP105-42P1-277-060-VN	1 Stage
ANP105-24P1-277-060-CD	1 Stage
ANP105-24P1-277-060-CN	1 Stage
ANP105-24P1-277-060-VD	1 Stage
ANP105-24P1-277-060-VN	1 Stage
ANP105-12P1-277-060-CD	1 Stage
ANP105-12P1-277-060-CN	1 Stage

Model	OTP Type
ANP105-12P1-277-060-VD	1 Stage
ANP105-12P1-277-060-VN	1 Stage
ANP105-56P1-277-040-CD	1 Stage
ANP105-56P1-277-040-CN	1 Stage
ANP105-56P1-277-040-VD	1 Stage
ANP105-56P1-277-040-VN	1 Stage
ANP105-40P1-277-040-CD	1 Stage
ANP105-40P1-277-040-CN	1 Stage
ANP105-40P1-277-040-VD	1 Stage
ANP105-40P1-277-040-VN	1 Stage
ANP105-30P1-277-040-CD	1 Stage
ANP105-30P1-277-040-CN	1 Stage
ANP105-30P1-277-040-VD	1 Stage
ANP105-30P1-277-040-VN	1 Stage
ANP105-24P1-277-040-CD	1 Stage
ANP105-24P1-277-040-CN	1 Stage
ANP105-24P1-277-040-VD	1 Stage
ANP105-24P1-277-040-VN	1 Stage
ANP105-24P1-277-025-CD	1 Stage
ANP105-24P1-277-025-CN	1 Stage
ANP105-24P1-277-025-VD	1 Stage
ANP105-24P1-277-025-VN	1 Stage

**Note 1:** The 1st OTP is achieved by limiting the output current to 50% of the max. load.

## Suggested De-rating Curve for Models with 1 Stage OTP Scheme

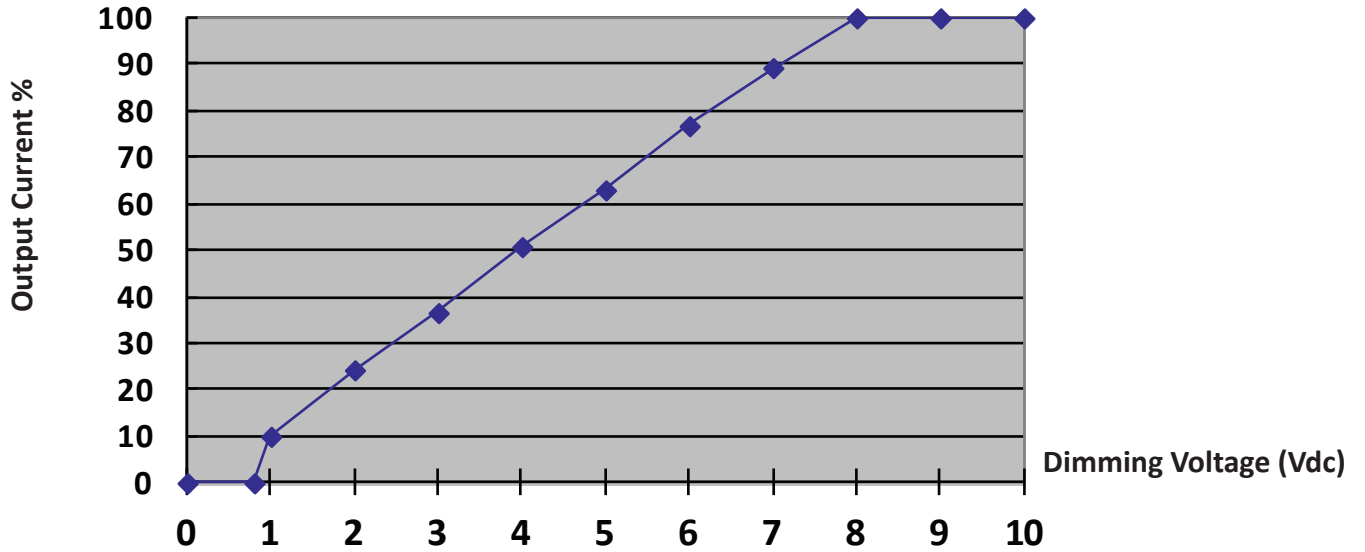


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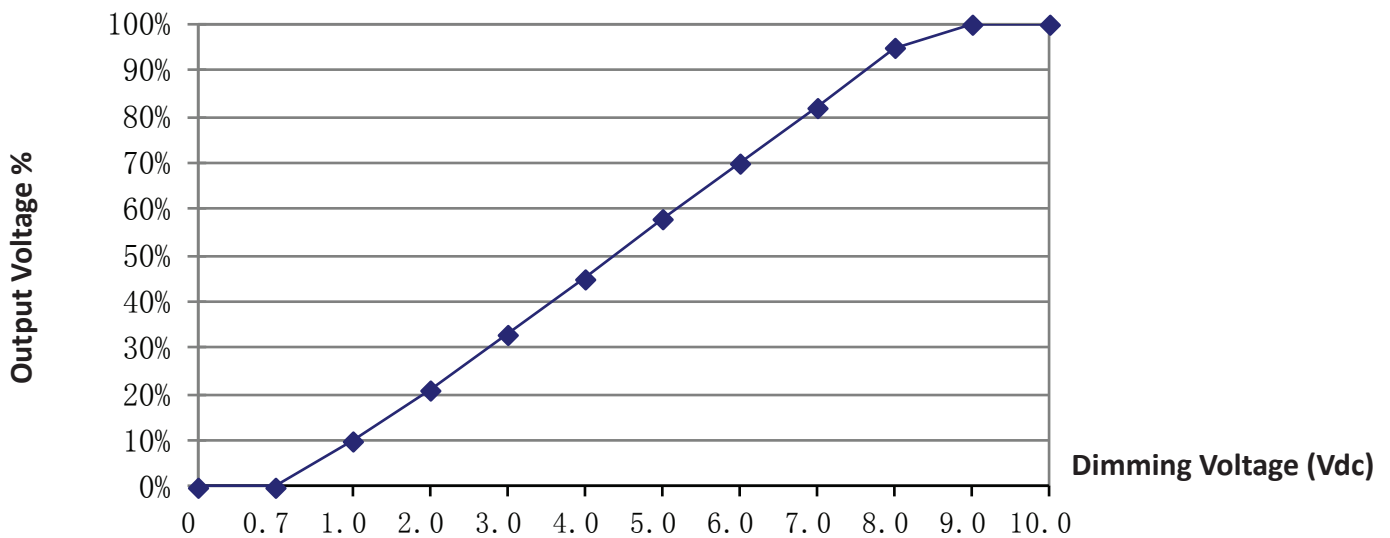
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## Constant Current Output Dimming Curve



## Constant Voltage Output Dimming Curve

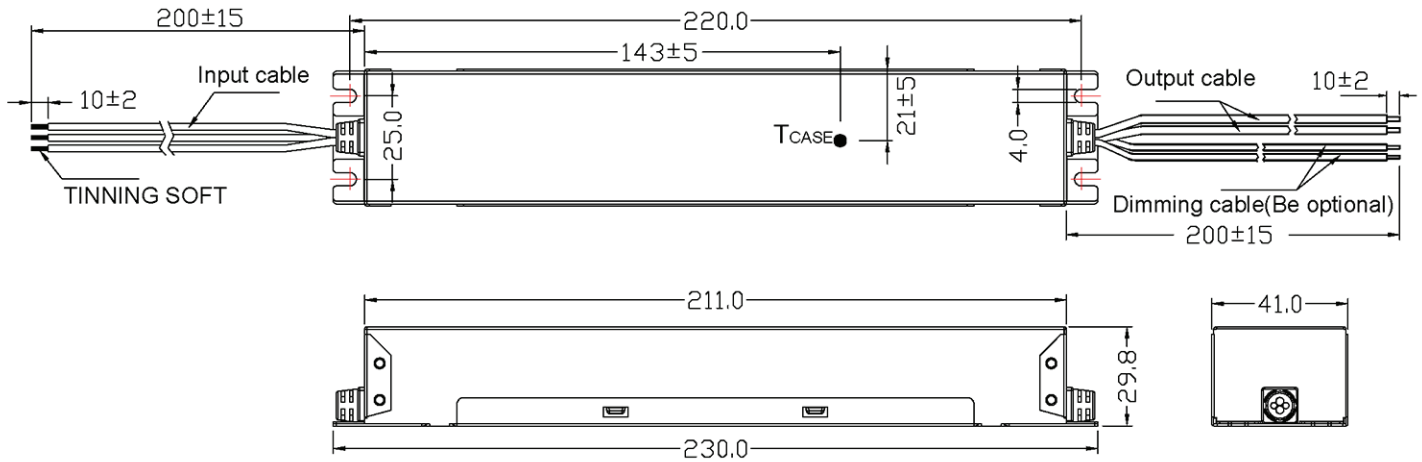


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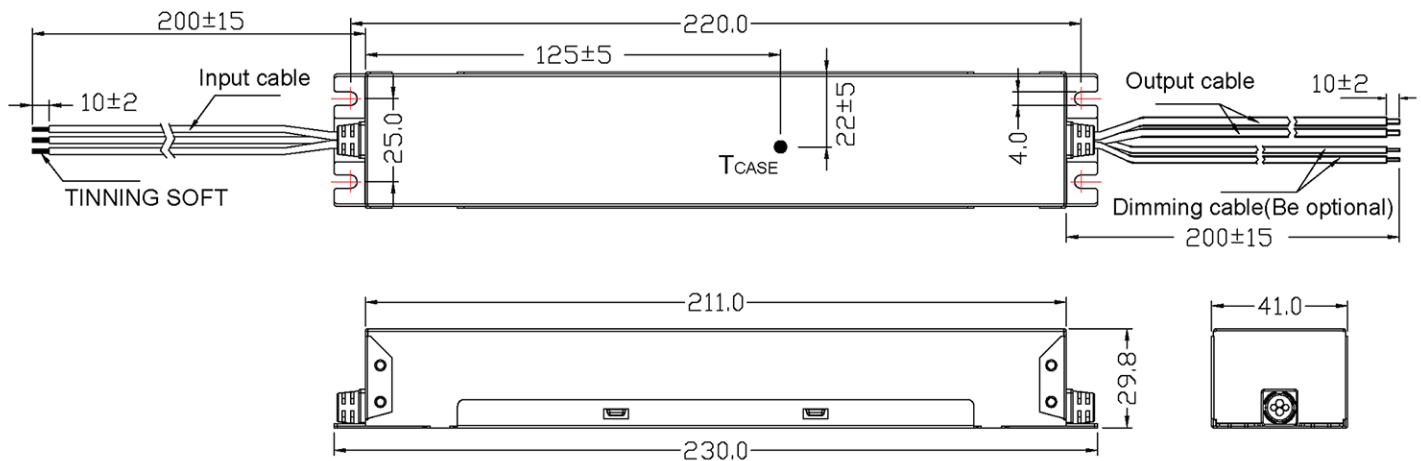
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**Amperor**<sup>TM</sup>  
power by design

## 100W / 75W / 60W Mechanical Drawing



## 40W / 25W Mechanical Drawing



### NOTE:

1. AC input cable:UL1015 18AWG,white(L),black(N),yellow/green(G);
2. DC output cable :UL1015 18AWG,red(+),black(-);  
Dimming cable(Be optional):UL1015 22AWG,violet(+),gray(-);
3. Tcase is CASE's Max temperature.
4. Other ALL TOLERANCE: ±0.5
- 5.UNIT:MM