

# PEC-V06-P Series



## 60W CONSTANT VOLTAGE + CONSTANT CURRENT LED POWER SUPPLY



### Key Features:

- Constant Voltage & Constant Current Mode Output
- Built-in active PFC function
- Class 2 power unit
- Fully encapsulated with IP67 rating
- Typical lifetime >50000 hours
- 5 years warranty

### PEC-V06-P SPECIFICATION

Part Code:	PEC-V06C-P	PEC-V06D-P	PEC-V06F-P	PEC-V06G-P	PEC-V06J-P	PEC-V06K-P
Voltage	90V~305VAC	127~431VDC				
Frequency	47~63 Hz					
Power Factor	PF>0.97/115VAC PF>0.95/230VAC, PF>0.92/277VAC at full load (please refer to "Power Factor characteristic" curve)					
Total Harmonic Distortion	<20% at load >60%/115VDC, 230VAC; at >75% 277/VAC (Please refer to "Total Harmonic Distortion" section)					
Efficiency	86%	87%	88%	89%	90%	90%
Current	0.8A@115VAC	0.4A@230VAC	0.32A@277VAC			
Inrush Current (Typ.)	Cold Start 55A (width=270µs measured at 50% Ipeak) @230VAC; Per NEMA 410					
Max. No. of PSUs on 16A Circuit Breaker	8 Units (Circuit breaker of type B)/14 units (Circuit breaker of type C) at 230VAC					
Leakage Current	<0.75mA@240VAC input					
Voltage	12V	15V	20V	24V	30V	36V
Rated Current	5A	4A	3A	2.5A	2A	1.67A
Current Range	7.2~12V	9~15V	12~20V	14.4~24V	18~30V	21.6~36V
Rated Power	60W	60W	60W	60W	60W	60.12W
Ripple Noise MAX.	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p
Voltage Tolerance	± 4.0%	± 4.0%	± 4.0%	± 4.0%	± 4.0%	± 4.0%
Line Regulation	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
Load Regulation	± 2.0%	± 1.5%	± 1.0%	± 0.5%	± 0.5%	± 0.5%
Setup Rise Time	1000ms, 80ms / 115VAC 500ms, 80ms / 230VAC					
Holdup Time (Typ.)	16ms / 230VAC 16ms / 115VAC					
Over Current	95~108%					
Constant current limiting, recovers automatically after fault condition is removed						
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed					
Over Voltage	15~17V	17.5~21V	23~27V	28~35V	34~40V	41~49V
Over Temperature	Protection Type: Shut down o/p voltage, re-power on to recover					
Working Temp.	Tcase = -40~+80°C (Refer to "Derating Curve")					
Max. Case Temperature	Tcase = +80°C					
Working Humidity	20~95% RH non-condensing					
Storage Temp., Humidity	-40~+80°C, 10~95%RH					
Temp. Co-efficient	±0.03% / °C (0~50°C)					
Vibration	10~500Hz, 5G 12min./1cycle, period for 72 min. each along X, Y, Z axes					
Withstand Voltage	I/P-O/P:3.75KVAC					
Isolation Resistance	I/P-OP:100M Ohms / 500VDC / 25°C / 70% RH					
Safety Standards	UL8750, CSA C22.2 No. 250-0-08, ENEC EN61347-1, EN61347-2-13 independent, EN62384, IP67, J61347-1, J61347-2-13, BIS IS15885(for 24V only), EAC TP TC 004,GB19510.1,GB19510.14 approved; design refer to UL60950-1, TUV EN60950-1					
EMC Emission	Compliance to EN55015,EN61000-3-2 Class C (@load ≥60%); EN61000-3-3, GB17743 and GB17625.1, EAC TP TC 020					
EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020					
M.T.B.F.	440.5K hrs min. MIL-HDBK-217F (25°C)					
Packaging	0.45Kg; 32pcs/15.4Kg/0.93CUFT					
Dimensions	162.5 x 43 x 32mm					



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### PEC-V06-P SPECIFICATION

Part Code:	PEC-V06L-P	PEC-V06M-P	PEC-V06N-P
Voltage	90V~305VAC	127~431VDC	
Frequency	47~63 Hz		
Power Factor	PF>0.97/115VAC PF>0.95/230VAC, PF>0.92/277VAC at full load (please refer to "Power Factor characteristic" curve)		
Total Harmonic Distortion	<20% at load >60%/115VDC, 230VAC; at >75% 277/VAC (Please refer to "Total Harmonic Distortion" section)		
Efficiency	90%	90%	90%
Current	0.8A@115VAC	0.4A@230VAC	0.32A@277VAC
Inrush Current (Typ.)	Cold Start 55A(twidth=270µs measured at 50% Ipeak) @230VAC; Per NEMA 410		
Max. No. of PSUs on 16A Circuit Breaker	8 Units (Circuit breaker of type B)/14 units (Circuit breaker of type C) at 230VAC		
Leakage Current	<0.75mA@240VAC input		
Voltage	42V	48V	54V
Rated Current	1.43A	1.25A	1.12A
Current Range	25.2~42V	28.8~48V	32.4~54V
Rated Power	60.06W	60W	60.48W
Ripple Noise MAX.	250mVp-p	250mVp-p	350mVp-p
Voltage Tolerance	± 4.0%	± 4.0%	± 4.0%
Line Regulation	± 0.5%	± 0.5%	± 0.5%
Load Regulation	± 0.5%	± 0.5%	± 0.5%
Setup Rise Time	1000ms, 80ms / 115VAC	500ms, 80ms / 230VAC	
Holdup Time (Typ.)	16ms / 230VAC	16ms / 115VAC	
Over Current	95~108%		
Constant current limiting, recovers automatically after fault condition is removed			
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed		
Over Voltage	46~54V	54~63V	59~66V
Over Temperature	Shut down and latch off o/p voltage, re-power on to recover		
Working Temp.	Protection Type: Shut down o/p voltage, re-power on to recover		
Max. Case Temperature	Tcase = -40~+80°C (Refer to "Derating Curve")		
Working Humidity	Tcase = +80°C		
Storage Temp., Humidity	20~95% RH non-condensing		
Temp. Co-efficient	-40~+80°C, 10~95%RH		
Vibration	±0.03%/°C (0~50°C)		
Withstand Voltage	10~500Hz, 5G 12min./1cycle, period for 72 min. each along X, Y, Z axes		
Isolation Resistance	I/P-O/P:3.75KVAC		
Safety Standards	I/P-OP:100M Ohms / 500VDC/ 25°C / 70% RH		
EMC Emission	UL8750, CSA C22.2 No. 250.0-08, ENEC EN61347-1, EN61347-2-13 independent, EN62384, IP67, J61347-1, J61347-2-13, BIS IS15885(for 24V only), EAC TP TC 004,GB19510.1,GB19510.14 approved; design refer to UL60950-1, TUV EN60950-1		
EMC Immunity	Compliance to EN55015, EN61000-3-2 Class C (@load ≥60%); EN61000-3-3, GB17743 and GB17625.1, EAC TP TC 020		
M.T.B.F.	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020		
Packaging	440.5K hrs min. MIL-HDBK-217F (25°C)		
Dimensions	0.45Kg; 32pcs/15.4Kg/0.93CUFT		
	162.5 x 43 x 32mm		

- All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.
- Please refer to "DRIVING METHODS OF LED MODULE".
- Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.
- Tolerance : includes set up tolerance, line regulation and load regulation.
- De-rating may be needed under low input voltages. Please refer to STATIC CHARACTERISTIC sections for details.
- Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
- The driver 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.
- This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (C) point (or TMP, per DLC), is about 70°C or less.
- To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch with permanent connection to the mains.
- The ambient temperature of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude of higher than 2000m (6500ft).

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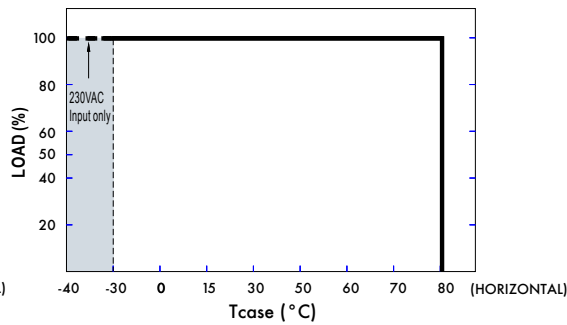
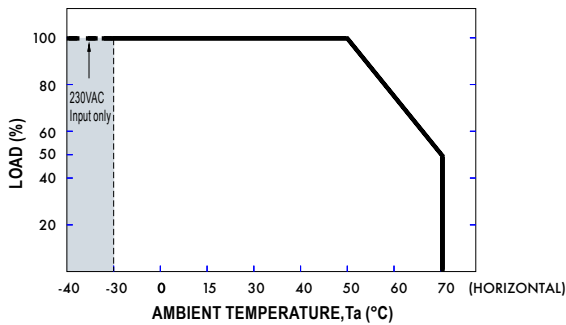




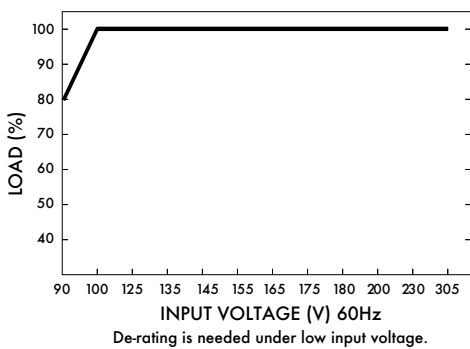
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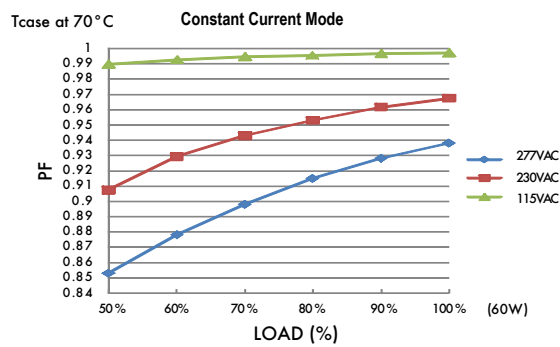
Output Load vs Temperature



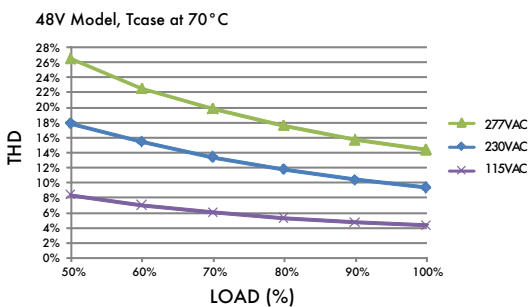
Static Characteristic



Power Factor (PF) Characteristic



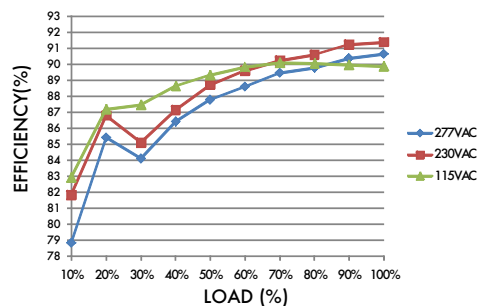
Total Harmonic Distortion (THD)



Efficiency vs Load

PEC-V06-P series possess superior working efficiency that up to 90% can be reached in field applications.

48V Model, Tcase at 70°C

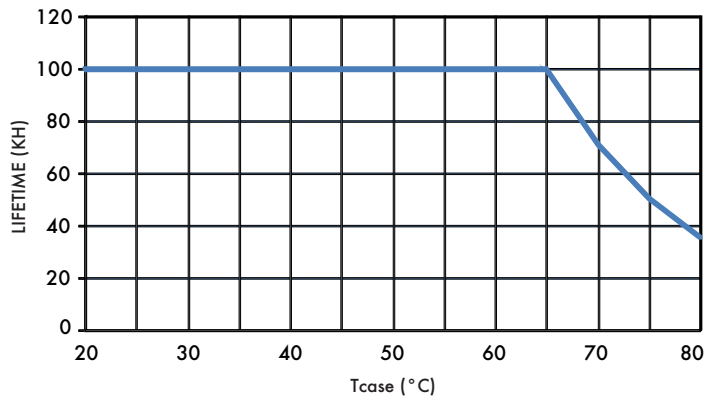




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Life Time



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