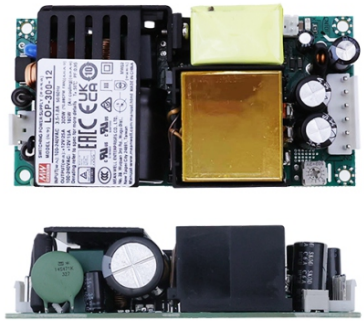


UL62368-1
ANSI/AAMI ES60601-1

BS EN/EN62368-1
BS EN/EN60335-1
BS EN/EN61558-1/-2-16
BS EN/EN60601-1

IEC62368-1
IEC60335-1
IEC61558-1/-2-16
IEC60601-1

AS/NZS 61558-1/-2-16

GB4943.1

TPTC004

ECO | Automate | Industrial | Security | Network
Telecom | Household | Medical | 2×MOPP | BF rated

Features

- MEAN WELL Patent Number: ZL 202223277512.1
- 4"×2" compact size with low profile (25.4mm)
- 80~264Vac input with PFC, No load power consumption<0.5W
- Global certificates in multi-fields (ITE 62368-1, Medical 60601-1, Household 60335-1, Industrial 61558-1/-2-16)
- 150%peak load @ 3s
- 180W convection, 300W with FAN 10.98CFM forced-cooled
- Suitable for Class Ⅰ or Class Ⅱ installations
- Over voltage category Ⅲ (OVC Ⅲ)
- -40 ~ +80℃ wide range operation temperature
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Extremely low leakage current
- Operating altitude up to 5000 meters
- Built-in 12V/0.5A for external FAN
- 3 years warranty

Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Power sourcing equipment of PoE
- Medical devices

Description

LOP-300 is a 300W highly reliable green PCB type low profile power supply with a high power density (37.5W/in^3) on the 4" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 54V. The working efficiency is up to 94% and the extremely low no load powerconsumption is down below 0.5W.

LOP-300 is able to be used for both Class Ⅰ(with FG) and Class Ⅱ(no FG) system design. LOP-300 is equipped with complete protection functions; It is complied with the international safety regulations such as IEC/BS EN/EN/UL62368-1,IEC/BS EN/EN60335-1,IEC/BS EN/EN61558-1/-2-16, IEC/BS EN/EN60601-1.LOP-300 serves as a high price-to-performance power supply solution for various industrial applications.The extremely low leakage current is less than 500μA.In addition, it conforms to the international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

LOP - 300 - 12

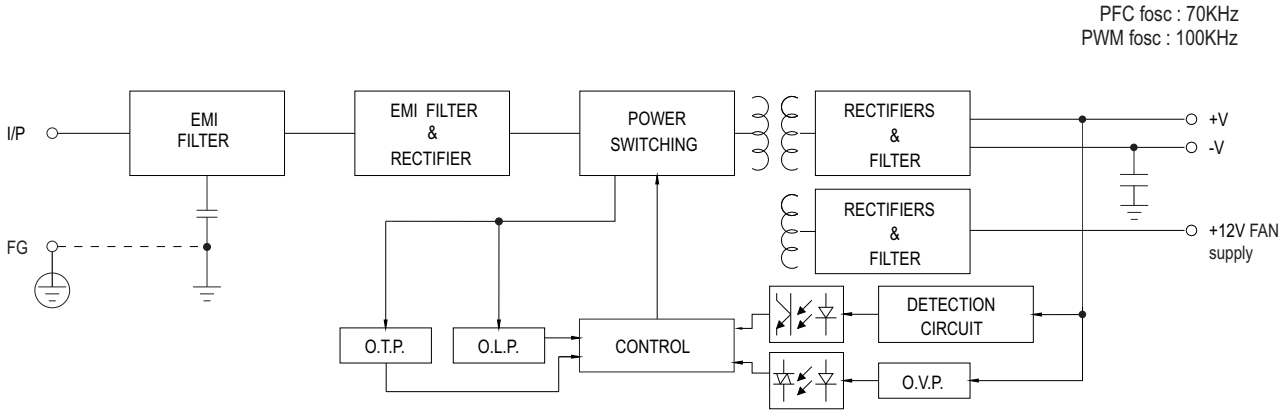
- 12 — Output voltage (12V/15V/18V/24V/27V/30V/36V/48V/54V)
- 300 — Rated wattage
- LOP — Series name

SPECIFICATION

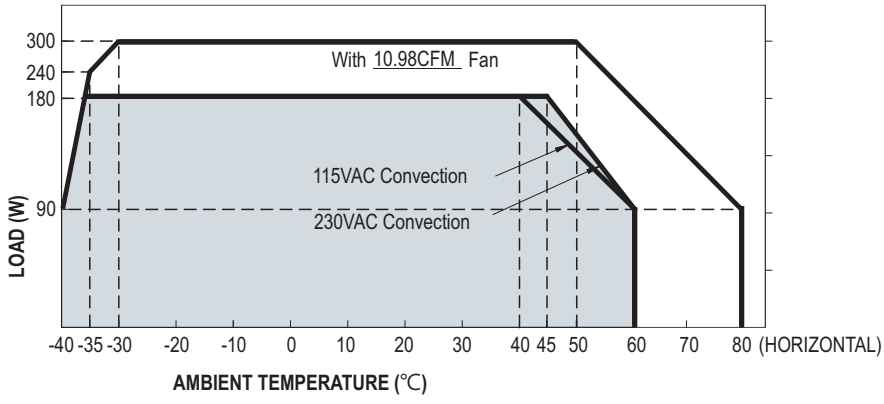
MODEL			LOP-300-12	LOP-300-15	LOP-300-18	LOP-300-24	LOP-300-27	LOP-300-30	LOP-300-36	LOP-300-48	LOP-300-54
OUTPUT	DC VOLTAGE		12V	15V	18V	24V	27V	30V	36V	48V	54V
	CURRENT	Peak(3sec.)	37.5A	30A	25A	18.8A	16.7A	15A	12.5A	9.4A	8.3A
		10.98CFM	25A	20A	16.7A	12.5A	11.1A	10A	8.3A	6.3A	5.6A
		Convection	15A	12A	10A	7.5A	6.7A	6A	5A	3.8A	3.4A
	RATED POWER	Peak(3sec.)	450W	450W	450W	450W	450W	450W	450W	450W	450W
		10.98CFM	300W	300W	300.6W	300W	299.7W	300W	299.8W	302.4W	302.4W
		Convection	180W	180W	180W	180W	180.9W	180W	180W	182.4W	183.6W
	RIPPLE & NOISE (max.) Note.2		120mVp-p	150mVp-p	180mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE (MAIN OUTPUT)		11.4~12.6V	14.3~15.8V	17.1~18.9V	22.8~25.2V	25.6 ~ 28.4V	28.5 ~31.5V	34.2 ~37.8V	45.6 ~50.4V	52 ~58V
	VOLTAGE TOLERANCE Note.3		±3.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		1000ms, 30ms/230VAC 1500ms, 30ms/115VAC at full load								
	HOLD UP TIME (Typ.)		16ms@180W load , 8ms@300W load								
INPUT	VOLTAGE RANGE Note.4		80 ~ 264VAC 113 ~ 370VDC								
	FREQUENCY RANGE		47 ~ 63Hz								
	POWER FACTOR		PF>0.95/230VAC PF>0.98/115VAC at full load								
	EFFICIENCY (Typ.)		92.5%	93%	93.5%	93%	93%	93%	94%	94%	94%
	AC CURRENT (Typ.)		3.5A/115VAC 1.8A/230VAC								
	INRUSH CURRENT (Typ.)		COLD START 40A/115VAC 80A/230VAC								
	LEAKAGE CURRENT		Earth leakage current < 500μA(rms) @ 264VAC , touch current < 70μA(rms) @ 264VAC								
PROTECTION	OVERLOAD		105 ~ 150% rated output power, Protection type : Hiccup after 3 sec, recovers automatically(3 sec) after fault condition is removed								
	OVER VOLTAGE		13.2 ~ 15.6V	16.5 ~ 19.5V	19.8 ~ 23.4V	26.4 ~ 31.2V	29.7 ~ 35.1V	33 ~ 39V	39.6 ~ 46.8V	52.8 ~ 62.4V	59.4 ~ 67.5V
			Protection type : Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down or re-power on to recover								
FUNCTION	EXTERNAL FAN SUPPLY		12V@0.5A for driving a fan / 12V@0.1A without fan cooling ; (10.98CFM) tolerance -20% ~ +15% at main output 20% rated current								
ENVIRONMENT	WORKING TEMP.		-40 ~ +80℃ (Refer to "Derating Curve")								
	WORKING HUMIDITY		20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)								
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes								

SAFETY & EMC (Note 5)	SAFETY STANDARDS	CB IEC62368-1, IEC60335-1, IEC61558-1/-2-16, IEC60601-1; TUV BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, BS EN/EN60601-1(3.2 Version); UL UL62368-1, ANSI / AAMI ES60601-1(3.2 Version) ; CCC GB4943.1 ; RCM AS/NZS 61558-1/-2-16; EAC TPTC 004 approved.		
	ISOLATION RESISTANCE	Primary-Secondary: 2xMOPP, Primary-Earth:1xMOPP, Secondary-Earth:1xMOPP		
	OVER VOLTAGE CATEGORY	IEC/EN 61558-1/-2-16(OVC Ⅲ, altitude up to 2000M) IEC/EN/UL 62368-1 (OVC Ⅱ, altitude up to 5000M) IEC/EN 60335-1 (OVC Ⅱ, altitude up to 5000M) IEC/EN 60601-1 (OVC Ⅱ, altitude up to 4000M)		
	PROTECTIVE EXTRA-LOW VOLTAGE	IEC/EN61558-2-16 (SELV) IEC/EN/UL 62368-1 (SELV / ES1)		
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted & Radiated	BS EN/EN55032(CISPR32) BS EN/EN55011(CISPR11)	Class Ⅰ: Class B , Class Ⅱ: Class A
			BS EN/EN55014(CISPR32)	Class Ⅰ: Class B
		Harmonic Current	BS EN/EN61000-3-2	Class A
		Voltage Flicker	BS EN/EN61000-3-3	-------
	EMC IMMUNITY	BS EN/EN55035,BS EN/ EN61000-6-2		
		Parameter	**Standard**	**Test Level /Note**
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact
		Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)
		EFT/Burest	BS EN/EN61000-4-4	Level 3, 2KV
		Surge	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line
		Conducted	BS EN/EN61000-4-6	Level 3, 10V
		Magnetic Field	BS EN/EN61000-4-8	Level 4, 30A/m
		Voltage Dips and interruptions	BS EN/EN61000-4-11	＞95% dip 0. 5 periods, 100% dip 1 periods, 30% dip 25 periods, ＞95% interruptions 250 periods
OTHERS	MTBF	2805.6K hrs min. Telcordia SR-332 (Bellcore) ; 384.4K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	101.6*50.8* 25.4mm (L*W*H)		
	PACKING	0.21Kg; 36pcs/10Kg/0.95CUFT		
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 0.1 μf & 47μf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltages. Please check the derating curve for more details. 5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) ※ Product Liability Disclaimer ： For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx			

■ Block Diagram

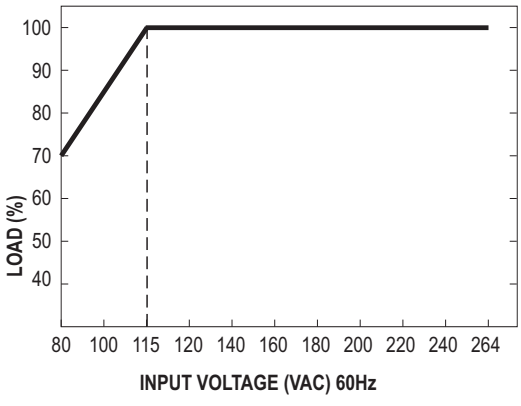


■ Derating Curve



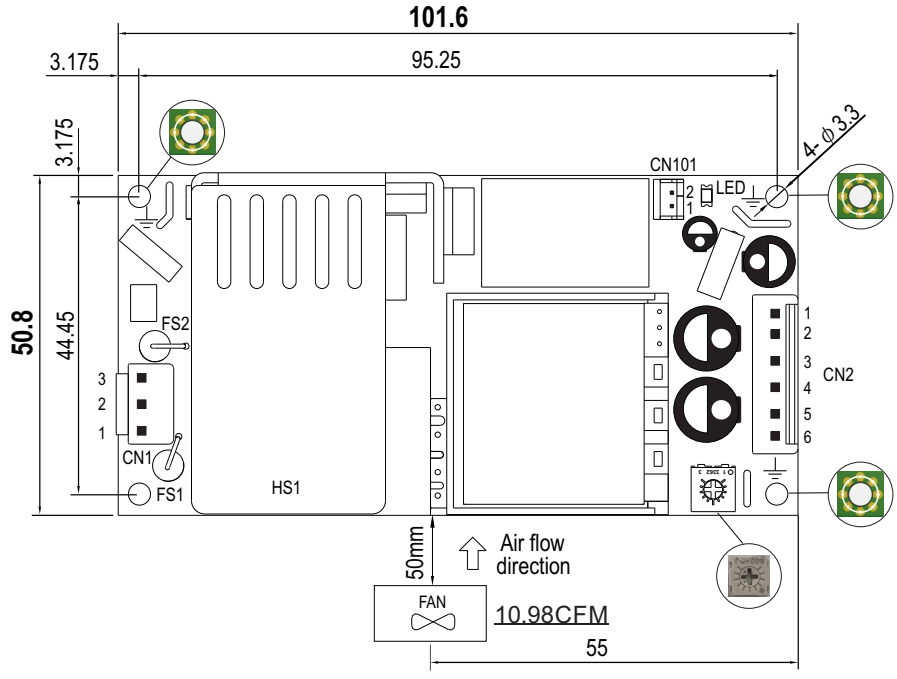
Cooling	Max. Output Power
Free air convection	180W
Force-cooled with external Fan	300W

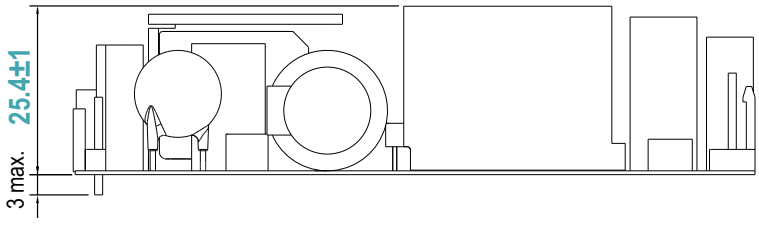
■ Output Derating VS Input Voltage



■ Mechanical Specification

Unit:mm





AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/L	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/N		

DC Output Connector (CN2) : JST B6P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
4,5,6	-V		

FAN Connector(CN101) : JSTB2B-PH-K-S or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+12V	JST PHR-2 or equivalent	JST SPH-002T-P0.5S or equivalent
2	DC COM		

Note:

Class Ⅰ System: Mounting holes marked with ⏚ have to be connected to safety earth.

Class Ⅱ System: Unnecessary to connect with safety earth.