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16W Single Output AC Dimmable LED Power Supply PCD-16 series



Features :

- AC phase-cut dimming
- Work with leading edge and trailing edge TRIAC dimmers
- 115VAC or 230VAC models available
- Built-in active PFC function
- Constant current design
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- IP30 design
- Class Ⅱ power unit, no FG
- Class 2 power unit
- Suitable for indoor LED lighting applications
- 100% full load burn-in test
- Low cost
- High reliability
- 3 years warranty

(for B type only) (for B type only) SELV IP30 (for A type only) (for PCD-16-350) (except PCD-16-350) (for B type only)

PCD-16-350 A A : With AC input 90~ 135VAC.
B : With AC input 180~ 295VAC.

SPECIFICATION

MODEL		PCD-16-350	PCD-16-700	PCD-16-1050	PCD-16-1400
OUTPUT	RATED CURRENT	350mA	700mA	1050mA	1400mA
	OPERATING VOLTAGE RANGE	24 ~ 48V	16 ~ 24V	12 ~ 16V	8 ~ 12V
	CURRENT ACCURACY	±5.0%			
	RATED POWER	16.8W	16.8W	16.8W	16.8W
	RIPPLE & NOISE (max.) Note.1	4.6Vp-p	2.7Vp-p	2.2Vp-p	2Vp-p
	NO LOAD OUTPUT VOLTAGE (max.)	63V	35V	25V	16V
	SETUP TIME	500ms / 230VAC 2000ms / 115VAC at full load			
INPUT	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.9/115VAC, PF>0.9/230VAC, PF>0.9/277VAC at full load (Please refer to "Power Factor Characteristic" curve)			
	EFFICIENCY (Typ.)	82%	81%	80.5%	80%
	AC CURRENT (Typ.)	0.4A/115VAC 0.2A/230VAC 0.15A/277VAC			
	INRUSH CURRENT(max.)	COLD START 10A(t_{width}=90μs measured at 50% I_{peak}) at 115VAC / 230VAC			
	LEAKAGE CURRENT	<0.5mA / 120VAC / 240VAC			
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.			
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover			
ENVIRONMENT	WORKING TEMP.	-30 ~ +60℃ (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)			
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes			
SAFETY & EMC	SAFETY STANDARDS	UL8750, CSA C22.2 No. 250.0-08(except for PCD-16-350), ENEC EN613471, EN61347-2-13, EN62384(for B type only), IP30 approved ; design refer to UL60950-1, TUV EN60950-1, EN61347-1, EN61347-2-13			
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC			
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH			
	EMC EMISSION	Compliance to EN55015 (B type only), EN61000-3-2 Class C ; EN61000-3-3, FCC part 18 non-consumer equipment (A type only)			
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024,EN61547, light industry level, criteria A			
OTHERS	MTBF	906.5K hrs min. MIL-HDBK-217F (25℃)			
	DIMENSION	84*57*29.5mm (L*W*H)			
	PACKING	0.19Kg; 72pcs/14.7Kg/0.92CUFT			
NOTE	1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 2. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers. 3. 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.				

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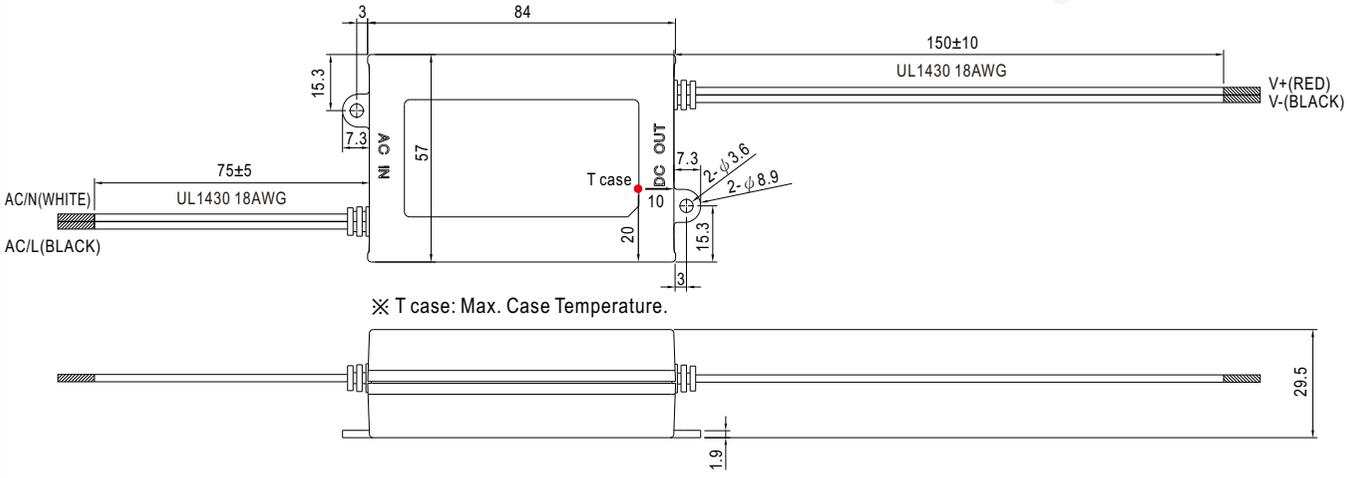
MEAN WELL

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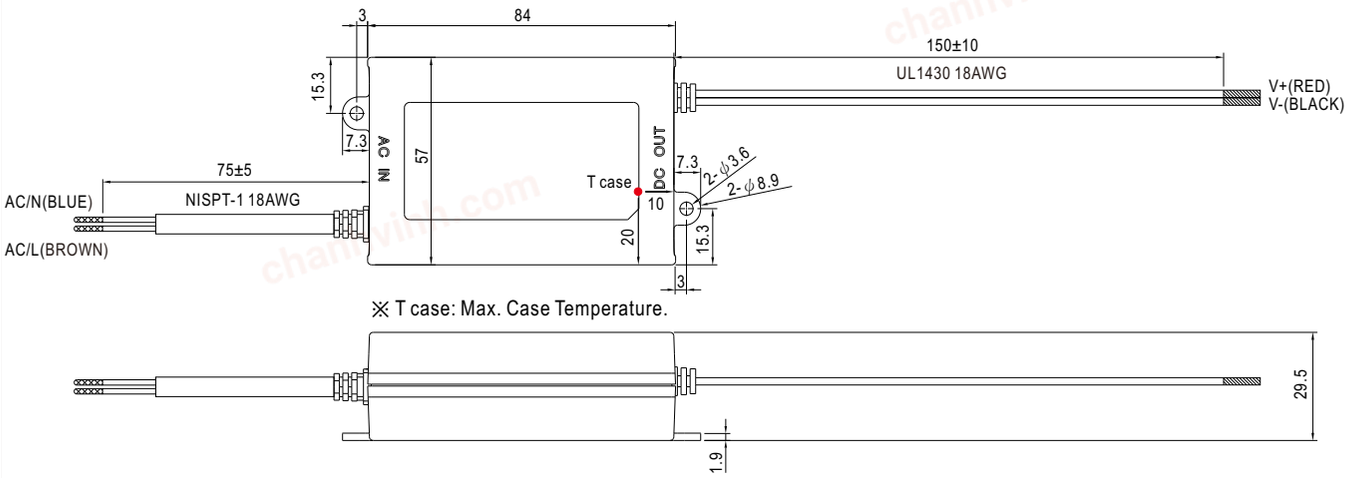
■ Mechanical Specification

Case No.PCD16A Unit:mm

A Type:(PCD-16-_A)

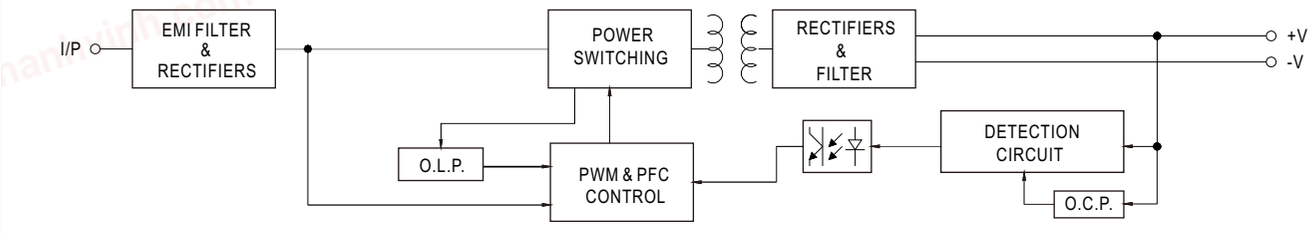


B Type:(PCD-16-_B)



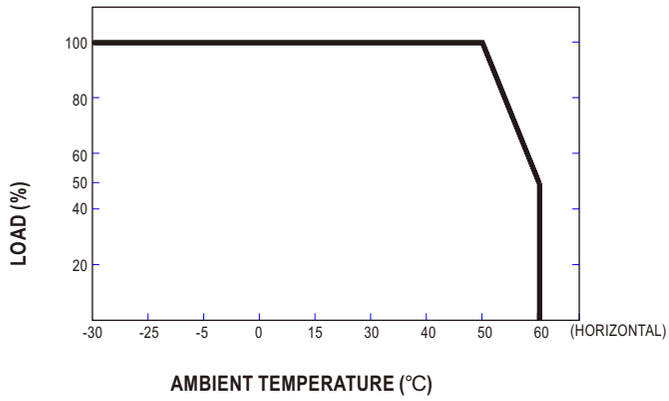
■ Block Diagram

fosc : 90KHz(115VAC)
120KHz(230VAC)

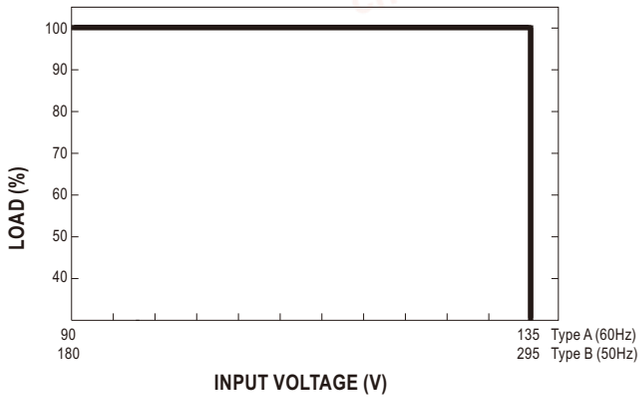


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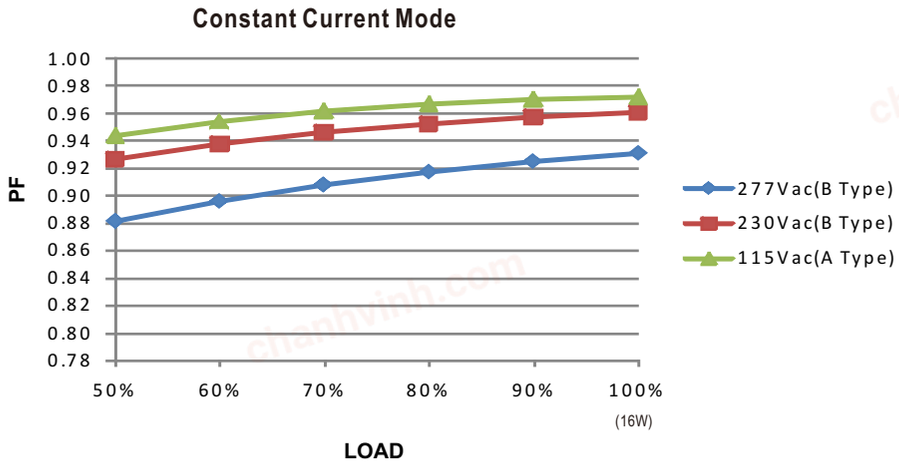
Derating Curve



Static Characteristics

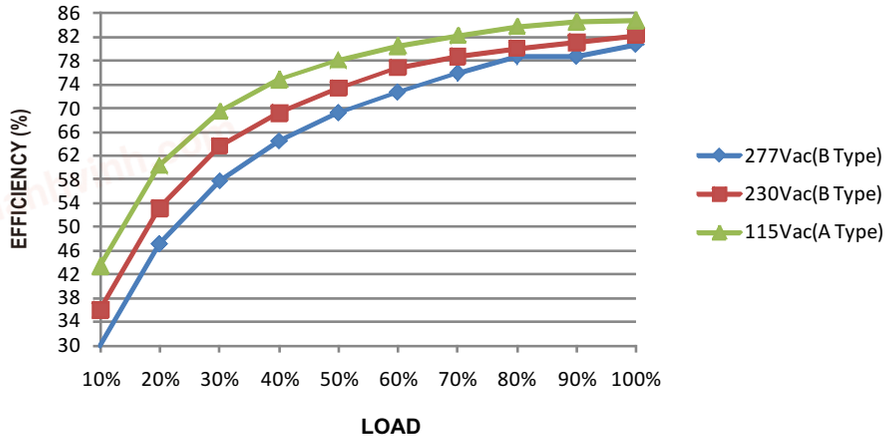


Power Factor Characteristic



EFFICIENCY vs LOAD (PCD-16-350)

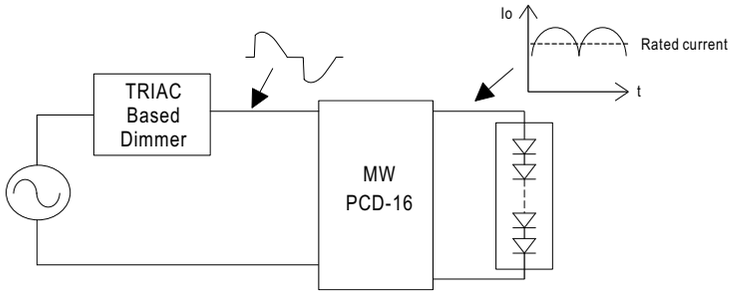
PCD-16 series possess superior working efficiency that up to 86% can be reached in field applications.



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■ AC Dimming Operation

◎ The following diagram depicts a typical installation utilizing the PCD-16 :



Under direct driving, the power supply will work in "constant current mode (CC)" and output voltage of the power supply will be clamped by sum of forward voltage (V_F) of the LED strip.

◎ Dimmer Compatibility Chart

Manufacturer	Dimmer Model	
LUTRON	SKYLARK SF-12P-277	(277VAC / 60Hz)
LUTRON	DVF-103P-277	(277VAC / 60Hz)
LUTRON	SKYLARK SF-10P	(120VAC / 60Hz)
LUTRON	SKYLARK S-600P	(120VAC / 60Hz)
LUTRON	SKYLARK DVF-103P	(120VAC / 60Hz)
LEVITON	ILLUMATECH TM Cat.No.IP106	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat.No.6633-P	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat. NO.6615-P	(120VAC / 60Hz)
JUNG	Licht-Management 225 TDE	(230VAC / 50Hz)
JUNG	Licht-Management 225 NV DE	(230VAC / 50Hz)
BERKER	Tronic-Drehdimmer 286710	(230-240VAC / 50Hz)
Bodo Ehmann LICHTREGLER	T39.01	(230VAC / 50Hz)
CLIPSAL	32E450UDM	(220-240VAC / 50Hz)
CLIPSAL	NO 32E450TM	(220-240VAC / 50Hz)

Conduction angle: 30 degrees(min.) / 180 degrees(max.)