40W Single Output Switching Power Supply

LPF-40 series

Features :

- Universal AC input / Full range (up to 305VAC)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 89%
- Cooling by free air convection
- Fully isolated plastic case
- Epoxy encapsulated with IP67 level (Note.6)
- Class 2 power unit
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp locations
- 3 years warranty

SPECIFICATION

SELV IP67

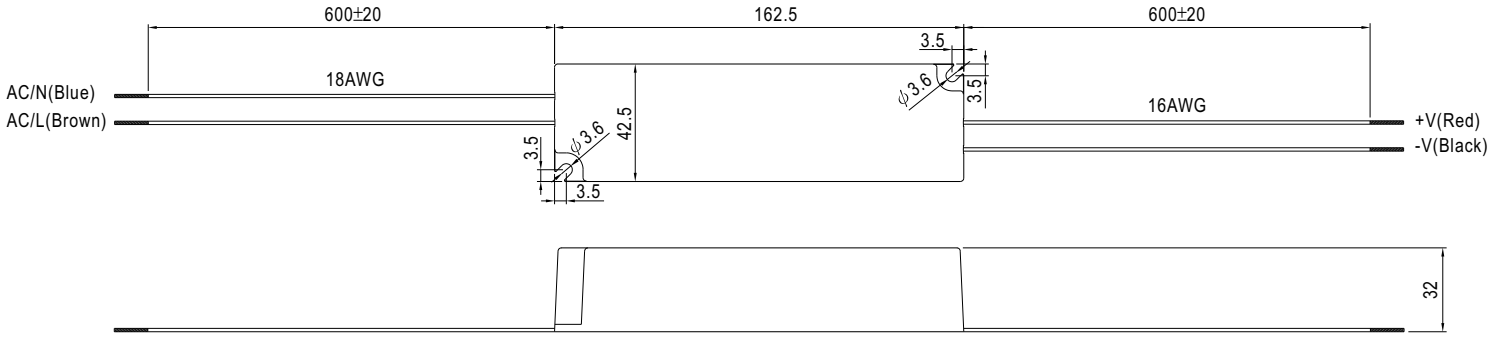
MODEL		LPF-40-12	LPF-40-15	LPF-40-20	LPF-40-24	LPF-40-30	LPF-40-36	LPF-40-42	LPF-40-48	LPF-40-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	3.34A	2.67A	2A	1.67A	1.34A	1.12A	0.96A	0.84A	0.76A
	RATED POWER	40W	40W	40W	40W	40.2W	40.32W	40.32W	40.32W	41.04W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE TOLERANCE Note.3	±4.0%	±4.0%	±4.0%	±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%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.8	1000ms, 80ms / 115VAC at full load 1200ms, 80ms / 230VAC								
	HOLD UP TIME (Typ.)	16ms at full load 230VAC /115VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR	PF≧0.95/230VAC PF≧0.98/115VAC at full load and rated output voltage PF≧0.9 at 60 ~ 100% load								
	EFFICIENCY (Typ.)	84%	85%	86%	87%	88%	88%	89%	89%	89%
	AC CURRENT	0.6A / 115VAC 0.3A / 230VAC								
	INRUSH CURRENT (Typ.)	COLD START 75A/230VAC								
	LEAKAGE CURRENT	<0.75mA / 240VAC								
PROTECTION	OVER CURRENT Note.4	95 ~ 108%								
		Protection type : 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	46 ~ 54V	54 ~ 63V	59 ~ 66V
		Protection type : Shut down and latch off o/p voltage, re-power on to recover								
	OVER TEMPERATURE	90℃ ±10℃ (RTH2)								
		Protection type : Shut down o/p voltage, re-power on to recover								
ENVIRONMENT	WORKING TEMP.	-30 ~ +50℃ @ full load ; +70℃ @ 60% load (Refer to derating curve) ; -40℃ can power on								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS Note.6	UL8750, EN61347-1, EN61347-2-13 independent, IP67 approved ; Design refer to UL60950-1, TUV EN60950-1								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC								
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH								
	EMI CONDUCTION & RADIATION	Compliance to EN55015, Class B								
	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (≧60% load) ; EN61000-3-3								
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61547, EN55024, heavy industry level, criteria A								
OTHERS	MTBF	438.8Khrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	162.5*42.5*32mm (L*W*H)								
	PACKING	0.45Kg; 32pcs/15.4Kg/0.56CUFT								

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. Constant current operation region is within 60% ~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.
5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
6. Suitable for indoor use or outdoor use without direct sunlight explosure.
7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
8. 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.

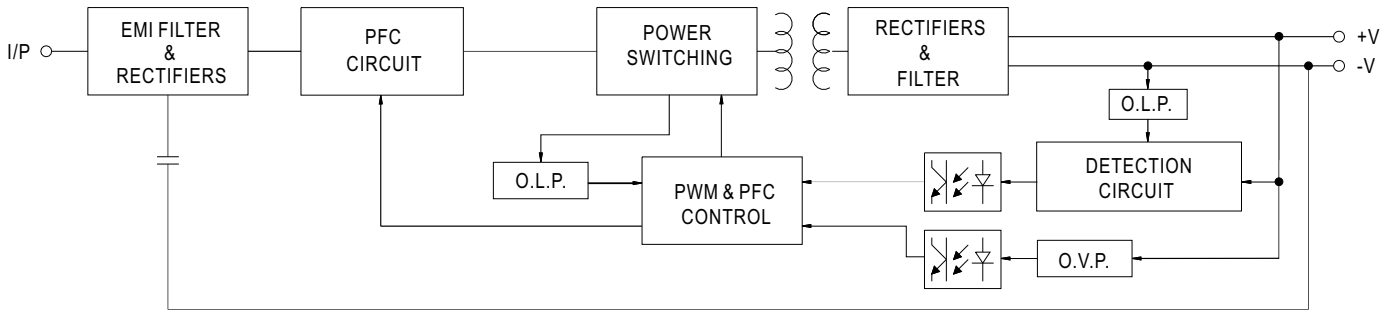
■ Mechanical Specification

Case No. 976A Unit:mm

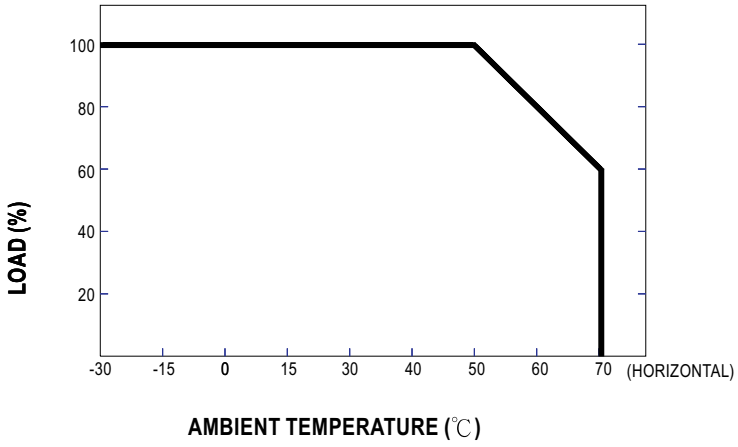


■ Block Diagram

Fosc : 100KHz



■ Derating Curve



■ Static Characteristics