



E-Star Power Development Co., Ltd. (E-STAR)

1F., No.40, Juren Ln., Sec. 2, Sanmin Rd., Banciao Dist., New Taipei City
22069, Taiwan (R.O.C.)

Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

16W LED Driver power supply < APV-16E



■ Features

- Constant voltage design
- Protections: Short circuit / Over load / Over voltage
- Fully isolated plastic case
- Cooling by free air convection
- Small and compact size
- Class II power unit, no FG
- No load power consumption <0.5W
- IP42 design
- Suitable for LED lighting and moving sign applications
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

■ Applications

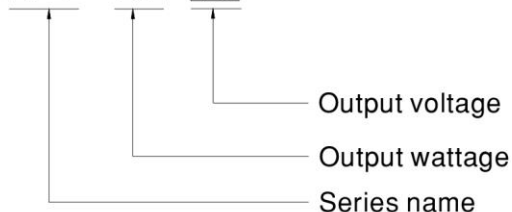
- Suitable for LED related fixture or appliance (such as LED Decoration or Advertisement devices)

■ Description

APV-16E series is one 16W AC/DC constant voltage mode single output LED power supply. It accepts input 180~264VAC and provides four models with different output voltage, 5V, 12V, 15V, 24V, respectively, that the small wattage LED applications employ the most frequently. Exploiting Class II design (without FG pin) and adopting the 94V-0 flame retardant plastic enclosure, APV-16E ideally fits the entry-level LED applications.

■ Model Encoding

APV - 16E - 15





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SPECIFICATION

MODEL		APV-16E-5	APV-16E-12	APV-16E-15	APV-16E-24
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	2.6A	1.25A	1A	0.67A
	CURRENT RANGE	0 ~ 2.6A	0 ~ 1.25A	0 ~ 1A	0 ~ 0.67A
	RATED POWER	13W	15W	15W	16.08W
	RIPPLE & NOISE (max.) <small>Note.2</small>	100mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE TOLERANCE <small>Note.3</small>	±5.0%			
	LINE REGULATION	±1.0%			
	LOAD REGULATION	±2.0%			
	SETUP, RISE TIME <small>Note.6</small>	500ms, 30ms / 230VAC at full load			
	HOLD UP TIME (Typ.)	20ms/230VAC at full load			
INPUT	VOLTAGE RANGE <small>Note.4</small>	180 ~ 264VAC 254 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.5/230VAC at full load			
	EFFICIENCY (Typ.)	75%	79%	80%	82%
	AC CURRENT	0.3A/230VAC			
	INRUSH CURRENT(Typ.)	COLD START 50A(twidth=185µs measured at 50% Ipeak) at 230VAC			
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	13 units (circuit breaker of type B) / 22 units (circuit breaker of type C) at 230VAC			
	LEAKAGE CURRENT	0.25mA / 240VAC			
PROTECTION	OVER LOAD	Above 105% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16V	17.5 ~ 21V	27.6 ~ 32.4V
		Protection type : Shut off o/p voltage, clamping by zener diode			
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes			
SAFETY & EMC	SAFETY STANDARDS	ENEC EN61347-1, EN61347-2-13, EN62384, IP42 approved			
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC			
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C / 70% RH			
	EMC EMISSION	Compliance to EN55015,EN61000-3-2 Class A,EN61000-3-3			
	EMC IMMUNITY	Compliance to EN61547,EN61000-4-2,3,4,5,6,8,11; light industry level(surge 2KV), criteria A			
OTHERS	MTBF	1145.7K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	77*40*29mm (L*W*H)			
	PACKING	0.1Kg; 120pcs/14Kg/1.06CUFT			
NOTE	1. All parameters NOT specially 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 static characteristics for more details. 5. 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. 6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.				



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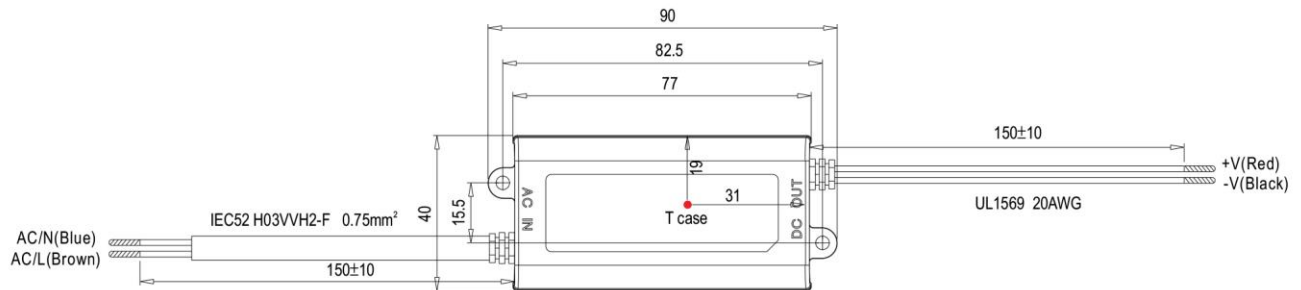
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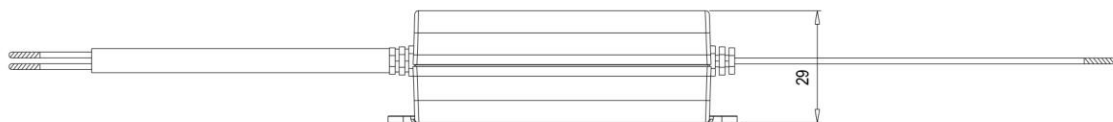
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■ Mechanical Specification

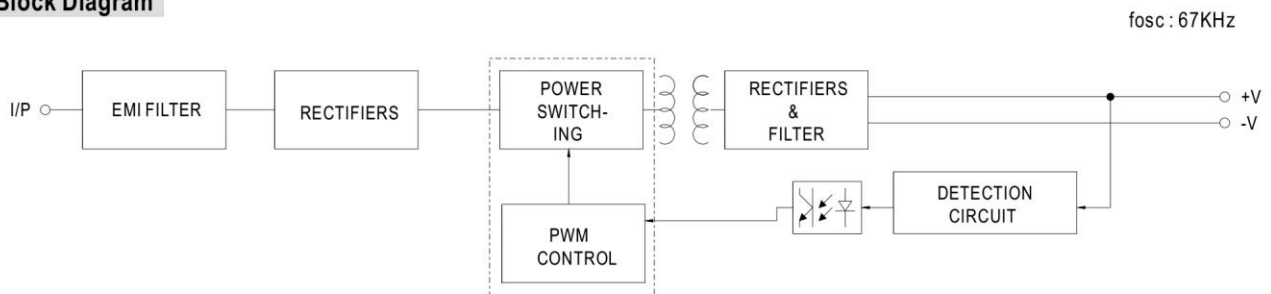
Unit:mm



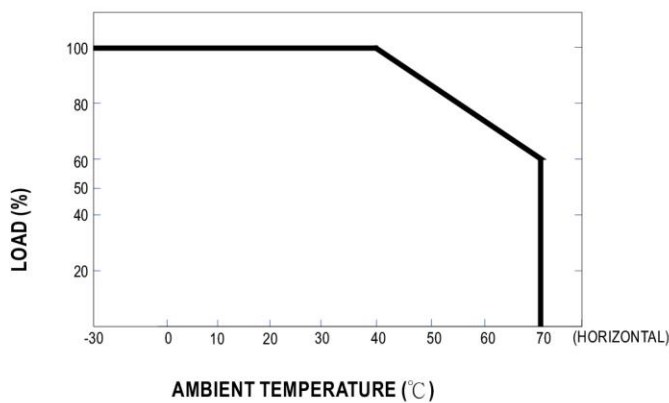
※ T case: Max. Case Temperature



■ Block Diagram



■ Derating Curve



■ Static Characteristics

