

**Professionally approved products.**

## Datasheet

# Dimmable Constant Current LED Driver 99.4W 170 → 285V 0.7A RS HVGC-100-700A

RS Stock number 738-2501



### ■ Features :

- Constant current design
- Wide input range 180~528VAC
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (0~10Vdc or 10V PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations

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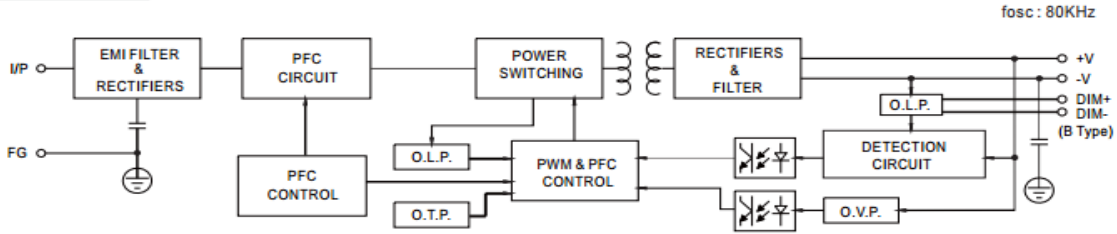
# Datasheet

MODEL		HVGC-100-350 <input type="checkbox"/>	HVGC-100-700 <input type="checkbox"/>
OUTPUT	RATED CURRENT	350mA	700mA
	CURRENT ACCURACY	±5.0%	
	OUTPUT VOLTAGE RANGE <small>Note.4</small>	29 ~ 285V	15 ~ 142V
	RATED POWER	99.75W	99.4W
	RIPPLE & NOISE (max.) <small>Note.2</small>	1Vp-p	
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only	
		210 ~ 350mA	420 ~ 700mA
	SETUP, RISE TIME	500ms, 80ms 230VAC / 347VAC / 480VAC at full load ; B type 500ms, 280ms 230VAC / 347VAC / 480VAC at 95% load	
HOLD UP TIME (Typ.)	30ms at full load 480VAC / 347VAC		
INPUT	VOLTAGE RANGE <small>Note.3</small>	180 ~ 528VAC	254VDC ~ 747VDC
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF≥0.98/230VAC, PF≥0.98/277VAC, PF≥0.97/347VAC, PF≥0.93/480VAC at full load (Please refer to "Power Factor Characteristic" curve)	
	TOTAL HARMONIC DISTORTION	THD<20% when output loading ≥50% at 230VAC/277VAC/347VAC input ; THD<20% when output loading ≥75% at 480VAC input	
	EFFICIENCY (Typ.)	91%	91%
	AC CURRENT (Typ.)	0.38A / 347VAC	0.28A / 480VAC
	INRUSH CURRENT (Typ.)	COLD START 25A( $t_{\text{width}}=900\mu\text{s}$ measured at 50% I <sub>peak</sub> ) at 480VAC	
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	5 units (circuit breaker of type B) / 8 units (circuit breaker of type C) at 480VAC	
	LEAKAGE CURRENT	<0.75mA / 480VAC	
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	300 ~ 320V	150 ~ 160V
		Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down	
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)	
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes	
SAFETY & EMC	SAFETY STANDARDS <small>Note.5</small>	UL8750, CSA C22.2 No. 250.0-08, TUV EN61347-1, EN61347-2-13, IP65 or IP67 approved ; design refer to UL60950-1, TUV EN60950-1	
	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°C / 70% RH	
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥50% load) ; EN61000-3-3, FCC part 15 class B	
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge 4KV), criteria A	
OTHERS	MTBF	186.1K hrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	236*68*38.8mm (L*W*H)	
	PACKING	1.18Kg; 12pcs/15.2Kg/0.74CUFT	

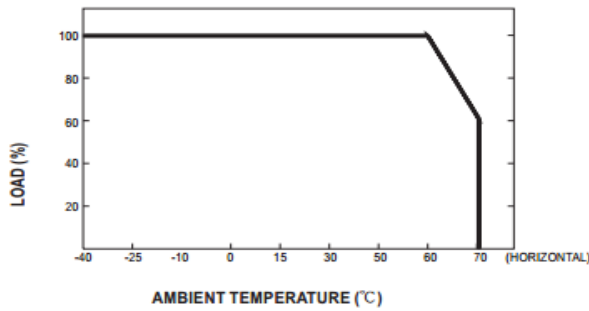


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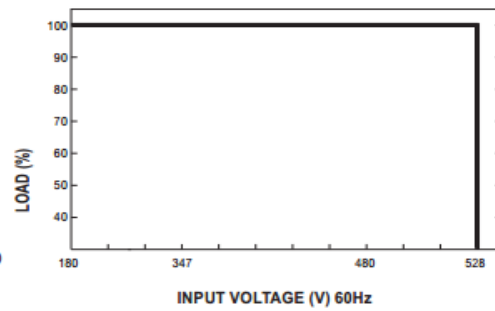
## Block Diagram



## Derating Curve

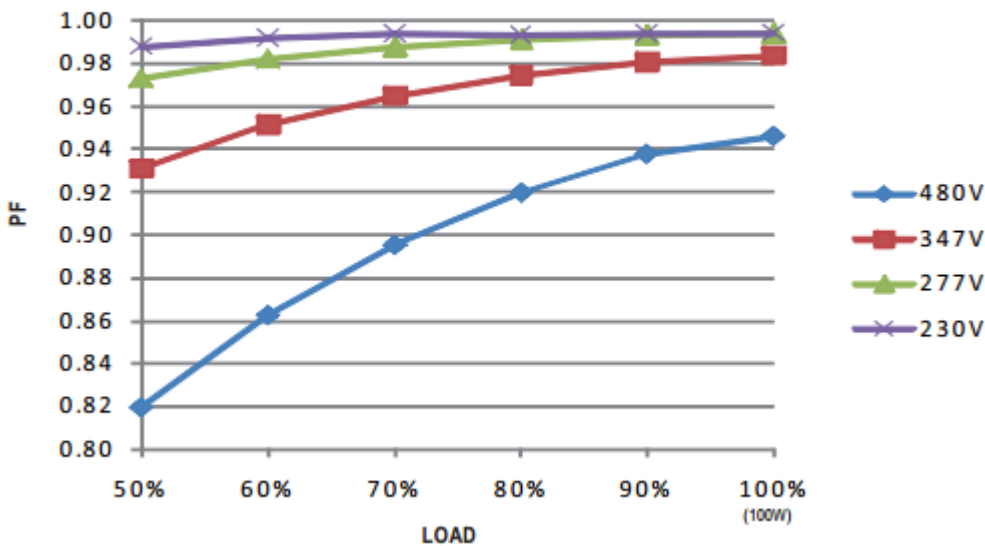


## Static Characteristics



## Power Factor Characteristic

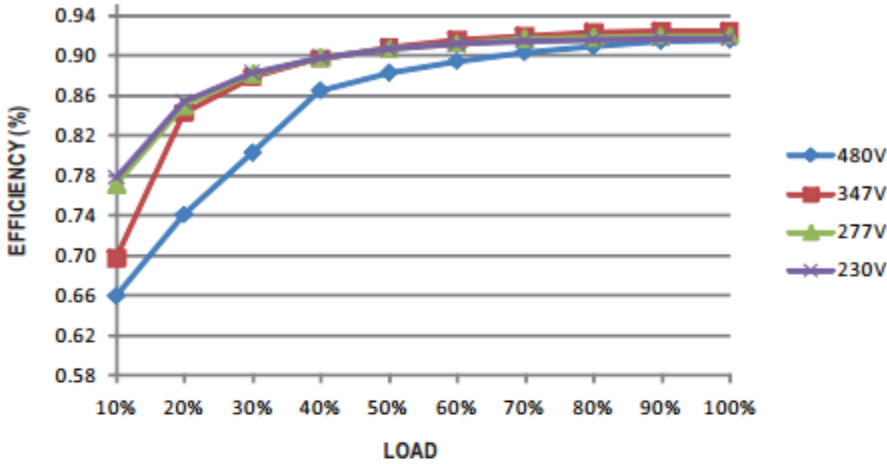
### Constant Current Mode



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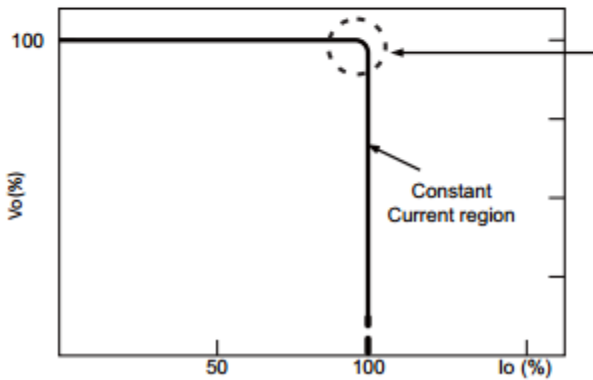
## EFFICIENCY vs LOAD (HVGC-100-700 Model)

HVGC-100 series possess superior working efficiency that up to 91% can be reached in field applications.



## DRIVING METHODS OF LED MODULE

A typical LED power supply may work in "constant current mode (CC)" to drive the LEDs. Mean Well's LED power supply with CC characteristic can be operated at CC mode (direct drive).

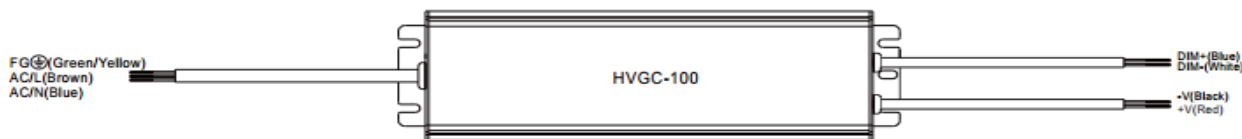


In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Typical LED power supply I-V curve

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## 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)
- ※ Output voltage limit of 50%.

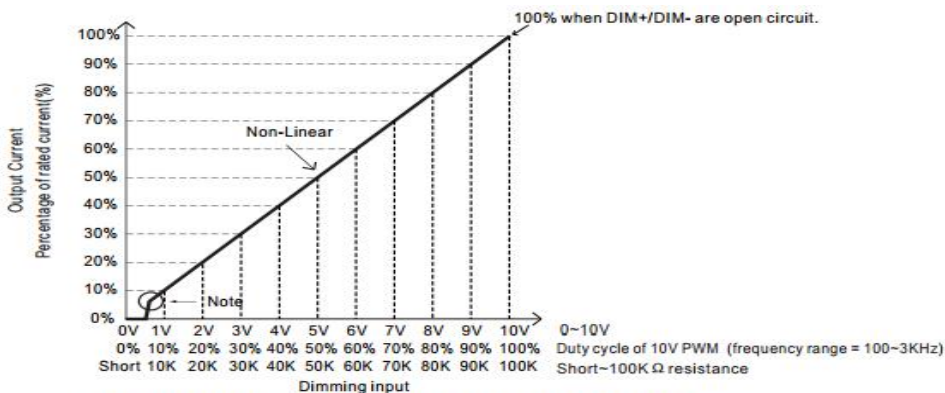
Resistance value	Single driver	Short	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	OPEN
	Multiple drivers (N-driver quantity for synchronized dimming operation)	Short	10K Ω/N	20K Ω/N	30K Ω/N	40K Ω/N	50K Ω/N	60K Ω/N	70K Ω/N	80K Ω/N	90K Ω/N	100K Ω/N	.....
Percentage of rated current		0%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

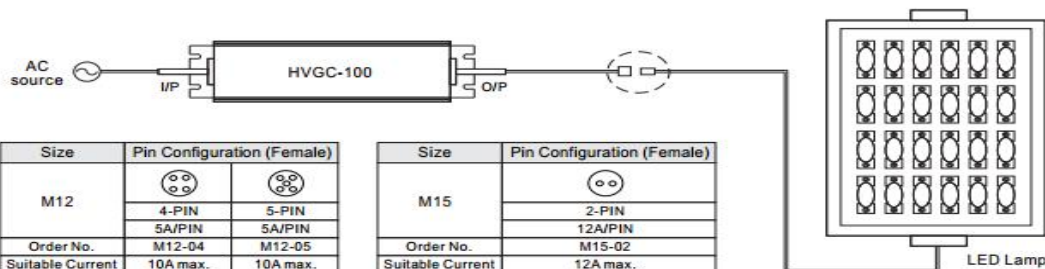


※ Note : The output current drops down to 0% when the dimming input is about 6KΩ or 0.6Vdc, or 10V PWM signal with 6% duty cycle.

## WATERPROOF CONNECTION

⊙ Waterproof connector

Waterproof connector can be assembled on the output cable of HVGC-100 to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

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