



■ Features :

- Constant current and constant voltage mode power supply
- Universal AC input / Full range(up to 277VAC)
- Built-in constant current limiting circuit with adjustable OCP level
- · Fully isolated plastic case
- · Protections:Short circuit/Over load/Over voltage/Over temperature
- · Built-in PFC (single stage) function
- IP64 design for indoor or outdoor installations
- Small and compact size
- Cooling by free air convection
- 100% full load burn-in test
- · High reliability,low cost
- Suitable for LED lighting and moving sign applications
- · 2 years warranty

SPECIFICATION



VOLTAGE TOLERANCE Note 3	MODEL		PLN-20-12	PLN-20-18	PLN-20-24	PLN-20-36	PLN-20-48	
RATED CURRENT NANGE		DC VOLTAGE	12V	18V	24V	36V	48V	
CURRENT ANGE	ОИТРИТ	LED OPERATION VOLTAGE Note.5	9 ~ 12V	13.5 ~ 18V	18 ~ 24V	27 ~ 36V	36 ~ 48V	
CURRENT ADJ. RANGE		RATED CURRENT	1.6A	1.1A	0.8A	0.55A	0.42A	
RATED POWER 19.2W 19.8W 19.2W 19.8W 20.2W		CURRENT RANGE	0 ~ 1.6A	0 ~ 1.1A	0 ~ 0.8A	0 ~ 0.55A	0 ~ 0.42A	
Note		CURRENT ADJ. RANGE	75% ~ 100%					
VOLTAGE TOLERANCE Note.3 ±10% ±10% ±3.0% ±10% ±3.0% ±10% ±3.0% ±10%		RATED POWER	19.2W	19.8W	19.2W	19.8W	20.2W	
VOLTAGE TOLERANCE Note Store S		RIPPLE & NOISE (max.) Note.2	2.5Vp-p	3.0Vp-p	3.0Vp-p	3.0Vp-p	3.8Vp-p	
LOAD REGULATION ±10% 2300ms / 230VAC 3000ms / 115VAC at full load		VOLTAGE TOLERANCE Note.3	±10%					
SETUP TIME		LINE REGULATION	±3.0%					
VOLTAGE RANGE		LOAD REGULATION	±10%					
FREQUENCY RANGE		SETUP TIME	2300ms / 230VAC 3000ms / 115VAC at full load					
POWER FACTOR	INPUT	VOLTAGE RANGE Note.4	90 ~ 277VAC					
REFICIENCY(Typ.) 80% 81% 82% 83% 83.5%		FREQUENCY RANGE	47 ~ 63Hz					
AC CURRENT 0.4A/115VAC 0.2A/230VAC		POWER FACTOR	PF≡0.9 at 75~100% I	oad, 115VAC/230VAC				
INRUSH CURRENT (max.) 40A/230VAC		EFFICIENCY(Typ.)	80%	81%	82%	83%	83.5%	
LEAKAGE CURRENT OVER CURRENT Note.5 SHORT CIRCUIT OVER VOLTAGE OVER TEMPERATURE WORKING TEMP. WORKING HUMIDITY ENVIRONMENT TEMP. COEFFICIENT VIBRATION SAFETY STANDARDS EMICONDUCTION & RADIATION SAFETY & EMICONDUCTION & RADIATION Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE UVER CURRENT Note.5 95 ~ 110% Protection type : Hiccup current limiting, recovers automatically after fault condition is removed. Protection type : Shut off o/p voltage, clamping by zener diode 110°C±10°C (TSW1) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down 110°C±10°C (TSW1) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down 20 ~ 90% RH non-condensing STORAGE TEMP., HUMIDITY 40 ~ +80°C, 10 ~ 95% RH TEMP. COEFFICIENT ±0.06%/°C (0 ~ 50°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes EMICONDUCTION & RADIATION Compliance to EN61000-3-2 Class C(=75% load); EN61000-3-3 EMICONDUCTION & RADIATION Compliance to EN61000-3-2 Class C(=75% load); EN61000-3-3 EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/70%RH		AC CURRENT	0.4A/115VAC 0.2A/230VAC					
OVER CURRENT Note.5 95 ~ 110%		INRUSH CURRENT(max.)	40A/230VAC					
PROTECTION PROTECTION OVER VOLTAGE OVER TEMPERATURE WORKING TEMP. WORKING HUMIDITY ENVIRONMENT TEMP. COEFFICIENT VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY & EMI CONDUCTION & RADIATION SAFETY & EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE Protection type : Hiccup current limiting, recovers automatically after fault condition is removed. ### Protection type : Hiccup current limiting, recovers automatically after fault condition is removed. ### ### ### ### ### ### ### ### ### #		LEAKAGE CURRENT	0.5mA / 240VAC					
Protection type : Hiccup current limiting, recovers automatically after fault condition is removed. Hiccup mode, recovers automatically after fault condition is removed. 14 ~ 16V 19 ~ 22V 27 ~ 34V 41 ~ 46V 54 ~ 60V	PROTECTION	OVER CURRENT Note.5	95 ~ 110%					
PROTECTION OVER VOLTAGE			Protection type: Hiccup current limiting, recovers automatically after fault condition is removed					
OVER VOLTAGE Protection type: Shut off o/p voltage, clamping by zener diode 110°C±10°C (TSW1) Protection type: Shut down o/p voltage, recovers automatically after temperature goes down WORKING TEMP. -30 ~ +60°C (Refer to output load derating curve) WORKING HUMIDITY 20 ~ 90% RH non-condensing STORAGE TEMP., HUMIDITY -40 ~ +80°C, 10 ~ 95% RH TEMP. COEFFICIENT ±0.06%/°C (0 ~ 50°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved EMI CONDUCTION & RADIATION Compliance to EN55015 SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(=75% load);EN61000-3-3 EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE VP-O/P:100M Ohms/500VDC / 25°C/ 70%RH		SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.					
OVER TEMPERATURE 110°C±10°C (TSW1) Protection type: Shut down o/p voltage, recovers automatically after temperature goes down		OVER VOLTAGE	14 ~ 16V	19 ~ 22V	27 ~ 34V	41 ~ 46V	54 ~ 60V	
OVER TEMPERATURE Protection type : Shut down o/p voltage, recovers automatically after temperature goes down -30 ~ +60°C (Refer to output load derating curve) WORKING HUMIDITY 20 ~ 90% RH non-condensing STORAGE TEMP., HUMIDITY -40 ~ +80°C, 10 ~ 95% RH TEMP. COEFFICIENT ±0.06%/°C (0 ~ 50°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved EMI CONDUCTION & RADIATION Compliance to EN55015 HARMONIC CURRENT Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3 EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH			Protection type : Shut off o/p voltage, clamping by zener diode					
WORKING TEMP. -30 ~ +60°C (Refer to output load derating curve) WORKING HUMIDITY 20 ~ 90% RH non-condensing STORAGE TEMP., HUMIDITY -40 ~ +80°C, 10 ~ 95% RH TEMP. COEFFICIENT VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS EMI CONDUCTION & RADIATION Compliance to EN55015 SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(=75% load);EN61000-3-3 EMS IMMUNITY WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH		OVED TEMPERATURE	· /					
WORKING HUMIDITY 20 ~ 90% RH non-condensing		OVER TEMPERATURE	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT STORAGE TEMP., HUMIDITY -40 ~ +80°C, 10 ~ 95% RH TEMP. COEFFICIENT ±0.06%/°C (0 ~ 50°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved EMI CONDUCTION & RADIATION Compliance to EN55015 SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3 EMC EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH	ENVIRONMENT	WORKING TEMP.	-30 ~ +60°C (Refer to output load derating curve)					
TEMP. COEFFICIENT		WORKING HUMIDITY	20 ~ 90% RH non-condensing					
VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved EMI CONDUCTION & RADIATION Compliance to EN55015 SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3 EMC EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH		STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
SAFETY STANDARDS IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved		TEMP. COEFFICIENT	±0.06%/°C (0 ~ 50°C)					
EMI CONDUCTION & RADIATION Compliance to EN55015 SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3 EMC EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/70%RH		VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & HARMONIC CURRENT Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3 EMC EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH		SAFETY STANDARDS	IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved					
EMC EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A WITHSTAND VOLTAGE I/P-O/P:3.75KVAC ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH		EMI CONDUCTION & RADIATION	Compliance to EN55015					
WITHSTAND VOLTAGE	SAFETY &	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C(≡75% load);EN61000-3-3					
ISOLATION RESISTANCE I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH	EMC	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A					
		WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
MTDE C40 CV/Lss sris - MIL LIDDIV 047F (0590)		ISOLATION RESISTANCE	I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH					
MIBF 643.6Knrs min. MIL-HDBK-21/F (25°C)	OTHERS	MTBF	643.6Khrs min. MIL-HDBK-217F (25°C)					
OTHERS DIMENSION 147*37*28mm (L*W*H)		DIMENSION	147*37*28mm (L*W*H)					
PACKING 0.18Kg; 60pcs/12.8Kg/0.9CUFT		PACKING	0.18Kg; 60pcs/12.8Kg/0.9CUFT					
NOTE 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.	NOTE	All parameters NOT special	cially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.					

- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 3. Tolerance : includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltage, please check the derating curve for more details.
- 5. Constant current operation region is within 75% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
- 6. The power supply 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.



