SPECIFICATION

Product name: HDC-150W-56B

Release date: 2024/1/15

SUNCOM®	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HDC-150W-56B Series	REV	V1.0

Features·

- Class I type for insulation
- Input voltage range:200-277Vac ～ 50/60Hz
  280-410Vdc
- Constant power drive, constant current output control mode
- Metal material case, protection grade against water and dust: IP67
- Surge level：
  differential mode : 6kV
  common mode :10kV
- Guaranteed Lifetime ： 5 years

Applications

Street lighting、Industrial lighting、Stadium lighting
Floodlight lighting、Landscape lighting 、Plant lighting

Model list

Model NO.	Rated Input voltage	Max Output power	Output voltage	The default current	Eff.
HDC-150W-56B	200-277Vac 50/60Hz（Power reduction when input is less than 170Vac）	150W	27-56Vdc Rated Power（36-56V）	Double channel 1.8A ±5%	≥89%
	280-410Vdc（Power reduction when input is less than 240Vdc）	150W			

Note：

1. Test conditions: If not specified, all specification parameters are measured at 230Vac(50Hz) / 280Vdc input, rated load, and ambient temperature of 25℃

2, When the input is less than 170 ± 15Vac/ 240 ± 20Vdc, the output power drops to 75W ± 20%, when the input is higher than 180Vac/255Vdc again, it returns to 150W full power; See the "Output Power vs. Input Voltage" graph for details.

Input characteristics

Parameter	Min	Typ.	Max	Remark
Rated input voltage	200Vac 280Vdc	230Vac 325Vdc	277Vac 410Vdc	When the input voltage is less than 170Vac, the derating is 50% When the input voltage is less than 240Vdc, the derating is 50%
Input voltage range	180Vac 255Vdc	230Vac 325Vdc	305Vac 430Vdc	-
Rated frequency range	-	50/60Hz	63Hz	-
Power factor	0.95	-	-	@230Vac input ,with full load
Power factor	0.9	-	-	@200-277Vac input ,with 70%-100%
T.H.D.	-	-	10%	@230Vac input ,with full load
T.H.D.	-	-	20%	@200-277Vac input ,with 70%-100%
Input current	-	-	1.0A	@230Vac input ,with full load
Inrush current	-	-	100A	230Vac, cold start (25℃)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current	The total current of two channels is 2.67A	-	The total current of two channels is 4.2A	
Output current range	1.8A	-	4.2A	-
Output voltage range	27V	-	56V	Constant power output range 36-56VDC
rated power(200-277Vac)	-	150W	-	When the input voltage is less than 170Vac, the derating is 50%
rated power(240-410Vdc)	-	150W	-	When the input voltage is less than 240Vdc, the derating is 50%
No-load voltage	-	-	80V	-
Efficiency@230Vac	-	89%	-	@230Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Line regulation	-5%	-	+5%	full load
Load regulation	-5%	-	+5%	full load
Starting time	-	-	500ms	Full load@230Vac

Note: 1.The output current is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details;

Dimming characteristic

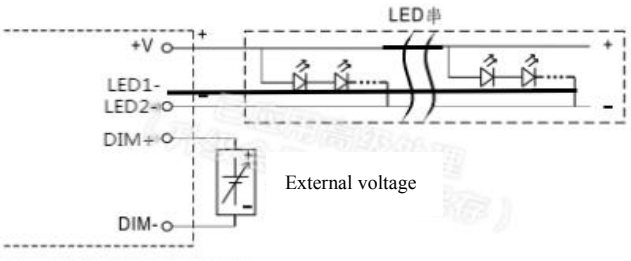
0-5V negative logic endless dimming color temperature:

- Connect 0-5V DC voltage between DIM+ and DIM- to adjust the value of the output constant current;
- Connect 0-5V DC voltage between CT+ and DIM- to adjust the current output of the two channels to adjust the color temperature;
- Typical consumption current of dimming/color temperature line: 10V/10uA, about 600KΩ high input impedance;

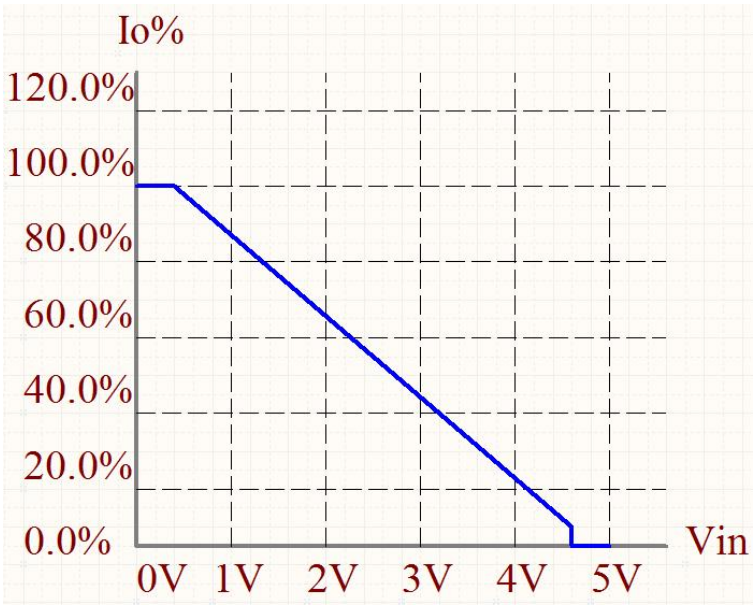
0-5Vdc dimming curve

0-5Vdc dimming

■ Apply an external voltage of 0-5Vdc



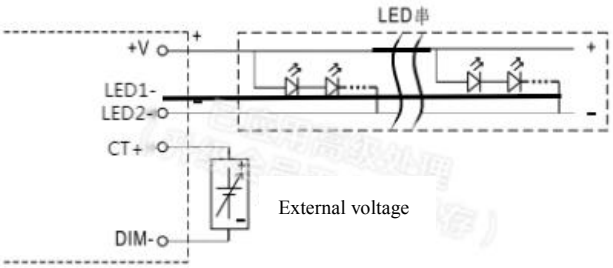
Do not connect "DIM-" to "V-"



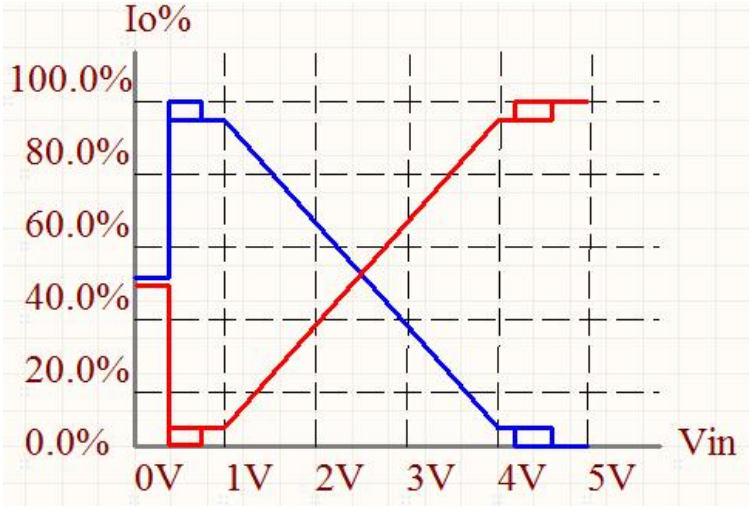
Color temperature curve

0-5Vdc color temperature

■ Apply an external voltage of 0-5Vdc



Do not connect "DIM-" to "V-"



The current of LED1(red) and LED2(blue) correspond to CT+ voltage

Note:

1. The dimmer port can withstand a maximum voltage of 60V. If the voltage of the external power supply exceeds 60V, the power supply may be damaged.

2, this product has 0-5V dimming function, standby power consumption >0.5W when the 5V dimming is turned off, it is recommended that the terminal use 0-4.6V dimming;

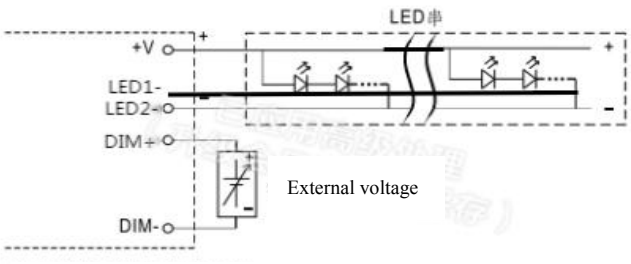
0-10V endless dimming color temperature:

- Connect 0-10V DC voltage between DIM+ and DIM- to adjust the value of the output constant current;
- Connect 0-10V DC voltage between CT+ and DIM- to adjust the current output of the two channels to adjust the color temperature;
- Typical consumption current of dimming/color temperature line: 10V/50uA, high input impedance;

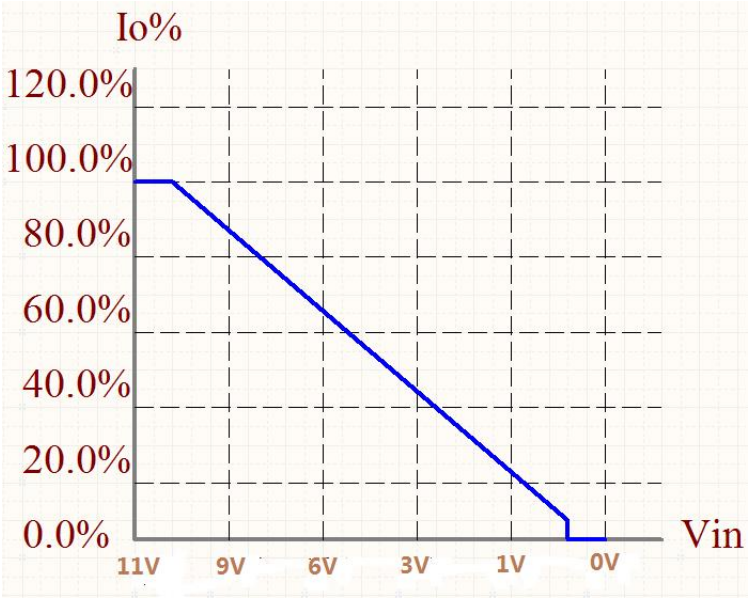
0-10Vdc dimming curve

0-10Vdc dimming

■ **Apply an external voltage of 0-10Vdc**



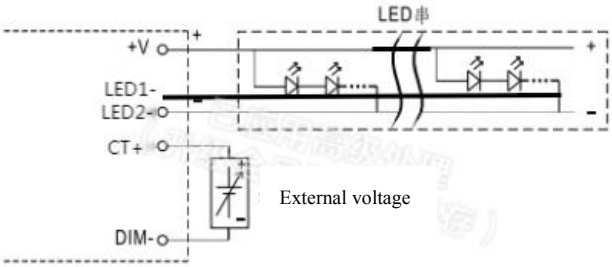
Do not connect "DIM-" to "V-"



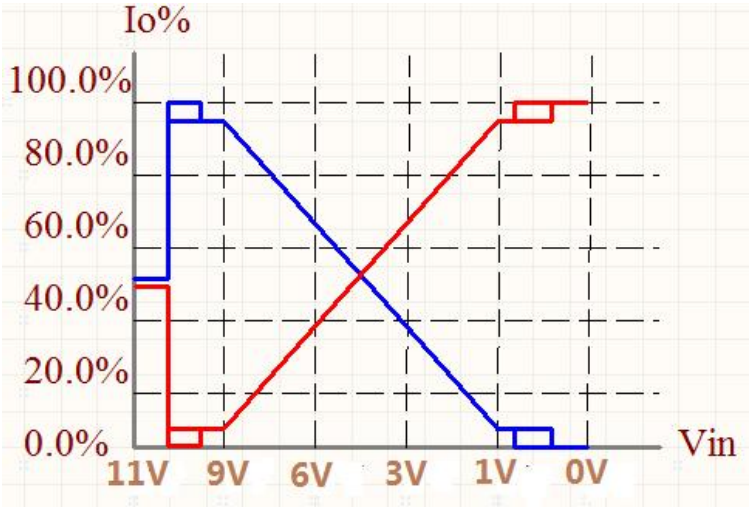
Color temperature curve

0-10Vdc color temperature

■ **Apply an external voltage of 0-10Vdc**



Do not connect "DIM-" to "V-"



The current of LED1(red) and LED2(blue) correspond to CT+ voltage

Note:

1. The dimmer port can withstand a maximum voltage of 60V. If the voltage of the external power supply exceeds 60V, the power supply may be damaged.

2, this product has 0-10V dimming function, standby power consumption >0.5W when the 0V dimming is turned off, it is recommended that the terminal use 0-11V dimming;

Protections

Protection	description
under-voltage protection	When the input is less than 170±15Vac/ 240±20Vdc, the output power drops to 75W±20%, when the input is higher than 180Vac/255Vdc again, it returns to 150W full power.
Output overload protection	Protection mode:hiccup mode,and recovers automatically when the fault condition is removed.
Output short circuit protection	Hiccup mode,and recovery automatically when the fault condition is removed.
Over temperature protection	Self-restorable type; When the shell temperature is greater than 90° C, the output power decreases with the increase of the shell temperature.
Output over-voltage protection	Protection mode:Hiccup or clamp at a certain output highest voltage state, the product will not be damaged, when the fault is removed, the driver works normally

Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with rated load ,and ambient temperature of 25℃;
2. Including setting error, linear adjustment rate and load adjustment rate;

Environmental characteristics

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-277Vac/ 280-410Vdc((Refer to "Service Life Curve"))
Safety case temperature	-40 ~ 90℃
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	-40~+80℃, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	25000 hours @230Vac,80% load, Tcase=75℃,.Refer to” Tcase VS Lifetime” curve for details.

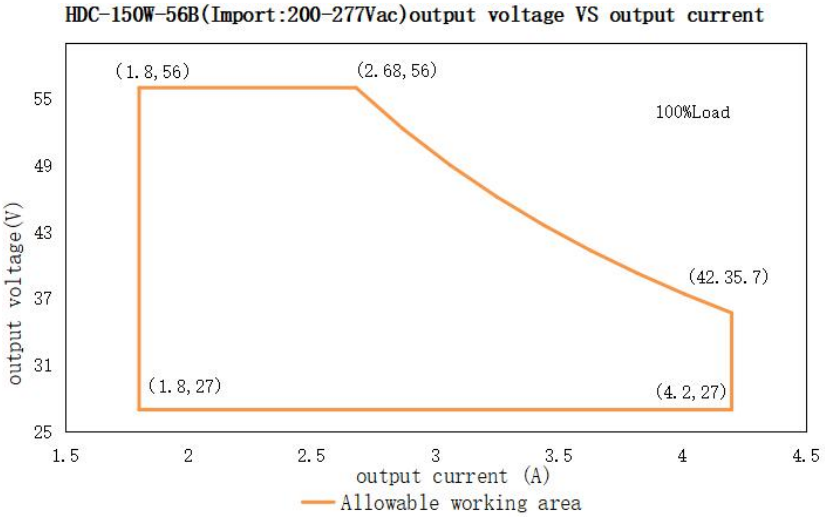
Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384；
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N ±6KV(2Ω),common mode L，N-PE±10KV(12Ω) Refer toIEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:3.75KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:10MΩ / 500VDC; I/P-O/P:10MΩ / 500VDC / 25℃/ 70% RH
Leakage current	<0.7mA@277Vac

Note:

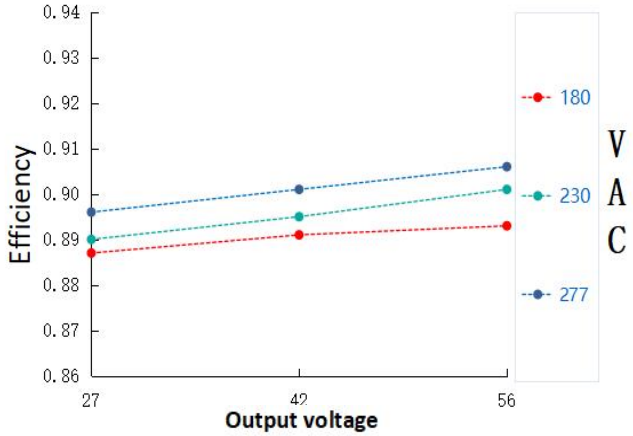
1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

I-V Working area

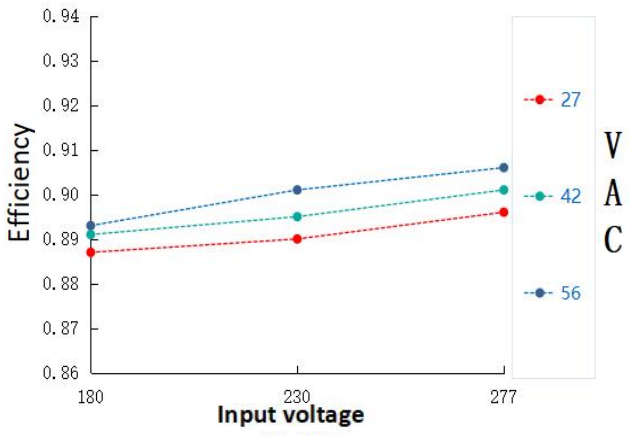


Load	Output								
Load working Voltage	27V	32V	36V	39V	42V	45V	48V	51V	56V
Io_MAX	4.2A	4.2A	4.2A	3.85A	3.57A	3.34A	3.125A	2.94A	2.68A
Po_MAX	113.4W	134.4W	151.2W	150.15W	149.94W	150.3W	150W	149.41W	150.08W

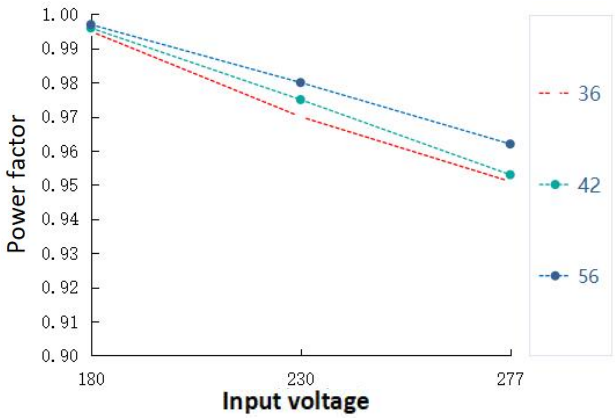
Efficiency VS Output voltage



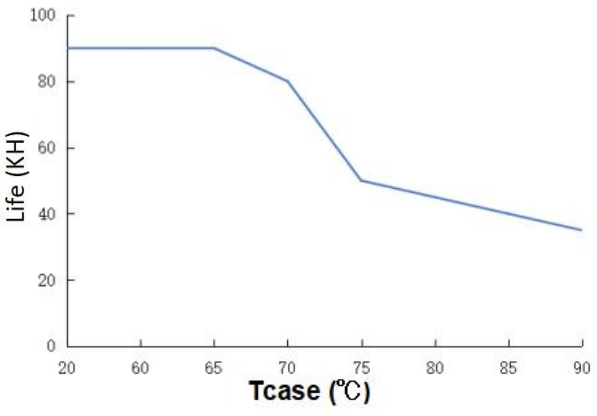
Efficiency VS Input voltage



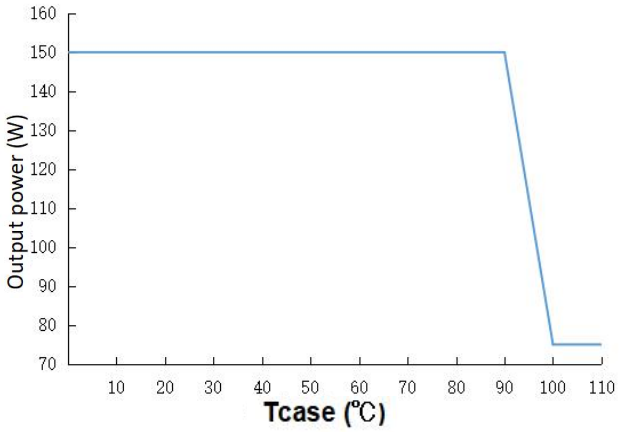
Power factor VS Input voltage



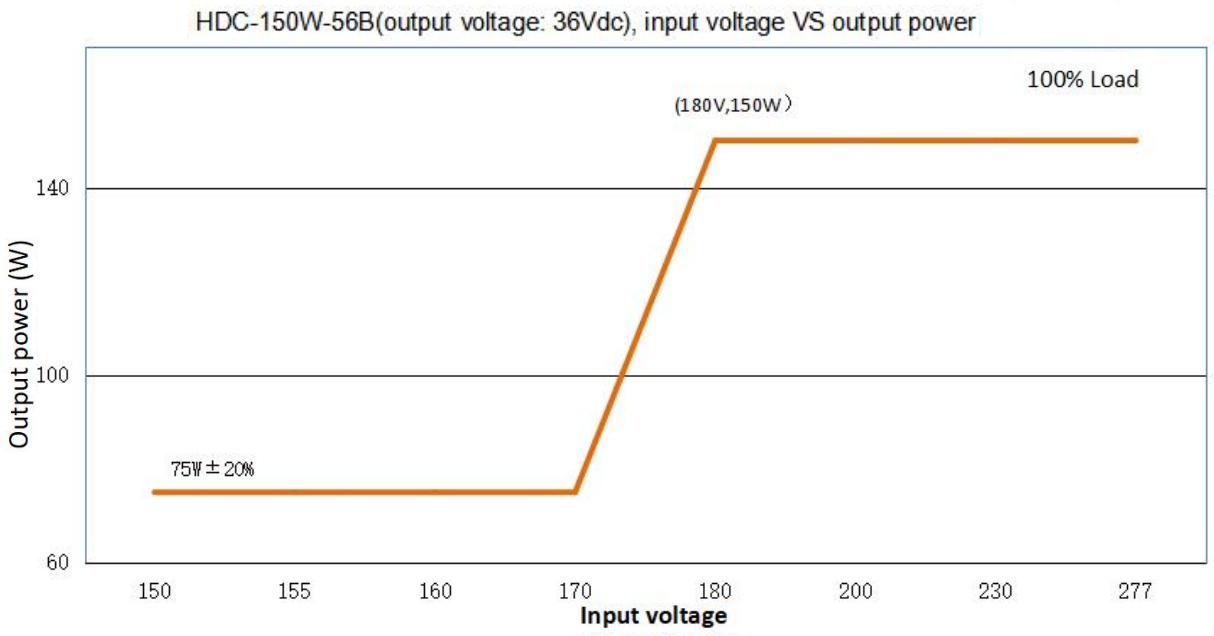
Tcase VS Life time



Output power VS Tcase



Output power VS Input voltage

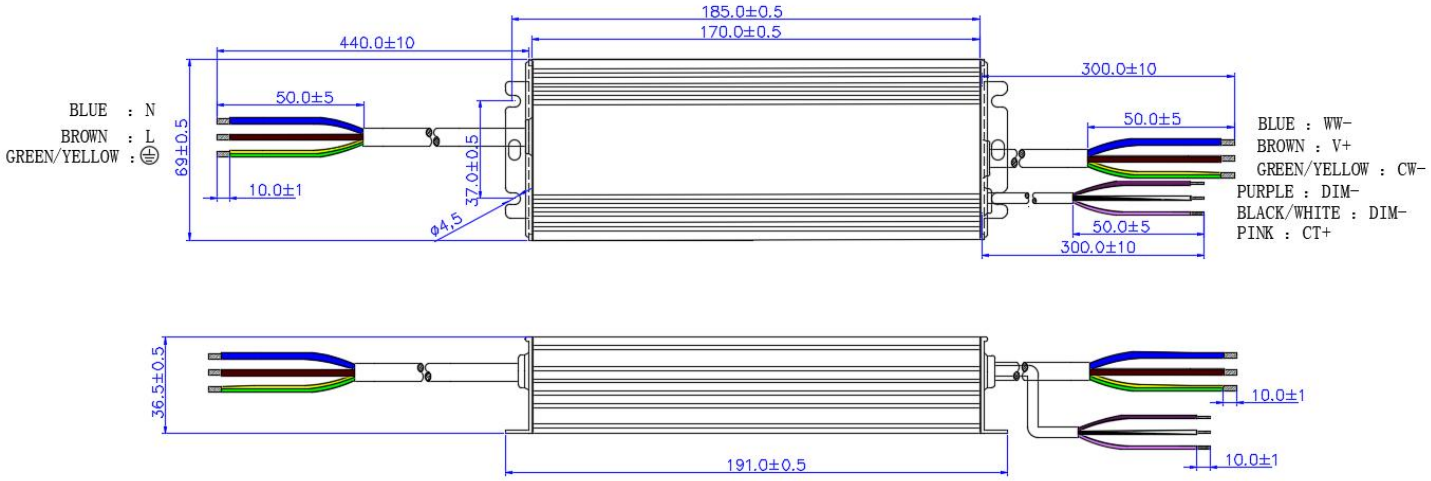


HDC-150W-56B (For output 36Vdc, the rated output current & power under different input voltage)								
Input Voltage	150Vac	160Vac	170Vac	180Vac	200Vac	220Vac	230Vac	277Vac
Io	2.1A	2.1A	2.1A	4.2A	4.2A	4.2A	4.2A	4.2A
Po	75.5W	75.5W	75.5W	150W	150W	150W	150W	150W

Mechanical specification

Size（mm）	194*68*37mm (L*W*H)
Weight（Kg）	900g
Packaging（mm）	

HDC-150W-56B



Version

DATE	DESCRIPTION	REV.	CHECK
2024.1.17	Initial version.	V1.0	