


## SPECIFICATION

Product name : HVE-75H-38/56/108

Release date : 2024/1/4

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HVE-75H-38/56/108 Series	REV	V2.0

## Features

- Class I type for insulation
- Input voltage range:200-277V ~ 50/60Hz
- Efficiency 89.5% (Typ.)
- Constant current output ,with power limitation for control mode
- Metal material case, protection grade against water and dust: IP67
- Surge level:
  - differential mode : 4kV
  - common mode :6kV
- Function available:
  - Output current is dimmed by external potentiometer (Only Type A)
  - Output current is dimmed by Isolated 3 in 1 dimmer (Only Type B)
- 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.
HVE-75H-38A HVE-75H-38B	200-277V 50/60Hz	75W	20-38Vdc Rated Power (32-38V)	2.4A	≥89.5%
HVE-75H-56A HVE-75H-56B	200-277V 50/60Hz	75W	32-56Vdc Rated Power (42-56V)	1.8A	≥89.5%
HVE-75H-108A HVE-75H-108B	200-277V 50/60Hz	75W	54-108Vdc Rated Power (72-108V)	0.75A	≥89.5%

### Note:

1. Test conditions: Ta=25°C, under 230Vac input,after running for 30 minutes with full load .
2. When the input is lower than  $165 \pm 15$ Vac, the output power is reduced to  $37.5W \pm 20\%$ . Input 200-277Vac, rated power75W, please pay attention when using;  
For details, see the input voltage vs. output power diagram.


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## Input characteristics

Parameter	Min	Typ.	Max	Remark
Rated input voltage	200Vac	230Vac	277Vac	When the input voltage is less than 165Vac $\pm$ 15V, the voltage derates by 20%
Input voltage range	180Vac	-	305Vac	-
Rated frequency range	47Hz	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	-	-	0.5A	@200Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

## Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current	-	1.97A	-	Rated Load :38VDC
HVE-75H-38A/B	-	1.34A	-	Rated Load :56VDC
HVE-75H-56A/B	-	0.7A	-	Rated Load :108VDC
HVE-75H-108A/B	-	-	-	-
Output current range	1.3A	-	2.4A	-
HVE-75H-38A/B	0.8A	-	1.8A	-
HVE-75H-56A/B	0.5A	-	1.05A	-
HVE-75H-108A/B	-	-	-	-
Output voltage range	20V	-	38V	Constant power output range:32-38VDC
HVE-75H-38A/B	32V	-	56V	Constant power output range:42-56VDC
HVE-75H-56A/B	54V	-	108V	Constant power output range:72-108VDC
HVE-75H-108A/B	-	-	-	-
Available power(90-180Vac)	-	37.5W	-	When the input voltage is less than 165Vac $\pm$ 15V, the voltage derates by 50%
Rated power(200-277Vac)	-	75W	-	-
No-load voltage	-	-	-	-
HVE-75H-38A/B	-	-	55V	-

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HVE-75H-56A/B	-	-	70V	-	
HVE-75H-108A/B			140V		
Efficiency@230Vac	-	89.5%	-	@230Vac input ,with full load	
Accuracy of output current	-3%	-	+3%	For constant-power range , with full load	
Output current ripple (PK-AV)	-	60%	80%	100% load, 20 MHz BW	
Line regulation	-5%	-	+5%	full load	
Load regulation	-3%	-	+3%	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 characteristics

Dimming function		Min	Typ.	Max	Instructions
1-10V Dimming (Optional)	Safe operation voltage range	1V	-	12V	Beyond the range may lead to a failure of the driver.
	Dimming output range	10%	-	100%	-
	Rated operation voltage range	1V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	Rated dimming frequency	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	full power output at 99%duty cycle
Resistor Dimming (Optional)	Rated external resistance value	10KΩ	-	100KΩ	-
	Dimming output range	10%	-	100%	-

**Note:**

- 1.Output current of dimming port: 100uA (typical value).
- 2.The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond the range or a reverse connection may lead to a critical failure of the driver.
- 3.This product has 0-10V dimming function, standby power consumption >0.5W when 0V dim -off, 1-10V dimming is recommended at the terminal use.

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## Protections


Protection	description
under-voltage protection	When the input voltage is less than $165 \pm 15\text{Vac}$ , the output power decreases. Refer to derating curve for details
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	Could recover automatically; when the temperature of the case is greater than $90^{\circ}\text{C}$ , the output power decreases to a half.
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  $25^{\circ}\text{C}$ ;
2. Including setting error, linear adjustment rate and load adjustment rate;

## Environmental characteristics

Environmental categories	Parameter
Working temperature	$-40 \sim +55^{\circ}\text{C}$ @200-277Vac (Refer to "Service Life Curve")
Safety case temperature	$-40 \sim 90^{\circ}\text{C}$
Working humidity	20 ~ 95% RH, non-condensing
Storage temperature, humidity	$-40 \sim +80^{\circ}\text{C}$ , 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 ( $T_a = 25^{\circ}\text{C}$ )
Lifetime	50000 hours @230Vac, 80% load, $T_{\text{case}} = 75^{\circ}\text{C}$ , Refer to "Tcase VS Lifetime" curve for details.

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## Safety and EMC

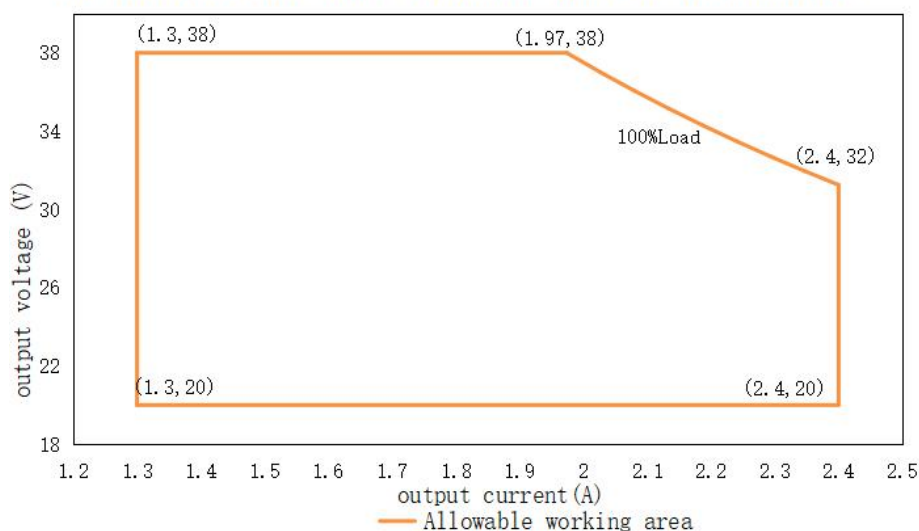
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N $\pm 4\text{KV}(2\Omega)$ , common mode L, N-PE $\pm 6\text{KV}(12\Omega)$ Refer to IEC61000-4-5 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:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25°C/ 70% RH
Leakage current	<0.7mA@277Vac

### Note:

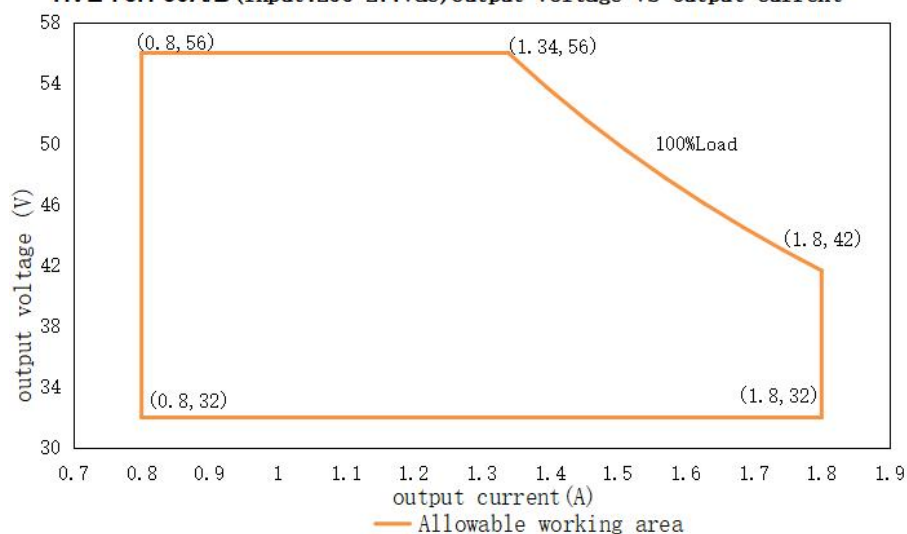
**1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.**

## I-V Working area

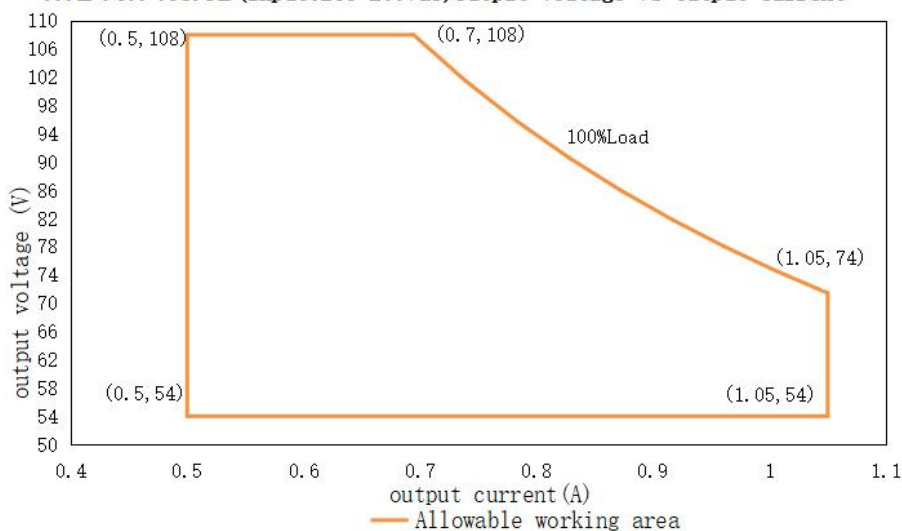
**HVE-75H-38A/B (input:200-277Vac)output voltage VS Output current**



Load	Output								
Load working Voltage	20V	23V	25V	28V	30V	32V	34V	36V	38V
Io_MAX	2.4A	2.4A	2.4A	2.4A	2.4A	2.27A	2.20A	2.08A	1.97A
Po_MAX	48W	55.2W	60W	67.2W	72W	75W	75W	75W	75W

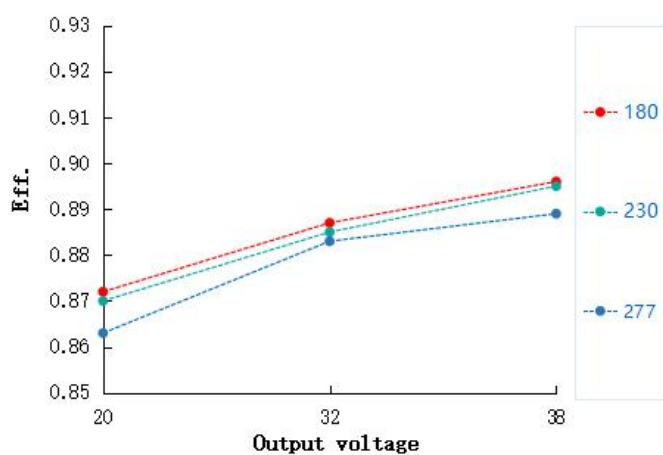
**HVE-75H-56A/B (input:200-277Vac) output voltage VS Output current**


Load	Output								
Load working Voltage	32V	42V	44V	46V	48V	50V	52V	54V	56V
Io_MAX	1.8A	1.79A	1.70A	1.63A	1.56A	1.5A	1.44A	1.39A	1.34A
Po_MAX	57.6W	75W	75W	75W	75W	75W	75W	75W	75W

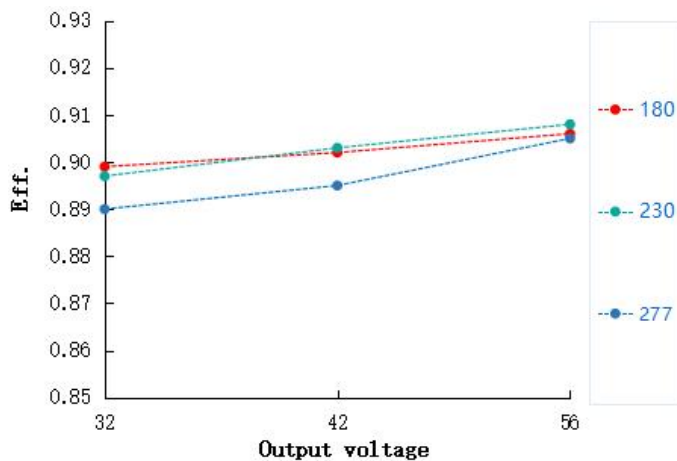
**HVE-75H-108A/B (input:200-277Vac) output voltage VS Output current**


Load	Output								
Load working Voltage	54V	61V	68V	72V	79V	86V	93V	100V	108V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.95A	0.87A	0.81A	0.75A	0.7A
Po_MAX	56.7W	64.1W	71.4W	75W	75W	75W	75W	75W	75W

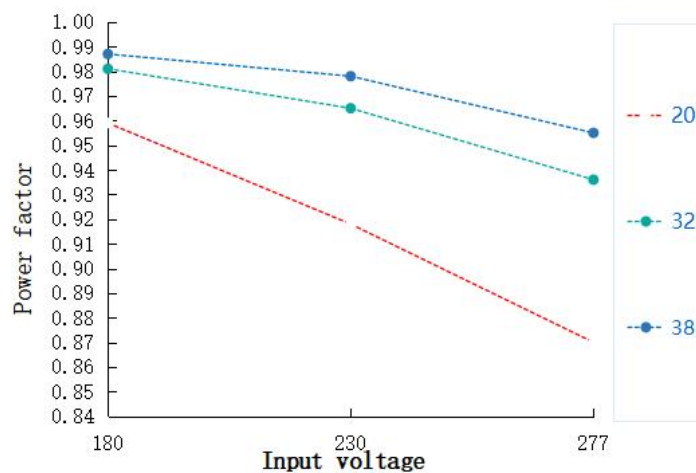
**Eff. VS Output voltage HVE-75H-38A/B**



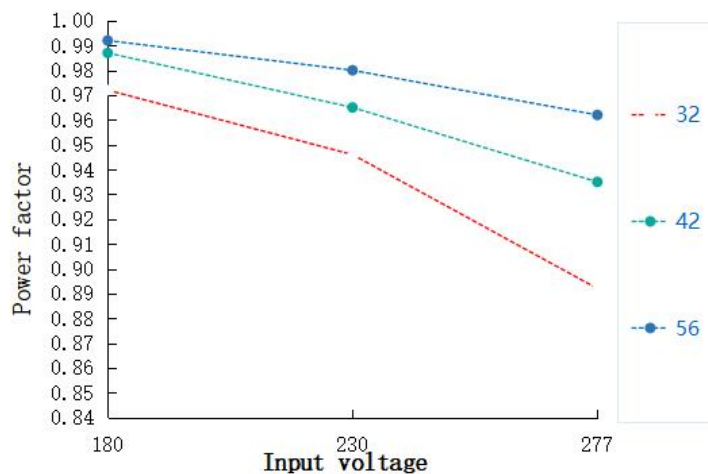
**Eff. VS Output voltage HVE-75H-56A/B**



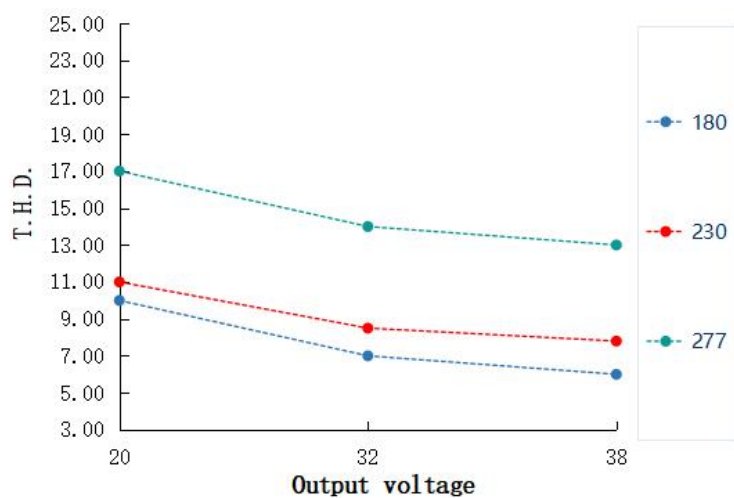
**Power factor VS Input voltage HVE-75H-38A/B**



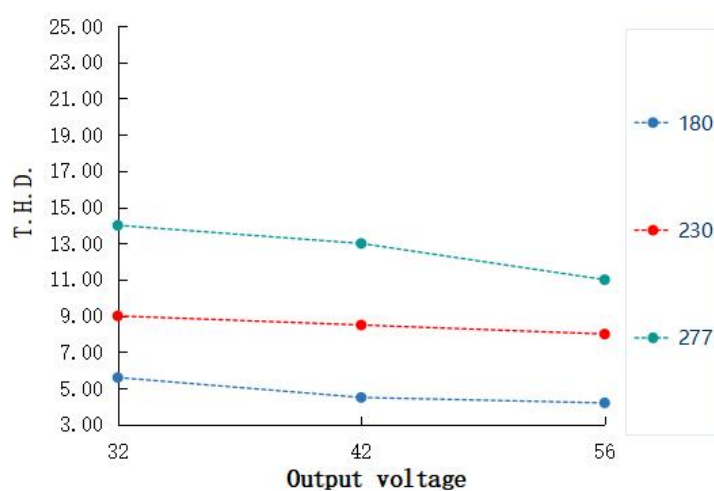
**Power factor VS Input voltage HVE-75H-56A/B**



**T.H.D. VS Output voltage HVE-75H-38A/B**

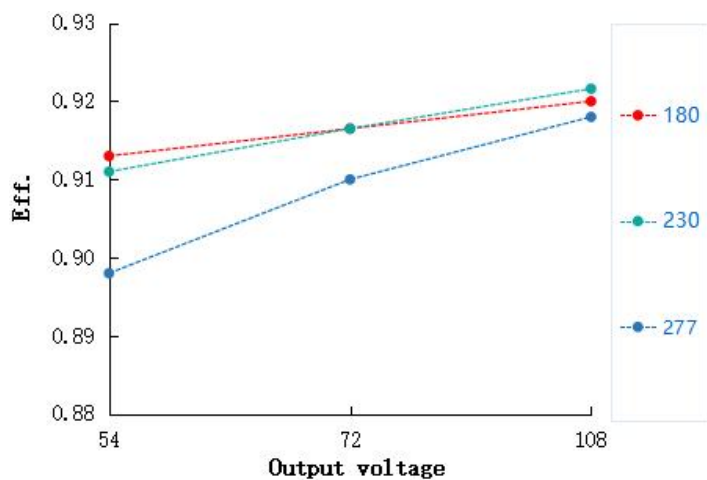


**T.H.D. VS Output voltage HVE-75H-56A/B**

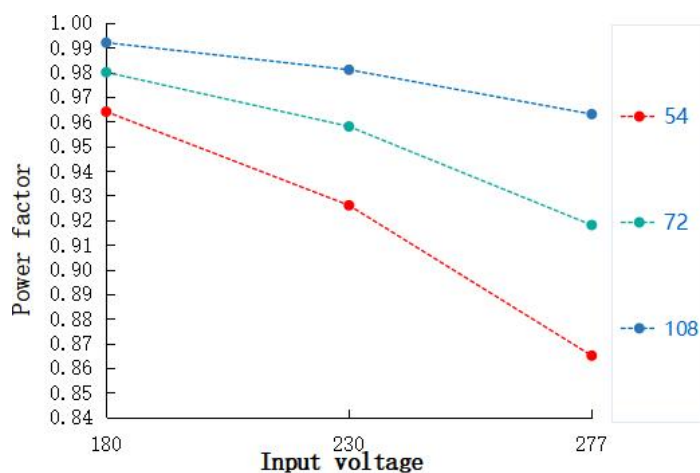




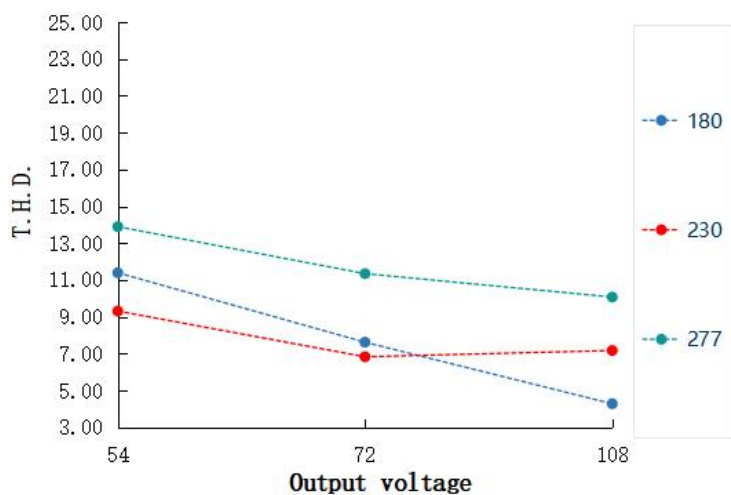
**Eff. VS Output voltage HVE-75H-108A/B**



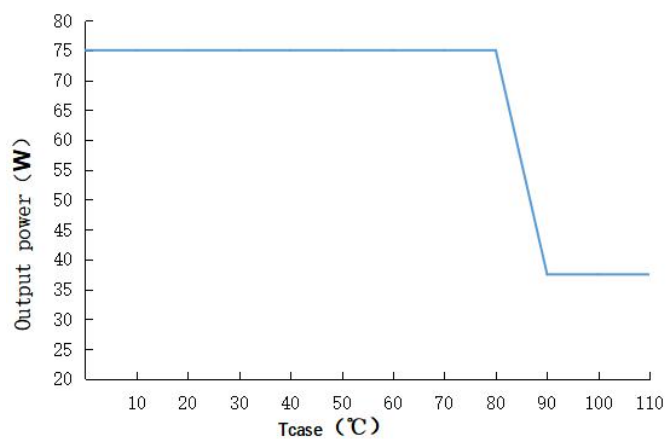
**Power factor VS Input voltage HVE-75H-108A/B**



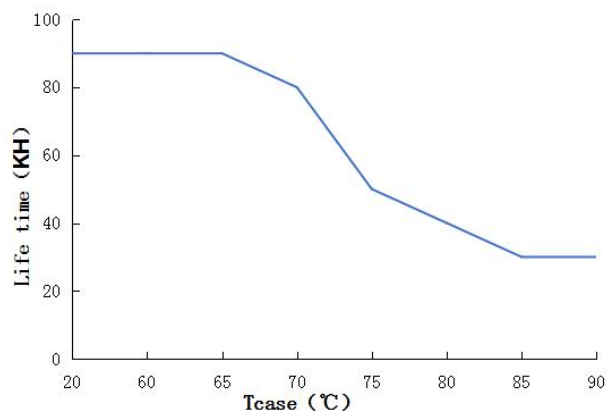
**T.H.D. VS Output voltage HVE-75H-108A/B**



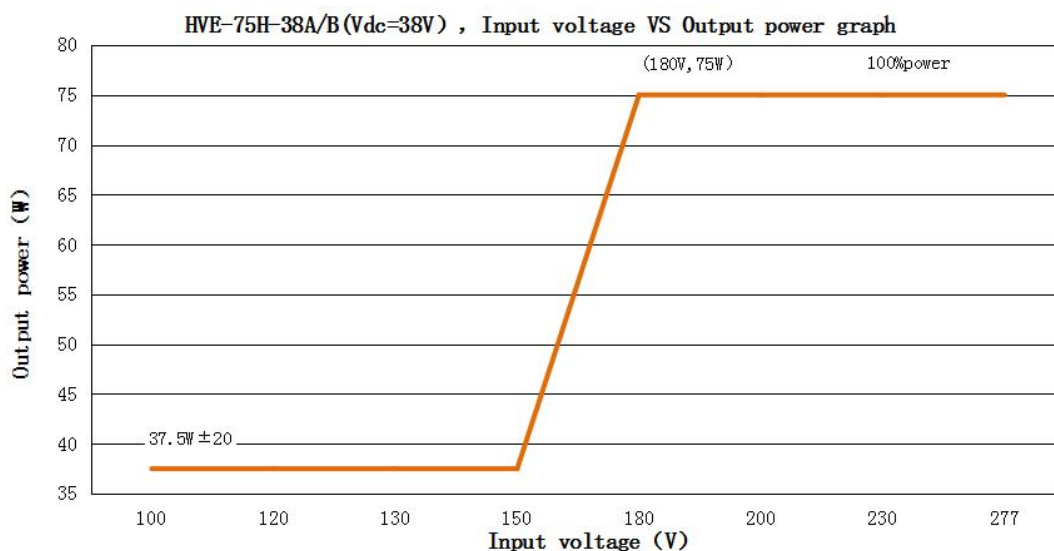
**Output power VS Tcase( HVE-75H-A/B )**



**Tcase VS Life time( HVE-75H-A/B )**

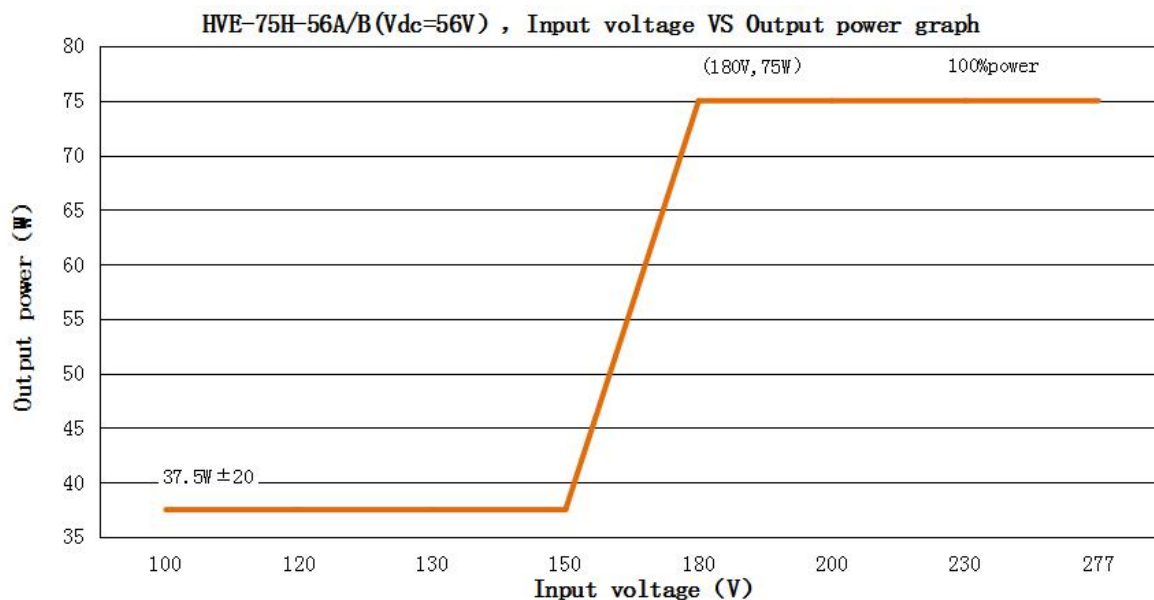


## Output power VS Input voltage



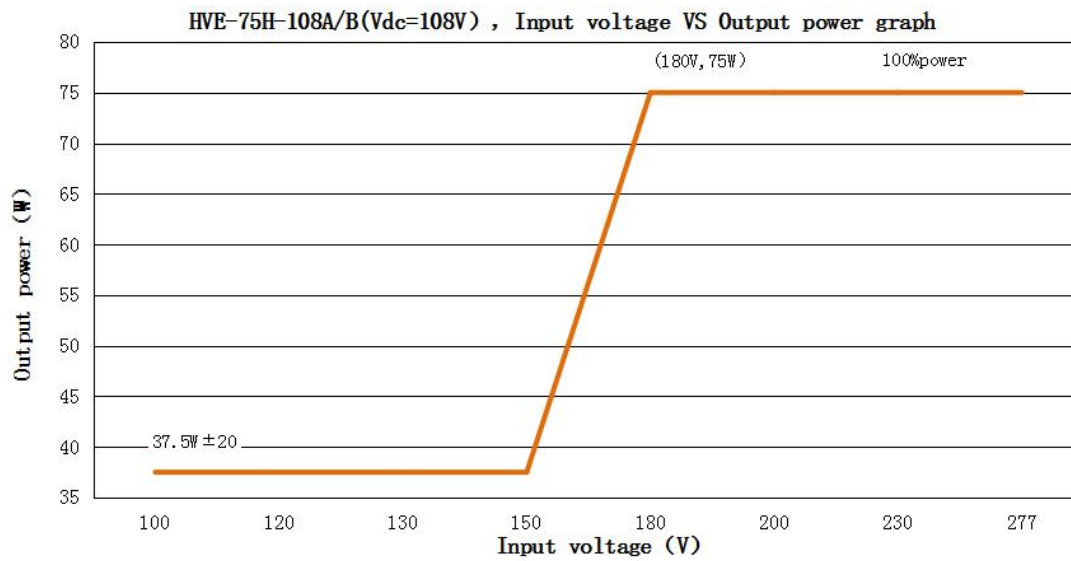
HVE-75H-38A/B (For output 38Vdc, the rated output current & power under different input voltage)

Input Voltage	100Vac	120Vac	130Vac	150Vac	180Vac	200Vac	230Vac	277Vac
I <sub>o</sub>	0.986A	0.986A	0.986A	0.986A	1.97A	1.97A	1.97A	1.97A
P <sub>o</sub>	37.5W	37.5W	37.5W	37.5W	75W	75W	75W	75W



HVE-75H-56A/B (For output 56Vdc, the rated output current & power under different input voltage)

Input Voltage	100Vac	120Vac	130Vac	150Vac	180Vac	200Vac	230Vac	277Vac
I <sub>o</sub>	0.67A	0.67A	0.67A	0.67A	1.34A	1.34A	1.34A	1.34A
P <sub>o</sub>	37.5W	37.5W	37.5W	37.5W	75W	75W	75W	75W




HVE-75H-108A/B (For output 108Vdc, the rated output current & power under different input voltage)

Input Voltage	100Vac	120Vac	130Vac	150Vac	180Vac	200Vac	230Vac	277Vac
Io	0.35A	0.35A	0.35A	0.35A	0.7A	0.7A	0.7A	0.7A
Po	37.5W	37.5W	37.5W	37.5W	75W	75W	75W	75W

#### Note:

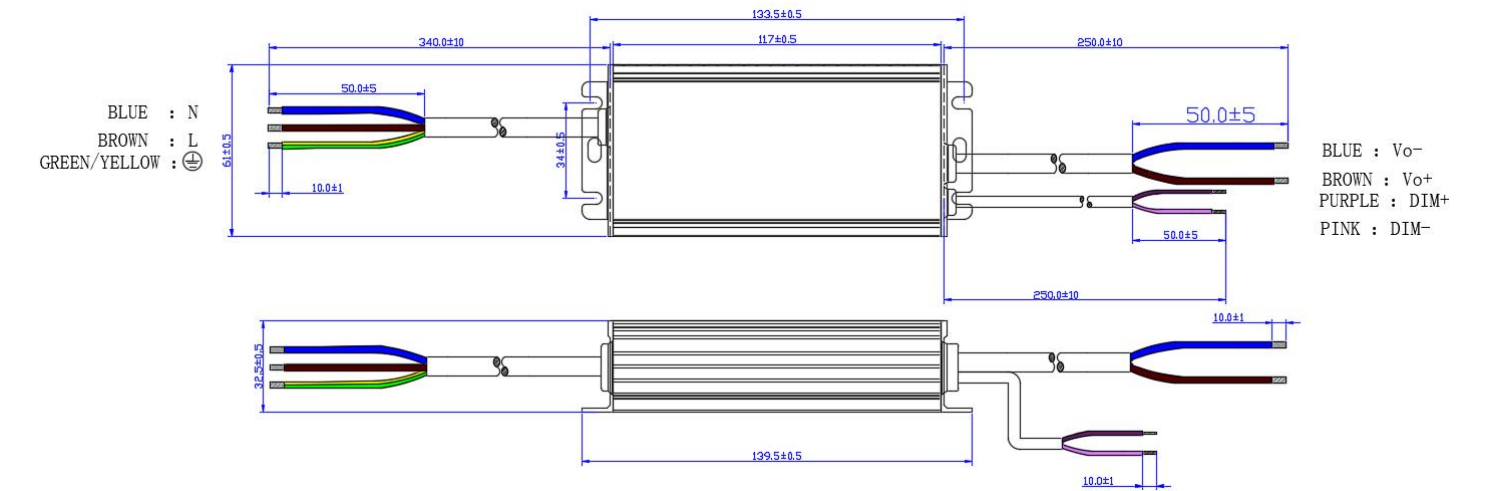
- When the input voltage is below 165±15Vac, the output power decreases to 37.5W±20%.

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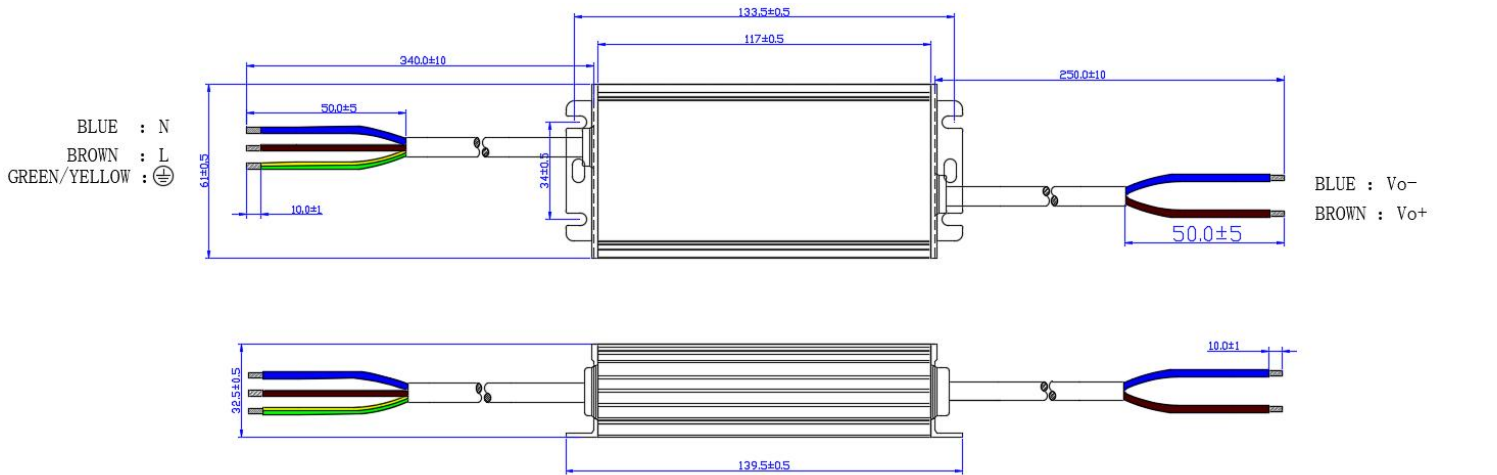
Mechanical specification


Size (mm)	L139.5mm*W61mm*H32.5mm
Weight (Kg)	470g
Packaging (mm)	

HVE-75H-38B  
HVE-75H-56B  
HVE-75H-108B



HVE-75H-38A  
HVE-75H-56A  
HVE-75H-108A



	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HVE-75H-38/56/108 Series	REV	V2.0

Version

DATE	DESCRIPTION	REV.	CHECK
2023.03.09	Initial version.	V1.0	
2024.01.04	Added High Voltage Version HVE-75H-108A/B	V2.0	