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40W Single Output AC Dimmable LED Power Supply PCD-40 series



Features :

- AC phase-cut dimming
- Work with leading edge and trailing edge TRIAC dimmers
- 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
- Suitable for indoor LED lighting applications
- 100% full load burn-in test
- Low cost
- High reliability
- 3 years warranty

SPECIFICATION

MODEL		PCD-40-350B	PCD-40-500B	PCD-40-700B	PCD-40-1050B	PCD-40-1400B	PCD-40-1750B
OUTPUT	RATED CURRENT	350mA	500mA	700mA	1050mA	1400mA	1750mA
	OPERATING VOLTAGE RANGE	65 ~ 115V	45 ~ 80V	34 ~ 57V	22 ~ 38V	17 ~ 29V	13 ~ 23V
	CURRENT RANGE	0 ~ 350mA	0 ~ 500mA	0 ~ 700mA	0 ~ 1050mA	0 ~ 1400mA	0 ~ 1750mA
	CURRENT ACCURACY	±5.0%					
	RATED POWER	40.25W	40W	39.9W	39.9W	40.6W	40.25W
	RIPPLE & NOISE (max.) Note.1	11Vp-p	7Vp-p	4.5Vp-p	3.5Vp-p	3.4Vp-p	2.4Vp-p
	NO LOAD OUTPUT VOLTAGE (max.)	130V	100V	63V	50V	35V	35V
	SETUP TIME	1700ms / 230VAC at full load					
INPUT	VOLTAGE RANGE	180~295VAC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF>0.9/230VAC, PF>0.9/277VAC at full load (Please refer to "Power Factor Characteristic" curve)					
	EFFICIENCY (Typ.)	86%	86%	86%	85%	84%	84%
	AC CURRENT (Typ.)	0.35A/230VAC					
	INRUSH CURRENT(max.)	15A/230VAC					
	LEAKAGE CURRENT	<0.5mA / 240VAC					
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.					
	OVER TEMPERATURE	105℃±10℃ (STW1)					
		Protection type : 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-40-1050B) ; ENEC EN61347-1, EN61347-2-13 independent, IP30 approved					
	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, EN61000-3-2 Class C ; EN61000-3-3					
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level(Surge 2KV), criteria A					
OTHERS	MTBF	Khrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	128*60*31.5mm (L*W*H)					
	PACKING	Kg					
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.						

Preliminary

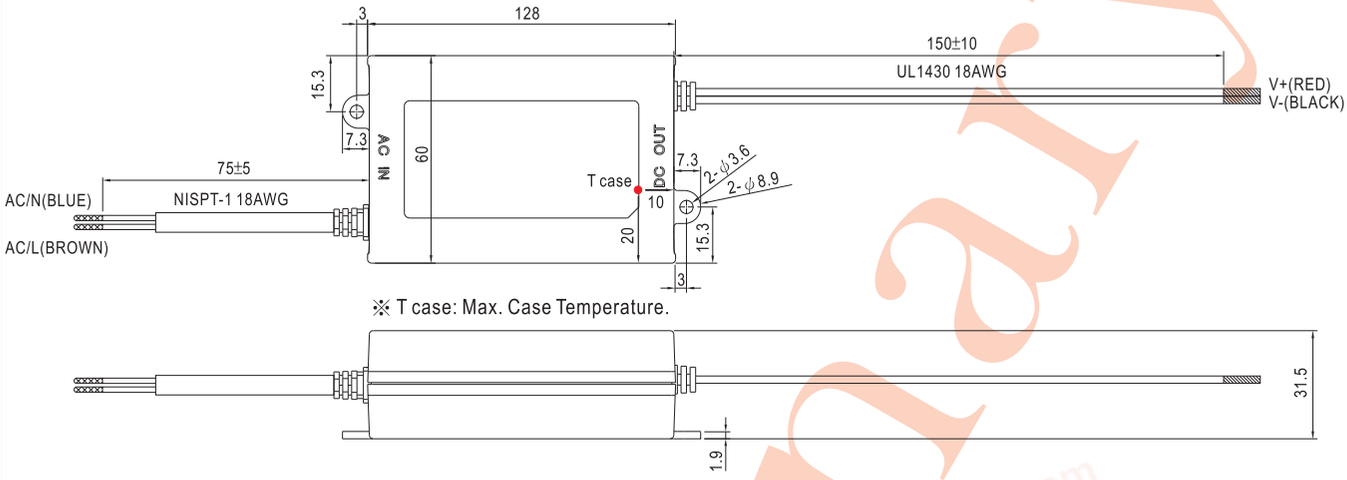
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MEAN WELL

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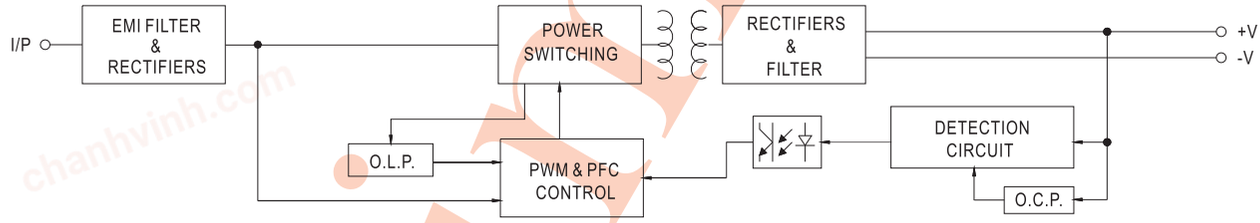
■ Mechanical Specification

Case No. Unit:mm

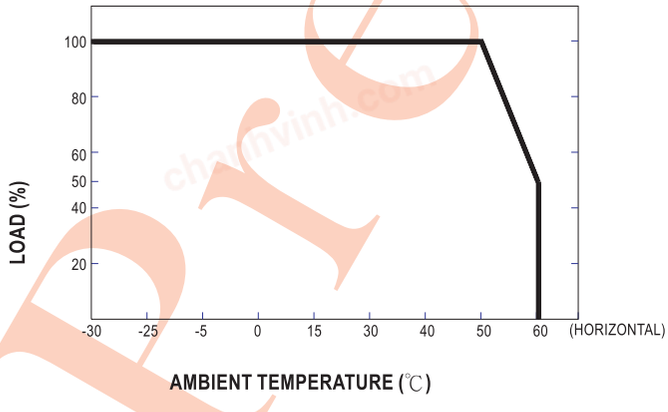


■ Block Diagram

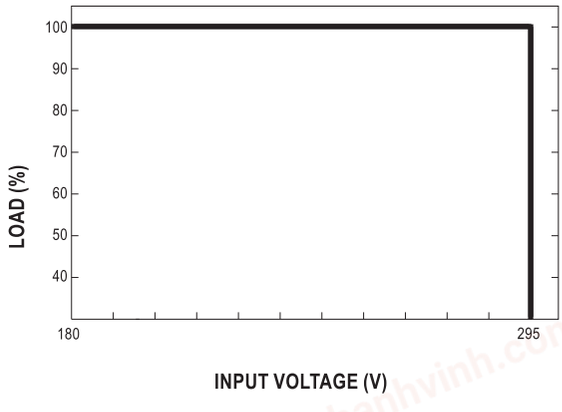
fosc :120KHz(230VAC)



■ Derating Curve



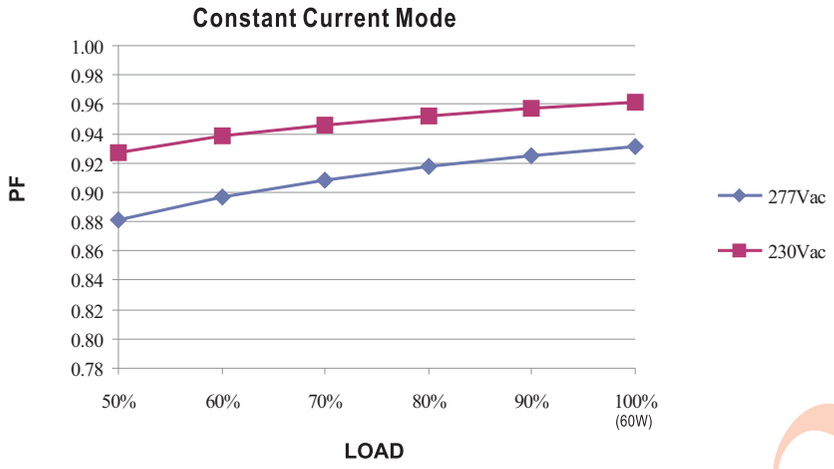
■ Static Characteristics



Preliminary

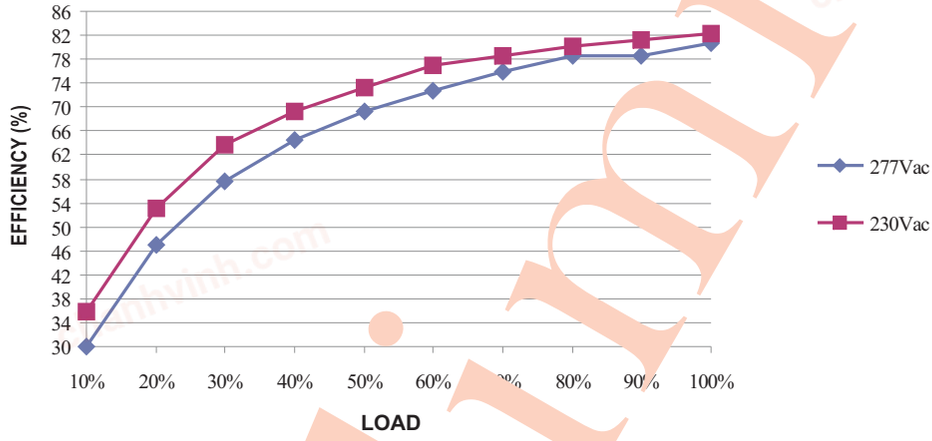
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Power Factor Characteristic



EFFICIENCY vs LOAD (PCD-40-500)

PCD-40 series possess superior working efficiency that up to 87% can be reached in field applications.

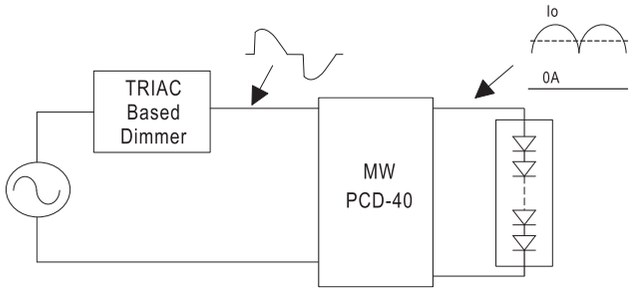


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■ AC Dimming Operation

◎ The following diagram depicts a typical installation utilizing the PCD-40 :



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)
JUNG	Licht-Management 225 TDE	(230VAC / 50Hz)
JUNG	Licht-Management 225 NV DE	(230VAC / 50Hz)
BERKER	Tronic-Drehdimmer 286710	(230-240VAC / 50Hz)
CLIPSAL	32E450UDM	(220-240VAC / 50Hz)
CLIPSAL	NO 32E450TM	(220-240VAC / 50Hz)
CLIPSAL	NO 32E450LM	(220-240VAC / 50Hz)
CLIPSAL	Cat 400T	(230-240VAC / 50Hz)

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

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