



IP65 IP67   
Type HL

Features

- Constant current design
- Wide input range 180 ~ 528VAC
- Built-in active PFC function
- High efficiency up to 94%
- -40°C ~ +70°C wide operating range
- Fanless design, cooling by free air convection
- Three in one dimming function (0~10Vdc or PWM signal or resistance)
- IP67 / IP65 design for indoor or outdoor installations
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Withstand 5G vibration test
- Suitable for dry / damp / wet location
- Type "HL" for use in class I , Division 2 hazardous(Classified) location luminaires
- 5 years warranty (Note.10)

Applications

- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Class I , Division 2 hazardous(Classified) location luminaires

Description

HVGC-320 series is a high performance 320W AC-to-DC constant current mode LED power supply featuring the high input voltage ranging from 180VAC through 528VAC. The working efficiency is up to 94%. The fully-potted silicone and the aluminum case facilitate the heat dissipation. HVGC-320 is thus able to work at the temperature between -40°C and +70°C under free air convection. This series can withstand surge up to 4KV (EN61000-4-5) and is approved for IP65/IP67 protection level. These attributes all make HVGC-320 perfectly fit the indoor/outdoor LED lighting application requiring remarkable reliability.

Model Encoding

HVGC-320-1400A

Function mode option
Output current
Output wattage
Series name

- A: Standard model, IP65, lo adjustable through built-in potentiometers.
B: Standard model, IP67, 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)



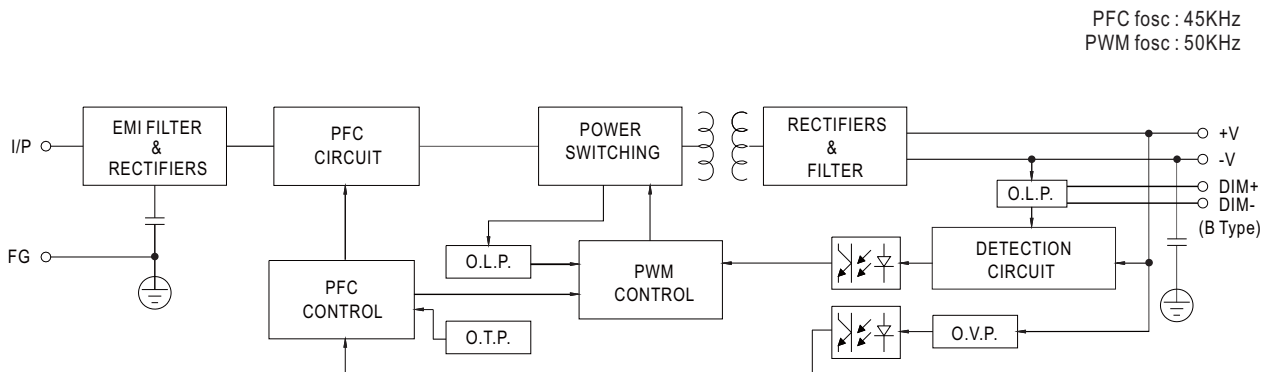
320W Single Output LED Power Supply

HVGC-320 series

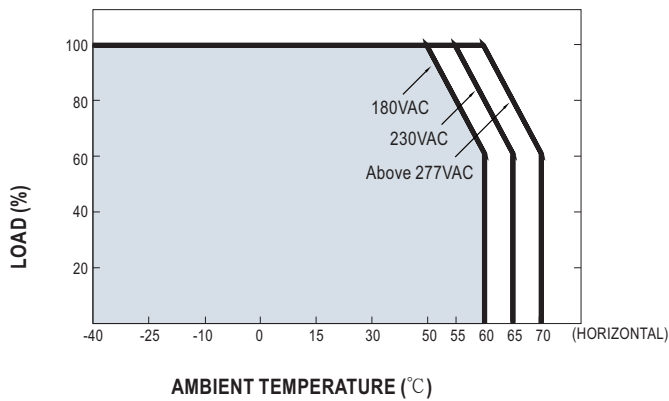
SPECIFICATION

MODEL		HVGC-320-700	HVGC-320-1050	HVGC-320-1400	HVGC-320-1750	HVGC-320-2100	HVGC-320-2800	HVGC-320-3500
OUTPUT	RATED CURRENT	700mA	1050mA	1400mA	1750mA	2100mA	2800mA	3500mA
	RATED POWER	300W	320W	320W	320W	320W	320W	320W
	CONSTANT CURRENT REGION Note.3	214 ~ 428V	152.4 ~ 304.8V	114.3 ~ 228.6V	91.4~182.8V	76.2 ~ 152.4V	57 ~ 114.3V	45.7 ~ 91.4V
	OPEN CIRCUIT VOLTAGE (max.)	442V	311V	234V	187V	156V	118V	94V
	CURRENT ACCURACY	± 5%						
	RIPPLE & NOISE (max.) Note.2	2Vp-p	1.5Vp-p	1Vp-p	1Vp-p	1Vp-p	1Vp-p	1Vp-p
	CURRENT ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)						
		350~700mA	525~1050mA	700~1400mA	875~1750mA	1050~2100mA	1400~2800mA	1750~3500mA
	LINE REGULATION	± 1%	± 1%	± 1%	± 1%	± 1%	± 1%	± 1%
	SETUP, RISE TIME Note.5	500ms, 150ms/230Vac 400ms, 150ms/347VAC/480VAC at full load ; B type 500ms, 150ms/230Vac 500ms, 150ms/347VAC/480Vac at 95% load						
HOLD UP TIME (Typ.)	18ms at full load 480VAC / 347VAC							
INPUT	VOLTAGE RANGE Note.4	180 ~ 528VAC 254VDC ~ 747VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	PF≥0.98/230VAC, PF≥0.97/277VAC, PF≥0.95/347VAC, PF≥0.93/480VAC at full load (Please refer to "Power Factor Characteristic" curve)						
	TOTAL HARMONIC DISTORTION	Total harmonic distortion will be lower than 20% when output loading is 50% or higher at 230VAC / 277VAC / 347VAC / 480VAC						
	EFFICIENCY (Typ.)	94%	94%	94%	94%	94%	93.5%	93.5%
	AC CURRENT (Typ.)	1.1A / 347VAC 0.8A / 480VAC						
	INRUSH CURRENT(Typ.)	COLD START 50A(twidth=920μs measured at 50% Ipeak) at 480VAC						
	MAX. NO. of PSUs on 16A CIRCUIT BREAKER	2 unit(circuit breaker of type B) / 4 units(circuit breaker of type C) at 480VAC						
LEAKAGE CURRENT	<0.75mA / 480VAC							
PROTECTION	SHORT CIRCUIT	Constant current, recovers automatically after fault condition is removed						
	OVER VOLTAGE	445 ~ 455V	320 ~ 351V	240 ~ 263V	192 ~ 210V	160 ~ 175V	120 ~ 131V	96 ~ 105V
		Protection type : Shut down o/p voltage with re-power on to recovery						
ENVIRONMENT	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down						
	WORKING TEMP.	-40 ~ +70℃ (Refer to "Derating Curve")						
	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	UL8750 (type"HL"), CSA C22.2 No. 250.12-13, IP65 or IP67 approved						
	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℃ / 70% RH						
	EMC EMISSION	Compliance to FCC Part 15 Subpart B						
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge 4KV), criteria A						
OTHERS	MTBF	141.2K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION	262*90*43.8mm (L*W*H)						
	PACKING	2Kg; 8pcs/17Kg/0.92CUFT						
NOTE	1. All parameters NOT specially mentioned are measured at 347VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf parallel capacitor. 3. Please refer to "DRIVING METHODS OF LED MODULE". 4. Derating may be needed under low input voltages. Please check the static characteristics for more details. 5. The power supply 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. Refer to warranty statement. 7. 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.							

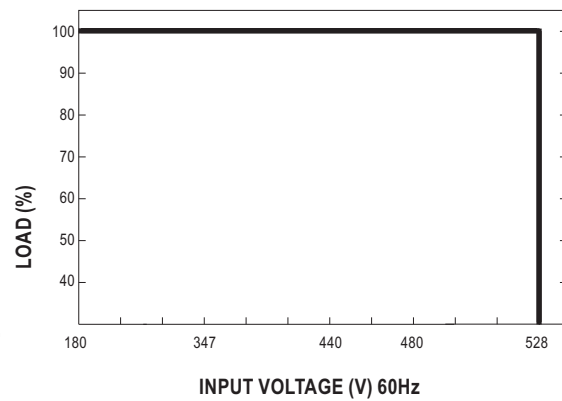
Block Diagram



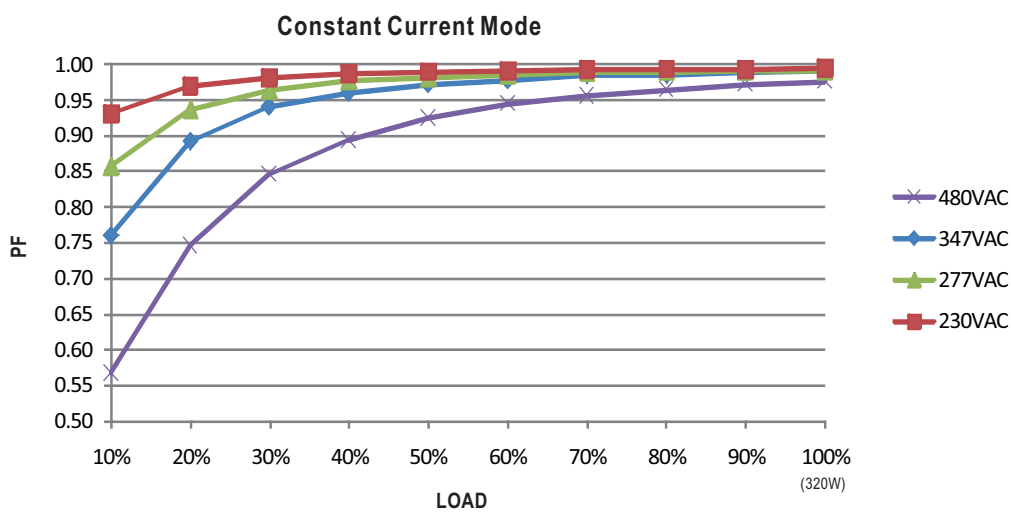
Derating Curve



Static Characteristics

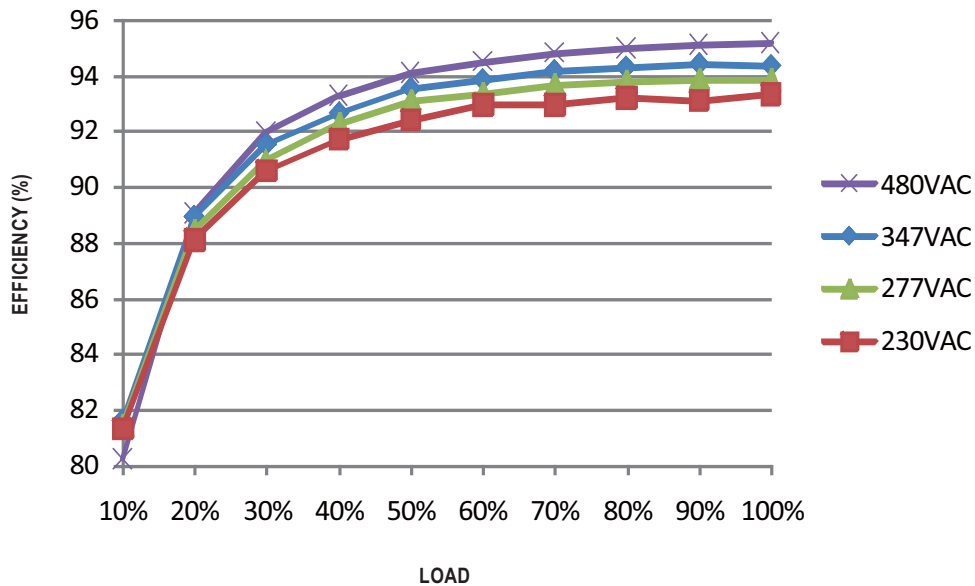


Power Factor Characteristic



■ EFFICIENCY vs LOAD (HVGC-320-1050 Model)

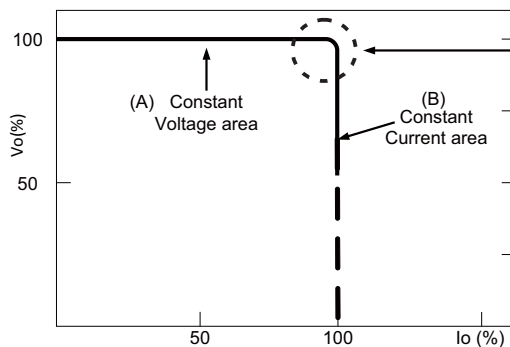
HVGC-320 series possess superior working efficiency that up to 94% can be reached in field applications.



■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive methods, "direct drive" and "with LED driver".

Mean Well's LED power supply with C.C characteristic can be operated at "constant current mode C.C" to directly drive the LEDs.

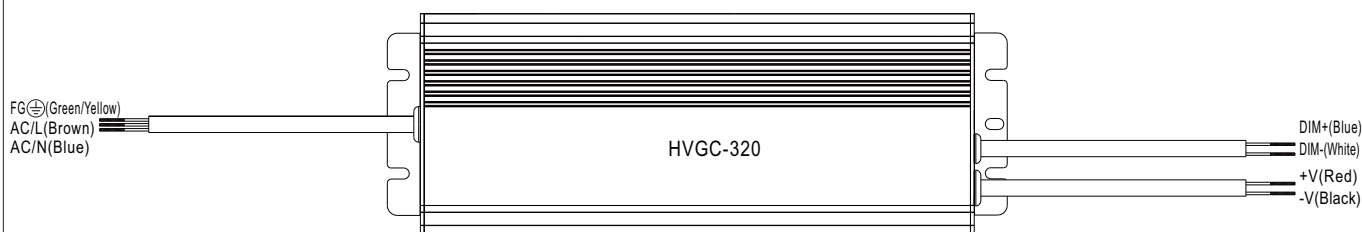


Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the power supply depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

■ DIMMING OPERATION (for B Type only)



※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	Short	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	Short	10K Ω /N	20K Ω /N	30K Ω /N	40K Ω /N	50K Ω /N	60K Ω /N	70K Ω /N	80K Ω /N	90K Ω /N	100K Ω /N	-----
Percentage of rated current		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

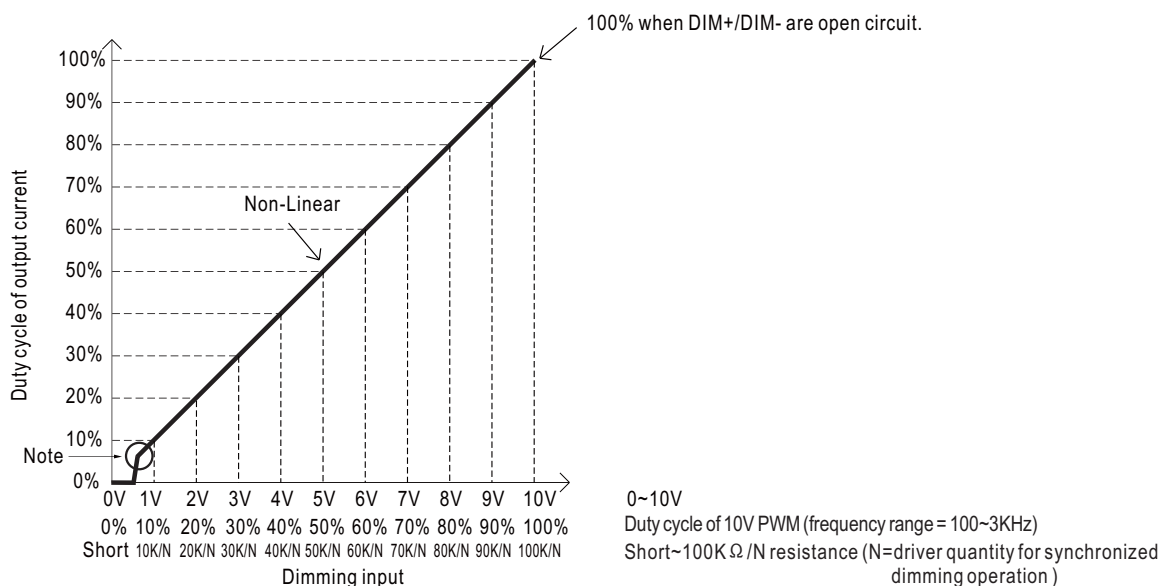
※ 0 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 10V PWM signal for output current adjustment (Typical): Frequency range : 100Hz ~ 3KHz

Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

◎ Dimming Characteristic

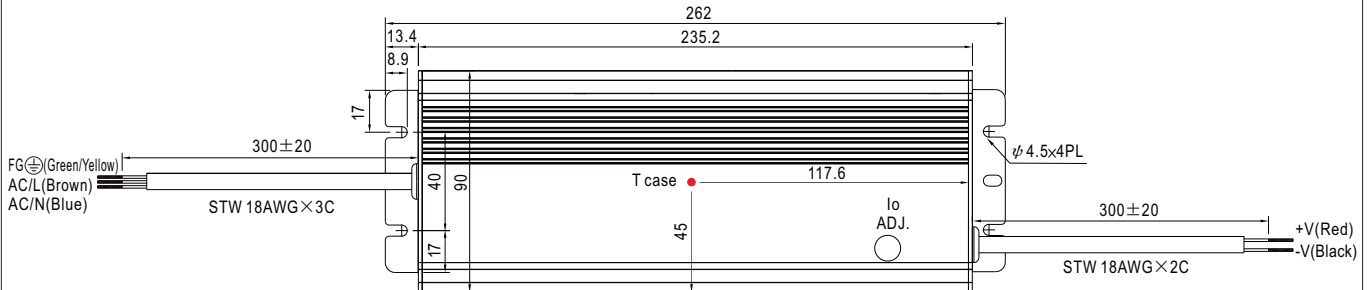


- ※ Note : 1. Min. dimming level is about 6%
2. The output current is not defined when $0\% < I_{out} < 6\%$
3. The output current could drop down to 0% when dimming input is about 0K Ω or 0Vdc, or 10V PWM signal with 0% duty cycle

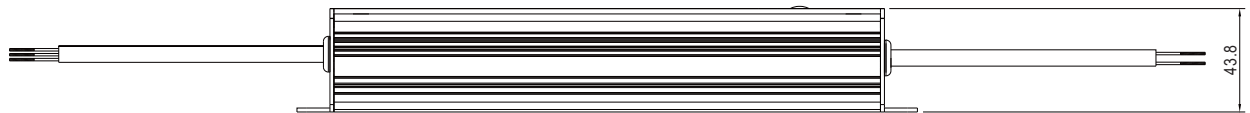
Case No. 228 Unit:mm

Mechanical Specification

A-Type:(HVGC-320-_A)

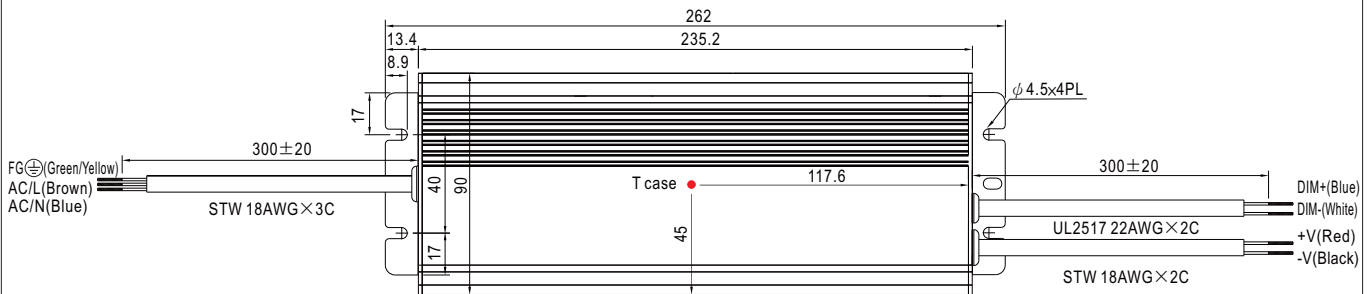


※ T case: Max. Case Temperature.

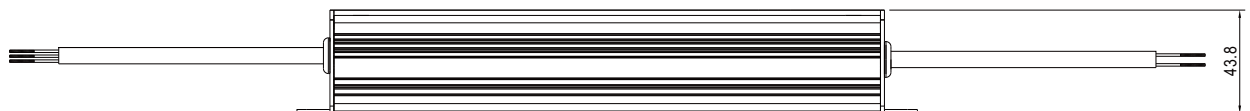


※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

B-Type:(HVGC-320-_B)



※ T case: Max. Case Temperature.



Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>