MEAN WELL APV-16 16W Single Output Switching Power Supply User Guide

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MEAN WELL APV-16 16W Single Output Switching Power Supply

Product Information

The APV-16 series is a 16W single-output switching power supply. It is designed for various applications that require a stable and reliable power source. The power supply has multiple models with different output voltages and currents to suit different requirements.

Key Specifications:

- **Model:** APV-16-5, APV-16-12, APV-16-15, APV-16-24
- **Output Voltage:** 5V, 12V, 15V, 24V
- **Rated Current:** 2.6A, 1.25A, 1A
- **Rated Power:** 13W, 15W, 15W
- **Efficiency:** 76%, 80%, 81%, 83%
- **Input Voltage Range:** 90 ~ 264VAC
- **Operating Temperature:** -30°C ~ +70°C
- **Safety Standards:** UL8750, CSA C22.2 No.250.0-08, BIS IS15885 (except for 15V), EAC TP TC 004, IP42, BS EN/EN 62368-1 approved

Product Usage Instructions

1. Ensure that the input voltage is within the range of 90 ~ 264VAC.
2. Connect the AC/N (Blue) and AC/L (Brown) wires to the appropriate AC power source.
3. Connect the +V (Red) and -V (Black) wires to the device requiring power.
4. Make sure the power supply is placed in a well-ventilated area with sufficient clearance for heat dissipation.
5. Monitor the ambient temperature and ensure it does not exceed the specified operating temperature range of -30°C to +70°C.
6. Do not overload the power supply beyond the rated current and power limits.
7. In case of an over-voltage or overload condition, the power supply has built-in protection mechanisms to prevent damage. Once the fault condition is removed, the power supply will automatically recover.
8. Refer to the provided derating curve to understand the power supply's performance at different ambient temperatures and load percentages.
9. For detailed safety guidelines and other specifications, please refer to the user manual available at https://www.meanwell.com/Upload/PDF/LED_EN.pdf.

GTIN CODE
MW Search: https://www.meanwell.com/serviceGTIN.aspx.

Features

- Constant voltage design
- Universal AC input/Full range
- 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
- Class 2 power unit
- Pass LPS
- IP42 design
- Suitable for LED-related fixtures or appliances (such as LED Decoration or Advertisement devices
- 100% full load burn-in test
- Low cost, high reliability (Note.7)
- 2 years warranty

SPECIFICATION

MODEL		APV-16-5	APV-16-12	APV-16-15	APV-16-24
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.) Note.2	100mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE TOLERANCE Note.3	±5.0%			
	LINE REGULATION	±1.0%			

	LOAD REGULATION		±2.0%			
	SETUP, RISE TIME	**Note. 6**	1500ms, 30ms / 230VAC 1500ms,30ms / 115VAC at full load			
	HOLD UP TIME (Typ.)		20ms/230VAC 12ms/115VAC at full load			
INPUT	**VOLTAGE RANGE**	**Note. 4**	90 ~ 264VAC 127 ~ 370VDC			
	FREQUENCY RANGE		47 ~ 63Hz			
	EFFICIENCY (Typ.)		76%	80%	81%	83%
	AC CURRENT		0.3A/230VAC 0.5A/115VAC			
	INRUSH CURRENT(Typ.)		COLD START 50A(twidth=250μs 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	**OVERLOAD**		Above 105% rated output power			
			Protection type: Hiccup mode, recovers automatically after fault condition is removed			
	OVERVOLTAGE		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, and Z axes			
	SAFETY STANDARDS Note.8		UL8750,CSA C22.2 No.250.0-08, BIS IS15885(except for 15V),EAC TP TC 004,IP42 , BS EN/EN 62368-1 Approved			

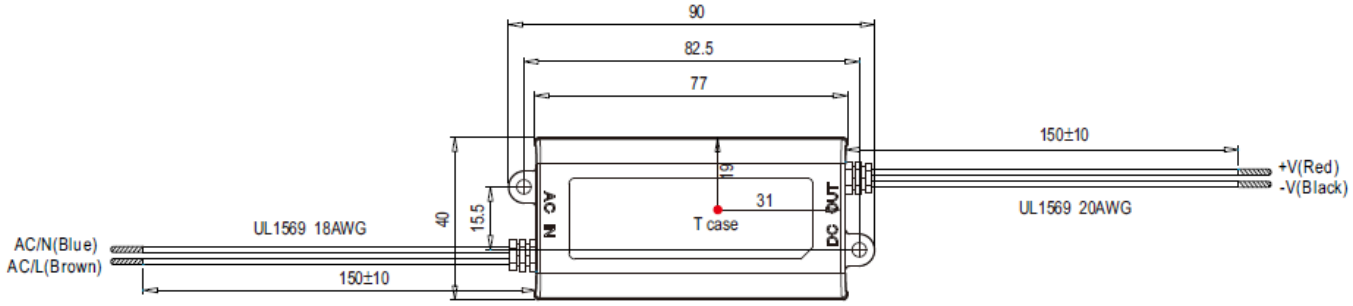
SAFETY & EMC	**WITHSTAND VOLTAGE**	I/P-O/P:3.75KVAC		
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C/ 70% RH		
	EMC EMISSION	Compliance to BS EN/EN55032,BS EN/EN61000-3-2,BS EN/EN61000-3-3, EAC TP TC 020		
	EMC IMMUNITY	Compliance to BS EN/EN55035,BS EN/EN61000-4-2,3,4,5,6,8,11; light industry level(surge 2KV), EAC TP TC 020		
OTHERS	**MTBF**	7265.5K hrs min. Telcordia SR-332 (Bellcore) ; 1 128.9K hrs min.	MIL-HDBK -217F (25 °C)	
	DIMENSION	77*40*29mm (L*W*H)		
	PACKING	0.1Kg; 120pcs/14Kg/1.06CUFT		

NOTE

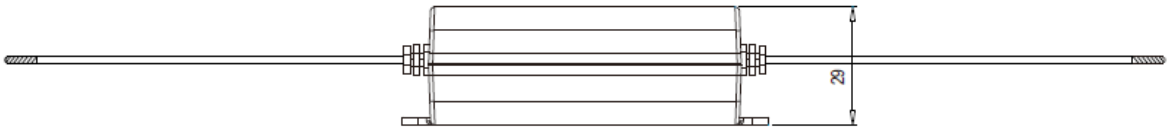
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12″ twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. **Tolerance:** includes set up tolerance, line regulation, and load regulation.
4. Derating may be needed under low input voltage. Please check the static characteristics for more details. Please connect the L line to the positive pole and the N line to the negative pole under DC input.
5. The power supply is considered a component that will be operated in combination with the final equipment. Since EMC's performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation.
6. The length of set-up time is measured at the first cold start. Turning ON/OFF the power supply may lead to an increase in the set-up time.
7. This product is not intended for LED lighting luminaire applications in the EU. (In the EU the LPF/NPF/XLG series are recommended.)
8. The model certified for CCC(GB19510.14, GB19510.1, GB17743, and GB17625.1) is an optional model. Please contact MEAN WELL for details.
9. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000(6500ft)
10. Products sourced from the Americas regions may not have the ENEC/BIS/CCC logo. Please contact your MEAN WELL sales for more information.
11. For any application note and IP waterproof function installation caution, please refer to our user manual before using.
    https://www.meanwell.com/Upload/PDF/LED_EN.pdf

Product Liability Disclaimer: For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**.

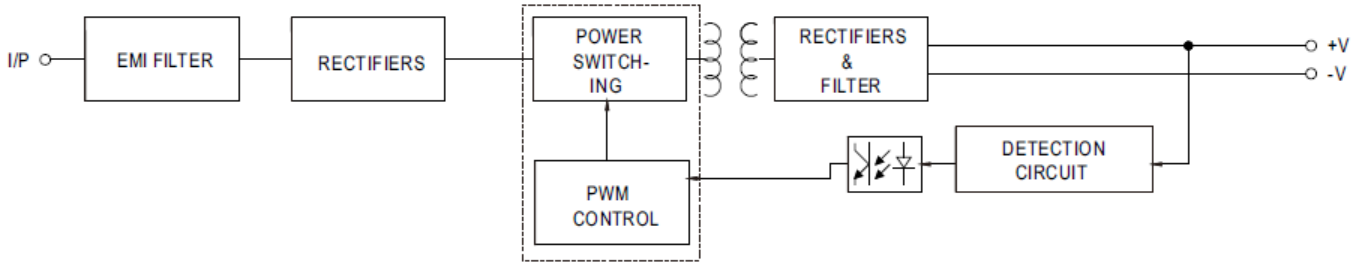
Mechanical Specification



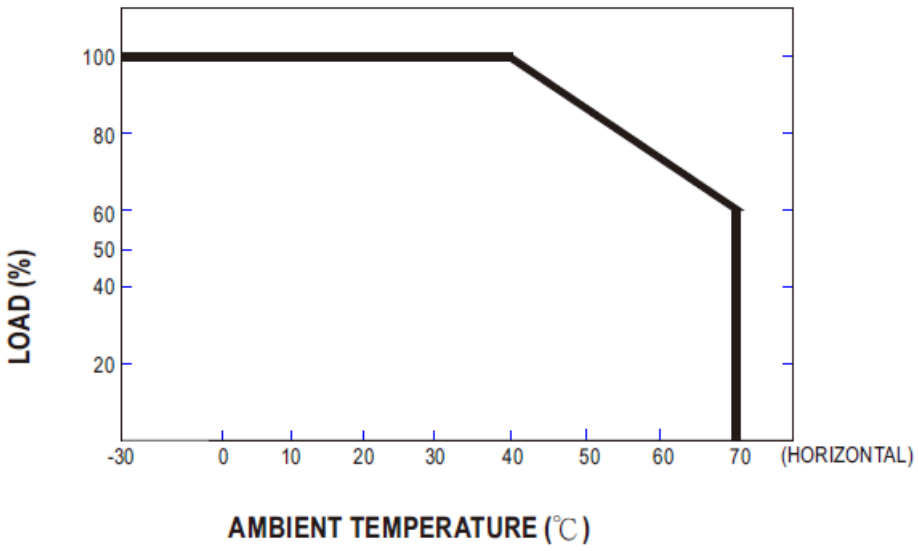
※ T case: Max. Case Temperature



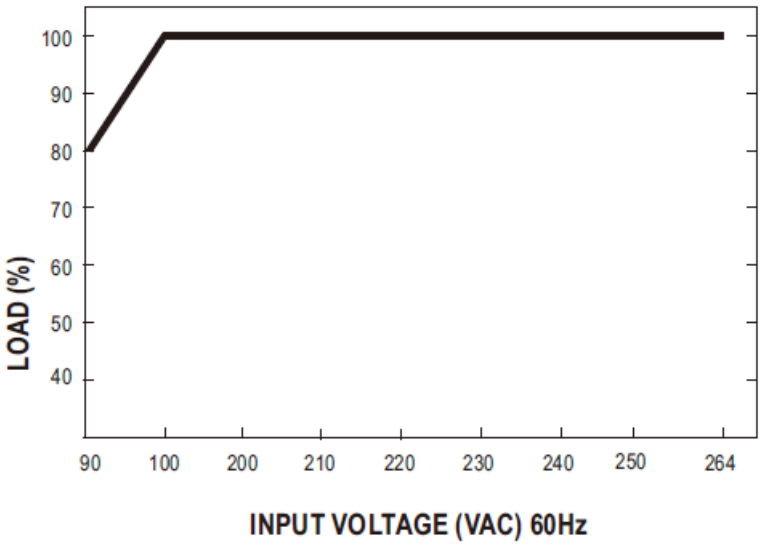
Block Diagram



Derating Curve



Static Characteristics



Documents / Resources

	MEAN WELL APV-16 16W Single Output Switching Power Supply [pdf] User Guide APV-16 16W Single Output Switching Power Supply, APV-16, 16W Single Output Switching Power Supply, Single Output Switching Power Supply, Output Switching Power Supply, Switching Power Supply, Power Supply