



# MEAN WELL APV-12 Series 12W Single Output Switching Power Supply Owner's Manual

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**MEAN WELL APV-12 Series 12W Single Output Switching Power Supply**



## Product Information

The APV-12 series is a 12W single-output switching power supply. It is designed to provide DC voltage output with various current and voltage options. The power supply is compliant with safety standards UL8750, CSA C22.2 No.250.0-08, BIS IS15885 (except for 15V), EAC TP TC 004, IP42, and BS EN/EN 62368-1.

## Specifications:

- Model: APV-12-5
- Output:
  - DC Voltage: 5V
  - Rated Current: 2A
  - Current Range: 0 ~ 2A
  - Rated Power: 10W
  - Ripple & Noise (max.): 100mVp-p
  - Line Regulation
  - Load Regulation
  - Setup, Rise Time: 1500ms, 30ms / 230VAC; 1500ms, 30ms / 115VAC at full load
  - Hold Up Time (Typ.): 20ms/230VAC, 15ms/115VAC at full load
  - Voltage Range: 90 ~ 264VAC, 127 ~ 370VDC
  - Frequency Range: 47 ~ 63Hz
  - Efficiency (Typ.): 76%
  - AC Current: 0.2A/230VAC, 0.35A/115VAC
  - Inrush Current (Typ.): Cold Start 70A (twidh=185s measured at 50% Ipeak) at 230VAC

- Max. No. of PSUs on 16A Circuit Breaker Leakage Current: 17 units (circuit breaker of type B) / 29 units (circuit breaker of type C) at 230VAC; 0.25mA / 240VAC
- Over Load Protection: Above 105% rated output power, Protection type: Hiccup mode, recovers automatically after fault condition is removed
- Over Voltage: 5.75 ~ 6.75V
- Working Temperature: -30 ~ +70 (Refer to Derating Curve)
- Working Humidity: 20 ~ 90% RH non-condensing
- Environment Storage Temp., Humidity: -40 ~ +80, 10 ~ 95% RH
- Temp. Coefficient Vibration: 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes
- 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
- Safety & Withstand Voltage EMC: I/P-O/P:3.75KVAC, I/P-O/P:>100M Ohms / 500VDC / 25/70% RH, 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
- MTBF: 7488.9K hrs min. Telcordia SR-332 (Bellcore); 1132.5K hrs min. MIL-HDBK-217F (25)
- Dimension: 77\*40\*29 (L\*W\*H)
- Packing: 0.08Kg; 120pcs/11.8Kg/1.06CUFT
- Note: All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance includes set up tolerance, line regulation, and load regulation. Derating may be needed under low input voltage. Please check the static characteristics for more details.
- Please connect L line to the positive pole and N line to the negative pole under DC input.
- 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.
- Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to an increase in the set up time.
- This product is not intended for LED lighting luminaire applications in the EU. (In the EU, the LPF/NPF/XLG series are recommended.)

## Product Usage Instructions

To use the APV-12 series single output switching power supply, follow these steps:

1. Ensure that the input voltage is within the range of 90 ~ 264VAC or 127 ~ 370VDC and the frequency is between 47 ~ 63Hz.
2. Connect the L line to the positive pole and the N line to the negative pole under DC input.
3. Select the desired output voltage according to your requirements:
  - For APV-12-5: Set the output voltage to 5V.
  - For APV-12-12: Set the output voltage to 12V.
  - For APV-12-15: Set the output voltage to 15V.

4. Connect your device or equipment to the power supply's output terminals.
5. Ensure that the load does not exceed the rated current for each model:
  - For APV-12-5: The rated current is 2A with a current range of 0 ~ 2A.
  - For APV-12-12: The rated current is 1A with a current range of 0 ~ 1A.
  - For APV-12-15: The rated current is 0.8A with a current range of 0 ~ 0.8A.
6. Ensure that the working temperature is within the range of -30°C to +70°C. Refer to the Derating Curve for more details.
7. Make sure the working humidity is between 20% and 90% RH non-condensing.
8. Observe the safety standards and isolation resistance for proper operation and compliance.

## 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 fixture or appliance (such as LED Decoration or Advertisement devices) (Note.7)
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

IS 15885(Part 2/Sec13)

SELV  LPS IP42



R-41027766  
(except for 15V)

EAC  c  US  UK  
CA



(optional)

## GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## SPECIFICATION

MODEL		APV-12-5	APV-12-12	APV-12-15	APV-12-24
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	2A	1A	0.8A	0.5A
	CURRENT RANGE	0 ~ 2A	0 ~ 1A	0 ~ 0.8A	0 ~ 0.5A
	RATED POWER	10W	12W	12W	12W
	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      15ms/115VAC at full load			
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC      127 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	76%	82%	82%	84%
	AC CURRENT	0.2A/230VAC      0.35A/115VAC			
	INRUSH CURRENT(Typ.)	COLD START 70A(twidth=185μs measured at 50% Ipeak) at 230VAC			
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	17 units (circuit breaker of type B) / 29 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 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			
	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	7488.9K hrs min.      Telcordia SR-332 (Bellcore);      1132.5K hrs min.      MIL-HDBK-217F (25°C)			
	DIMENSION	77*40*29(L*W*H)			
	PACKING	0.08Kg; 120pcs/11.8Kg/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 12" twisted pair-wire terminated with a 0.1uf a & 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 L line to the positive pole and  
N line to the negative pole under DC input.
5. The power supply is considered as a component that will be operated in combination with the 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. The length of set-up time is measured at first cold start. Turning ON/OFF the power supply may lead to an increase of the setup time.
6. This product is not intended for LED lighting luminaire applications in the EU (In the EU the LPF/NPF/XLG series are recommended.)

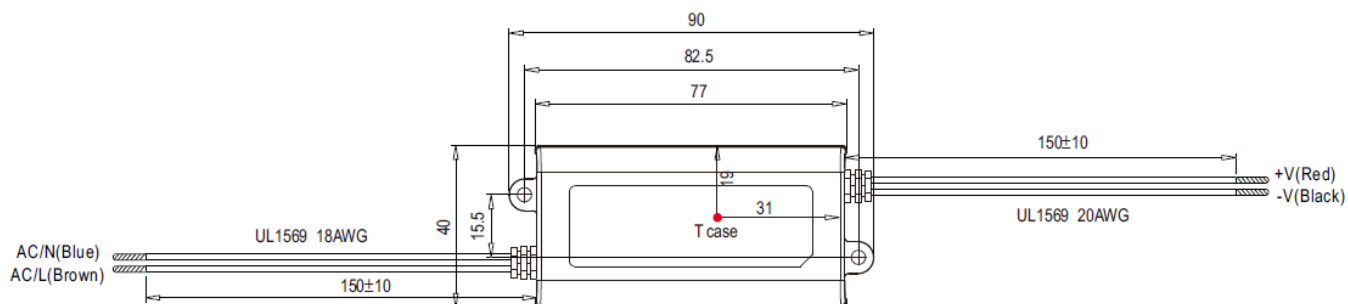
The model certified for CCC(GB19510.14, GB19510.1, GB17743 and GB17625.1) is an optional model. Please contact MEAN WELL for details.

The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for

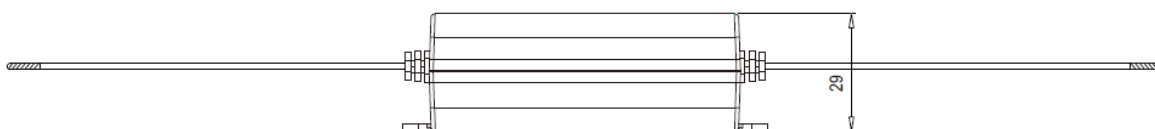
operating altitudes higher than 2000m(6500ft).

7. Products sourced from the Americas regions may not have the ENEC/BIS/CCC logo. Please contact your MEAN WELL sales for more information.
8. 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](https://www.meanwell.com/Upload/PDF/LED_EN.pdf)

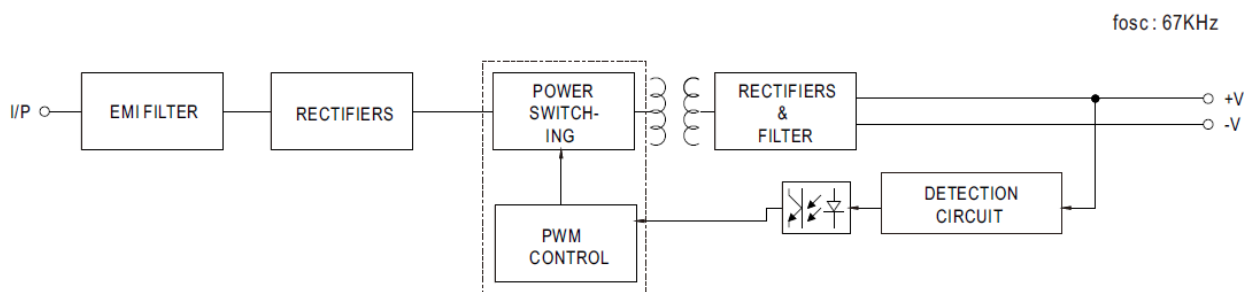
## Mechanical Specification



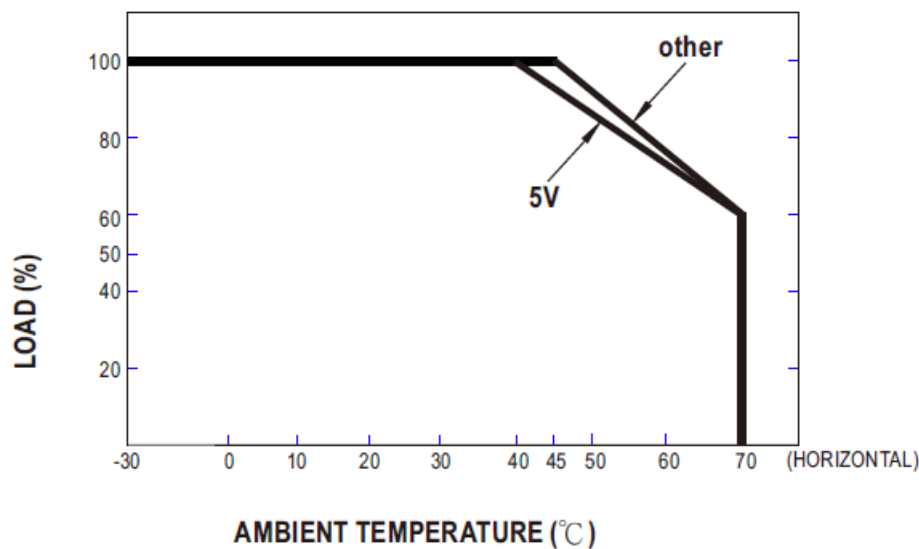
※ T case: Max. Case Temperature



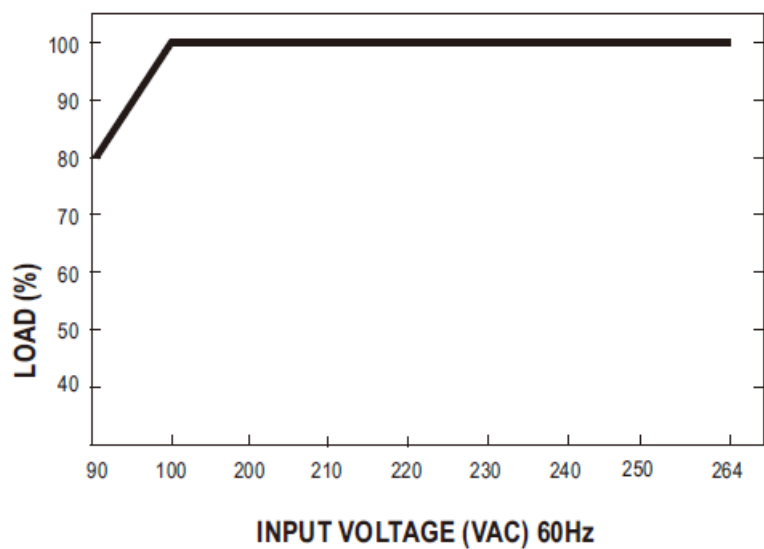
## Block Diagram




Derating Curve



Static Characteristics



Documents / Resources



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APV-12 Series 12W Single Output Switching Power Supply, APV-12 Series, 12W Single Output Switching Power Supply, Output Switching Power Supply, Switching Power Supply, Power Supply

References

- [Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)
- [Global Trade Item Number \(GTIN\)-MEAN WELL Switching Power Supply Manufacturer](#)