









## **■** Features

- Wide input range 180 ~ 528VAC
- · Constant Current mode output
- · Metal housing with Class I design
- · Built-in active PFC function
- IP67 / IP65 design for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off); Smart timer dimming
- Typical lifetime>50000 hours
- 5 years warranty

# Applications

- · LED street lighting
- · LED high-bay lighting
- · Parking space lighting
- · LED fishing lamp
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location.

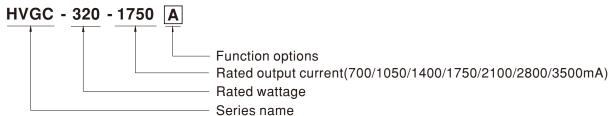
#### ■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

## Description

HVGC-320 series is a 320W LED AC/DC LED power supply featuring the constant current mode and high voltage output. HVGC-320 operates from  $180\sim528$ VAC and offers models with different rated current ranging between 700mA and 3500mA. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for  $-40^{\circ}$ C  $\sim +90^{\circ}$ C 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. HVGC-320 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	Note
Α	IP65	lo adjustable through built-in potentiometer.	In Stock
В	IP67	3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock
AB	IP65	Io adjustable through built-in potentiometer & 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock
Dx	IP67	Built-in Smart timer dimming function by user request.	By request
D2	IP67	Built-in Smart timer dimming and programmable function.	By request

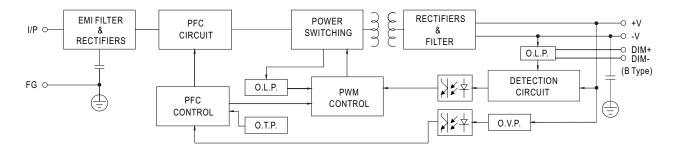
MODEL		HVGC-320-700	HVGC-320-1050	HVGC-320-1400	HVGC-320-1750	HVGC-320-2100	HVGC-320-2800	HVGC-320-3500	
	RATED CURRENT	700mA	1050mA	1400mA	1750mA	2100mA	2800mA	3500mA	
	RATED POWER	300W	320W	320W	320W	320W	320W	320W	
	CONSTANT CURRENT REGION Note.2	214 ~ 428V	152.4 ~ 304.8V	114.3 ~ 228.6V	91.4~182.8V	76.2 ~ 152.4V	57 ~ 114.3V	45.7 ~ 91.4V	
	OPEN CIRCUIT VOLTAGE (max.)		311V	234V	187V	156V	118V	94V	
OUTPUT	of En ontoon voentoe (max.)	Adjustable for A/AB-Type only (via built-in potentiometer)							
	CURRENT ADJ. RANGE	350~700mA	525~1050mA	700~1400mA	875~1750mA	1050~2100mA	1400~2800mA	1750~3500mA	
	CURRENT RIPPLE	5.0% max. @rate		700 110011111	010 11001111	1000 210011111	1100 200011111	1700 000011171	
	CURRENT TOLERANCE	±5%							
			347\/AC 480\/AC						
		500ms/230VAC, 347VAC, 480VAC 180 ~ 528VAC 254VDC ~ 747VDC							
	VOLTAGE RANGE Note.3	180 ~ 528VAC   254VDC ~ 747VDC     (Please refer to "STATIC CHARACTERISTIC" section)							
	FREQUENCY RANGE	(Please refer to "STATIC CHARACTERISTIC" section)  47 ~ 63Hz							
	TREGOLITOTICATIOE		∩ DE > 0 07/277\/A	C DE > 0.05/3/17\//	AC, PF≥0.93/480V	AC @full load			
	POWER FACTOR (Typ.)					AC Widii load			
		(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)  THD< 20%(@ load ≥ 50%/230VAC, 277VAC, 347VAC, @ load ≥ 60%/480VAC)							
INPUT	TOTAL HARMONIC DISTORTION	٠, ٠	TOTAL HARMONI		. •	ovac)			
MFUI	EFFICIENCY (Typ.)	93.5%	93.5%	93.5%	93.5%	93.5%	93.5%	93%	
	, , , ,	1.1A / 347VAC	0.8A / 480VAC	93.5%	93.5%	93.5%	93.5%	93%	
	AC CURRENT (Typ.) INRUSH CURRENT(Typ.)			sured at 50% Innate)	at 480VAC; Per NEW	14 410			
	( )1 /	COLD START 30/	A(twidtii–920µs iiieas	sureu at 50 % ipeak) a	IL 400 VAC, FEI NEIV	IA 4 10			
	MAX. NO. of PSUs on 16A	2 unit(circuit breaker of type B) / 4 units(circuit breaker of type C) at 480VAC							
	CIRCUIT BREAKER LEAKAGE CURRENT	<0.75mA / 480VAC							
				tamatiaalli, aftau f		- a a d			
	SHORT CIRCUIT	445 ~ 455V	320 ~ 351V	240 ~ 263V	ault condition is ren	160 ~ 175V	120 ~ 131V	96 ~ 105V	
ROTECTION	OVER VOLTAGE				192~2100	100~1750	120~1310	90~1000	
		Shut down o/p voltage with re-power on to recovery  Shut down and latch off o/p voltage, re-power on to recover							
	OVER TEMPERATURE	Tcase=-40 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)							
	WORKING TEMP.	,							
	MAX. CASE TEMP.	Tcase=+90°C							
ENVIRONMENT	WORKING HUMIDITY	20 ~ 95% RH nor							
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 °							
	TEMP. COEFFICIENT	±0.03%/°C (0~60°C)							
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes							
	SAFETY STANDARDS Note.11	te.11 UL8750 (type"HL"), CSA C22.2 No. 250.13-12, IEC/BS EN/EN61347-1,IEC/BS EN/EN61347-2-13, BS EN/EN62384 independent EAC TP TC 004, IP65 or IP67 approved					384 independen		
	WITHOTAND VOLTAGE								
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC							
EMC	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH							
	EMC EMISSION	Compliance to FCC Part 15 Subpart B, BS EN/EN55015, BS EN/EN61000-3-2(@load ≥ 50%), BS EN/EN61000-3-3, EAC TP T							
	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 4KV, Line-Line 2KV),EAC TP TC 020							
	MTBF	1721.7K hrs min. Telcordia SR-332 (Bellcore) ; 146.9K hrs min. MIL-HDBK-217F (25°C)							
OTHERS	DIMENSION	262*90*43.8mm		DZ (Delicore) , 140.	ACTIONIIII. WILE-	11DBR-2171 (25 € )			
JIIILINO	PACKING	2Kg; 8pcs/17Kg/0	. ,						
		0		AC input rated our	rent and 25°C of a	mhient temperatur	Α		
IOTE	1. All parameters NOT specially mentioned are measured at 347VAC input, rated current and 25°C of ambient temperature.     2. Please refer to "DRIVING METHODS OF LED MODULE".								
	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 power supply 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								
		inal equipment manufacturers must re-qualify EMC Directive on the complete installation again.							
		ww.meanwell.com//Upload/PDF/EMI_statement_en.pdf) ical life expectancy of >50,000 hours of operation when Tcase, particularly (c) point (or TMP, per DLC), is about 80°C or less.							
		Il life expectancy of	ot >50.000 hours of	t operation when T	case narticularly (t	c) point (or TMP in	er DLC) is about a	80°C or less	
	7. Please refer to the warranty						or DEO), is about	00 0 01 1033.	

- $8. \ The \ ambient \ temperature \ derating \ of \ 3.5^{\circ}C/1000m \ with \ fanless \ models \ and \ of \ 5^{\circ}C/1000m \ with \ fan \ models \ for \ operating \ altitude \ higher \ than \ 2000m(6500ft).$
- 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.
- 11. The models certified by CCC (GB19510.14, GB19510.1, GB/T 17743 and GB17625.1) are optional models. Please contact your MEAN WELL sales for more information.
- 12. For A/AB type need to consider build in using to comply with Type HL application.
- X Product Liability Disclaimer: For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx



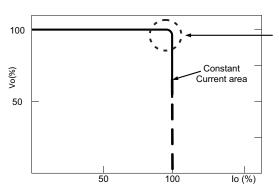
## **■** Block Diagram

PFC fosc : 45KHz PWM fosc : 50KHz



### **■** DRIVING METHODS OF LED MODULE

※ This series works in constant current mode to directly drive the LEDs.

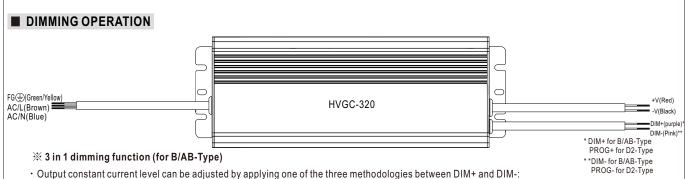


Typical output current normalized by rated current (%)

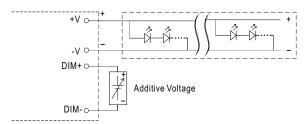
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

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



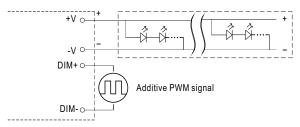


- 0 ~ 10VDC, or 10V PWM signal or resistance.
- · Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply:  $100\mu A$  (typ.)
- O Applying additive 0 ~ 10VDC



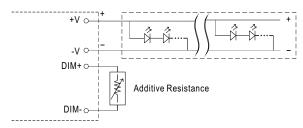
"DO NOT connect "DIM- to -V"

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

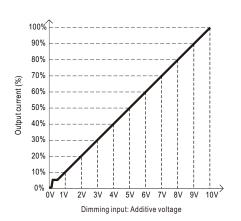


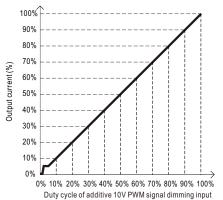
"DO NOT connect "DIM- to -V"

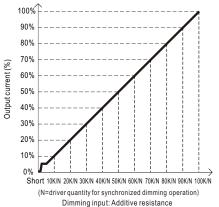
Applying additive resistance:



"DO NOT connect "DIM- to -V"







Note: 1. Min. dimming level is about 5% and the output current is not defined when 0% < Iout < 5%.

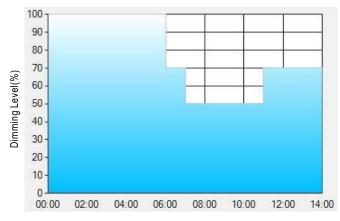
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

### 320W Constant Current Mode LED Driver

#### **X** Smart timer dimming function (for Dxx-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: O D01-Type: the profile recommended for residential lighting



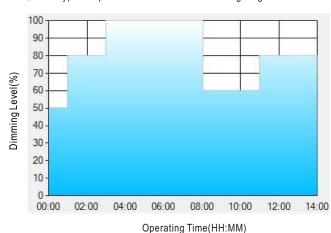
Set up for D01-Type in Smart timer dimming software program:

	T1	T2	Т3	T4
TIME**	06:00	07:00	11:00	
LEVEL**	100%	70%	50%	70%

Operating Time(HH:MM)

- $\hbox{\ensuremath{}^{**}: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level}.$ 
  - 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: O D02-Type: the profile recommended for street lighting



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

	T1	T2	Т3	T4	T5
TIME**	01:00	03:00	8:00	11:00	
LEVEL**	50%	80%	100%	60%	80%

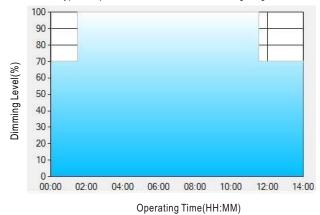
\*\*: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

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.







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

	T1	T2	Т3
TIME**	01:30	11:00	
LEVEL**	70%	100%	70%

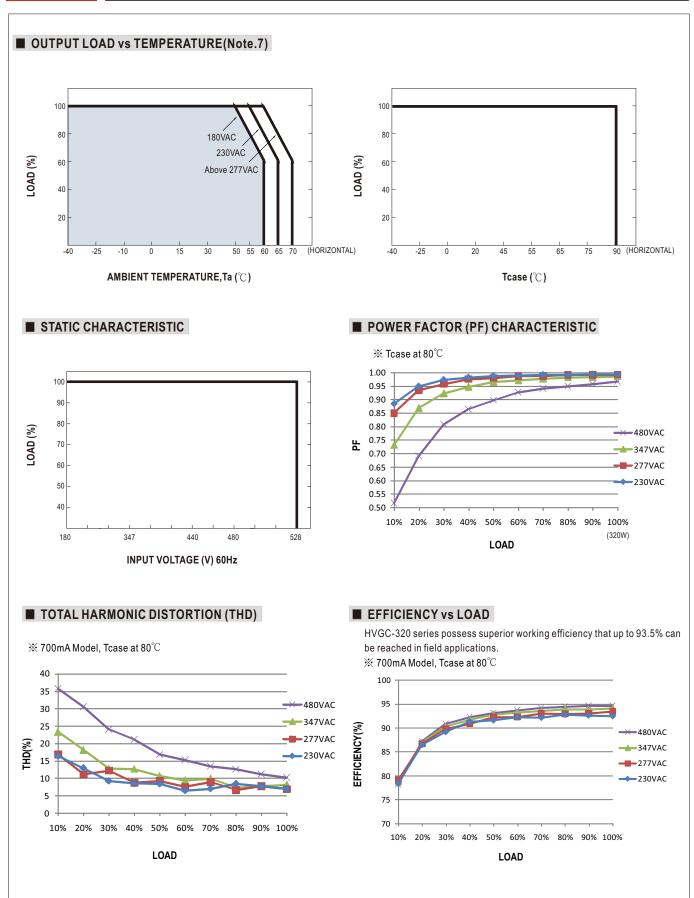
Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

- [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 5:00 am, 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.

<sup>\*\*:</sup> TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.







# ■ LIFE TIME

