LFM300M SERIES
300 WATT MEDICAL AC-DC POWER SUPPLY WITH PFC

Features

- Universal Input Range 85~264Vac
- High Efficiency up to 94%
- Class I & Class II
- 25.4mm Low Profile Package
- No Load Input Power Consumption<0.3W
- Approval Safety IEC/EN/UL 60601-1 2 MOPP
- Approval Safety IEC/EN/UL 62368-1
- Meets IEC/EN 60335-1
- Operating Altitude 5000m
- Continuous Short Circuit Protection
- Over Voltage Protection
- Over Temperature Protection
- High Power Density 37.1W/Inches^3
- Active PFC Function

E176177
E252331

MODEL NUMBER	OUTPUT VOLTAGE	OUTPUT CURRENT			RIPPLE & NOISE NOTE1	VOLTAGE ACCURACY NOTE2	VOLTAGE ADJ. RANGE	LINE REGULATION NOTE3	LOAD REGULATION NOTE4	% EFF. (Typ.) NOTE5
		With Fan NOTE6	With Conduction Cooling NOTE7							
			Baseplate	Cover						
LFM300M120	12 V	25 A	14.2 A	20.83 A	150 mV	±1%	11.4-12.6 V	±0.3%	±0.5%	93%
LFM300M150	15 V	20 A	11.35 A	16.6 A	150 mV	±1%	14.25-15.75 V	±0.3%	±0.5%	93%
LFM300M240	24 V	12.5 A	7.1 A	10.4 A	240 mV	±1%	22.8-25.2 V	±0.3%	±0.5%	94%
LFM300M280	28 V	10.7 A	6.07 A	8.90 A	280 mV	±1%	26.6-29.4 V	±0.3%	±0.5%	94%
LFM300M300	30 V	10 A	5.67 A	8.33 A	300 mV	±1%	28.5-31.5 V	±0.3%	±0.5%	94%
LFM300M480	48 V	6.25 A	3.54 A	5.20 A	480 mV	±1%	45.6-50.4 V	±0.3%	±0.5%	94%
LFM300M540	54 V	5.56 A	3.15 A	4.63 A	540 mV	±1%	51.3-56.7 V	±0.3%	±0.5%	93%

Note:

1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for ripple & noise measuring @20MHz BW.
2. Voltage accuracy is set at full load.
3. Line regulation is measured from 100Vac to 240V_{ac} with full load.
4. Load regulation is measured from 10% to 100% full load.
5. Typical efficiency at 230 V_{ac} and full load at 25°C.
6. Forced air convection with 14CFM above 115V_{ac}.
7. With addition cooling conduction plate, 22.8 by 22.8 cm with min. 0.2 cm thick, as below.

PART NUMBER

Series	Number of Outputs	Nominal Output Voltage	Type	Mounting Inserts
LFM300	O	XXX	X	-YZ
LFM300	M：Medical	120：12V 150：15V 240：24V 280：28V 300：30V 480：48V 540：54V	B：With Baseplate C：With Cover	Blank：Through Hole C0：Threaded Hole

Part Number Example:

LFM300M120C-C0: With Cover 300W, Single 12Vdc Output, Threaded Hole

LFM300M120B: With Baseplate 300W, Single 12Vdc Output, Through Hole

TECHNICAL SPECIFICATIONS

(All specifications are typical at nominal input, full load at 25℃ unless otherwise noted.)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Input Voltage		All	85		264	V_{ac}
Operating Temperature	**See derating curve**	All	-40		80	℃
Operating Case Temperature	At the center of base plate (T_c = Case temperature)	All	-40		90	℃
Storage Temperature		All	-40		90	℃
Operating Altitude		All			5000	m

INPUT CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Operating Voltage Range		All	100		240	V_{ac}
Input Frequency Range		All	47		63	Hz
Maximum Input Current	100% Load, V_{in}=100V_{ac}	All			5.0	A
Leakage Current (Earth)		All			300	uA
Leakage Current (Touch)		All			100	uA
Inrush Current	V_{in}=240V_{ac}, Cold start @25℃	All			105	A
Power Factor	230V_{ac} @ Full load	All		0.92		

OUTPUT CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Output Voltage Set Point	V_{in}=Nominal V_{in}, I_o=I_o max., T_c=25℃	LFM300M120	11.88	12	12.12	V_{dc}
		LFM300M150	14.85	15	15.15	
		LFM300M240	23.76	24	24.24	
		LFM300M280	27.72	28	28.28	
		LFM300M300	29.7	30	30.3	
		LFM300M480	47.52	48	48.48	
		LFM300M540	53.46	54	54.54	
Operating Output Current Range	Vin=85V_{ac}~264V_{ac}, **see derating curve**	LFM300M120	0		25.0	A
		LFM300M150	0		20.0	
		LFM300M240	0		12.5	
		LFM300M280	0		10.7	
		LFM300M300	0		10.0	
		LFM300M480	0		6.25	
		LFM300M540	0		5.56	
Holdup Time	V_{in}=115V_{ac}	All		12		ms
Output Voltage Regulation						
Load Regulation	10% Load to full load	All			±0.5	%
Line Regulation	V_{in}=High line to low line	All			±0.3	%
Output Voltage Adjustment	$P_o \leqq$ max. rated power, $I_o \leqq I_{o\_max.}$	All	-5		+5	%
Over Voltage Protection	Latch off (AC recycle to reset)	LFM300M120			16	V_{dc}
		LFM300M150			20	
		LFM300M240			32	
		LFM300M280			35	
		LFM300M300			36	
		LFM300M480			59	
		LFM300M540			63	
Over Current Protection	Auto recovery (output is rated load)	All	110	120	150	%

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Short Circuit Protection	Auto recovery	All				
Over Temperature Protection	Auto recovery	All				
Output Ripple and Noise	1. Add a 0.1uF ceramic capacitor and a 10uF aluminum electrolytic capacitor to output 2. Oscilloscope is 20MHz band width 3. Ambient Temperature=25℃	LFM300M120			150	mV
		LFM300M150			150	
		LFM300M240			240	
		LFM300M280			280	
		LFM300M300			300	
		LFM300M480			480	
		LFM300M540			540	
Load Capacitance	1. V_{in}=115V_{ac} and 230V_{ac} 2. Output is max. load 3. Ambient temperature=25℃	LFM300M120			15400	uF
		LFM300M150			12200	
		LFM300M240			7800	
		LFM300M280			6600	
		LFM300M300			6200	
		LFM300M480			3870	
		LFM300M540			3400	
Efficiency	1. Input Voltage is 230V_{ac} 2. Output is rated load 3. Ambient temperature=25℃	LFM300M120		93		%
		LFM300M150		93		
		LFM300M240		94		
		LFM300M280		94		
		LFM300M300		94		
		LFM300M480		94		
		LFM300M540		93		

ISOLATION CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Input to Output	1 Minute (without dielectric breakdown)	All			4250	V_{ac}
Input to Earth (Ground)	1 Minute (without dielectric breakdown)	All			2000	V_{ac}
Output to Earth (Ground)	1 Minute (without dielectric breakdown)	All			2000	V_{ac}
Isolation Resistance	Input to output	All	100			MΩ

FEATURE CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Switching Frequency	P_{out}=max. rated power	All		100		kHz

GENERAL SPECIFICATIONS

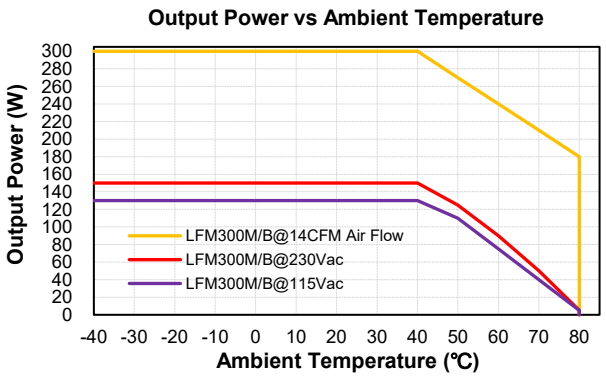
PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
MTBF	I_o=100%; T_a=25℃ per MIL-HDBK-217F	All	500			k hours
	I_o=100%; Ta=25℃ per Telcordia SR332		1690			
Life Time (Detail Refer to Application Note)	Conduction cooling @75% Load, 40℃	All		112		k hours
	Fan cooling @75% Load, 40℃			159		
Humidity	Non-condensing	All			93	% RH
Shock	Meet MIL-STD-810F Table 516.5,Table 516.5-I 10ms, each axis 3 times(±X、±Y、±Z axis)	All		75		g
Vibration	Meet MIL-STD-810F Table 514.5C-VIII,15~2000Hz, X、Y、Z axis, 1 hour (each axis),. Total 3 hrs.	All		4		g
Weight	Baseplate versions	LFM300MXXXB		200		grams
	Covered versions	LFM300MXXXC		280		
Dimensions	Baseplate versions	LFM300MXXXB	4.04x2.00x1.00 Inches (102.6x50.8x25.4 mm)			
	Covered versions	LFM300MXXXC	4.09x2.28x1.00 Inches (104.0x57.9x25.4 mm)			

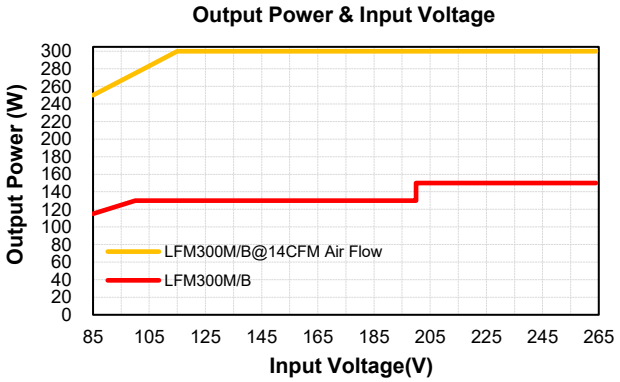
GENERAL SPECIFICATIONS

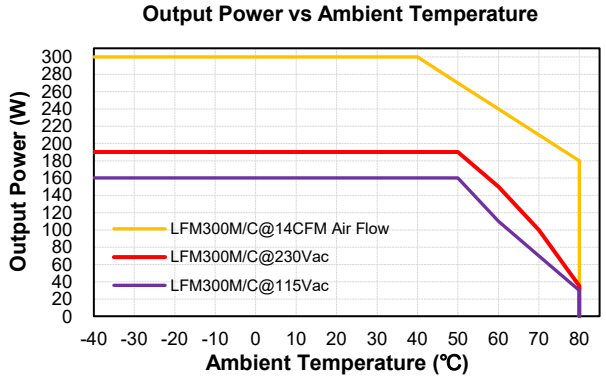
Safety	Class I, Class II ANSI/AAMI ES 60601-1, IEC 60601-1, EN 60601-1	Ed. 3.2
	Class I, IEC/EN/UL 62368-1	Ed. 3.0
EMC Emission	EN 55011 Class B, IEC/EN 61000-3-2, EN 61000-3-3, 47 CFR FCC Part 18 EN 55032, EN 61000-6-4, EN 61204-3, EN 61000-3-2, EN 61000-3-3, 47 CFR FCC Part 15	
Conducted Disturbance	EN 55011, EN 55032, CFR FCC Part 18 & Part 15	Class B
Radiated Disturbance	EN 55011, CFR FCC Part 18 (Class II Only Meets Class A), EN 55032, CFR FCC Part 15	Class B
Harmonic Current Emissions	IEC/EN 61000-3-2	Class A, D
Voltage Fluctuations & Flicker	EN 61000-3-3	Criterion A
EMC Immunity	EN 60601-1-2, IEC/EN 61000-4-2, 3, 4, 5, 6, 8, 11	Ed 4.1
	EN 55035, EN 61000-6-2, EN 61204-3	
Electrostatic Discharge (ESD)	IEC 61000-4-2, Level 4: Air Discharge: ±15kV, Contact Discharge: ±8kV	Criterion A
Radio-Frequency, Continuous Radiated Disturbance	IEC/EN 61000-4-3, Level 3: 80~2700MHz, 10V/m	Criterion A
Electrical Fast Transient (EFT)	EN 61000-4-4, Level 3: ±2kV	Criterion A
Surge	EN 61000-4-5, Level 4: L-N: ±2kV, L-E (Ground): ±4kV	Criterion A
Conducted Disturbances, Induced by RF Fields	EN 61000-4-6, Level 3: 0.15~80MHz, 10V	Criterion A
Power Frequency Magnetic Field	EN 61000-4-8, Level 4: 30A/m	Criterion A
Voltage Dips	IEC/EN 61000-4-11, Dip: 30% Reduction IEC/EN 61000-4-11, Dip >95% Reduction	Criterion A
Voltage Interruptions	IEC/EN 61000-4-11, >95% reduction	Criterion B
Application Note Link	LFM300M Series App Notes	

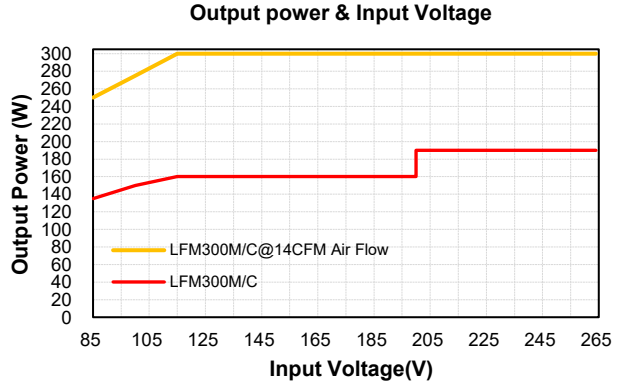
CHARACTERISTIC CURVE

Power Derating Curve

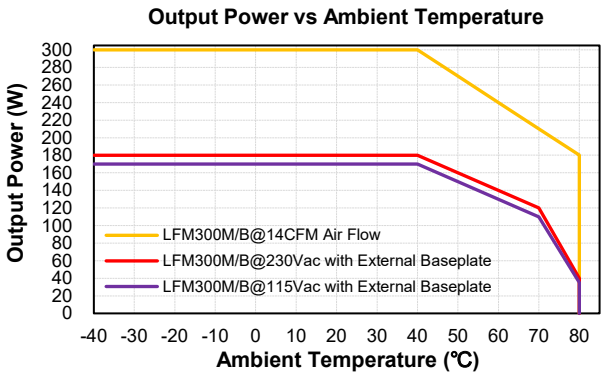


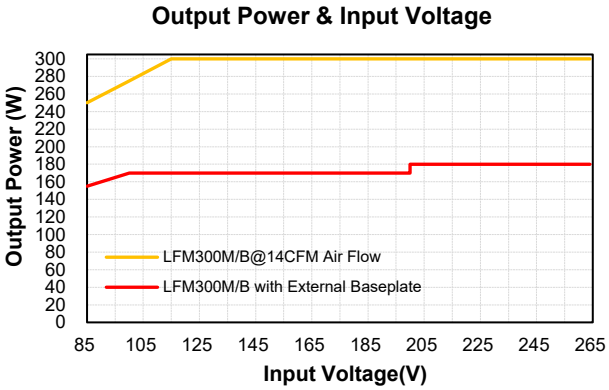


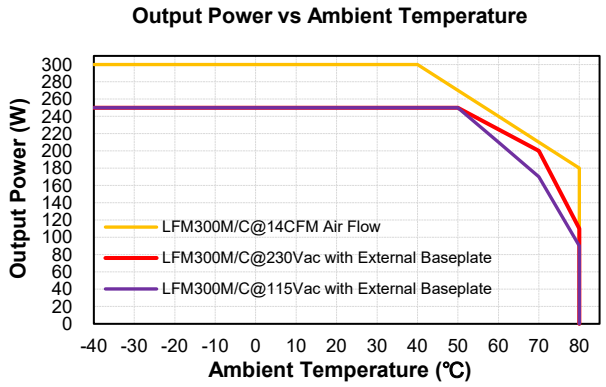


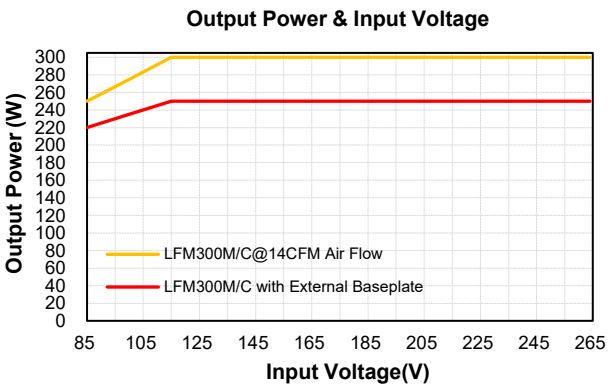


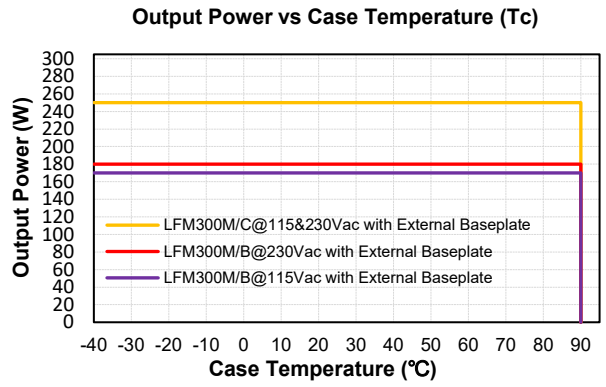
Conduction Convection with External Baseplate (22.8cmx22.8cmx0.2cm)



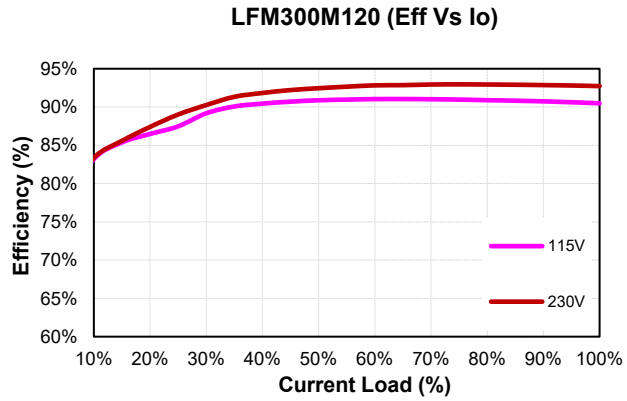


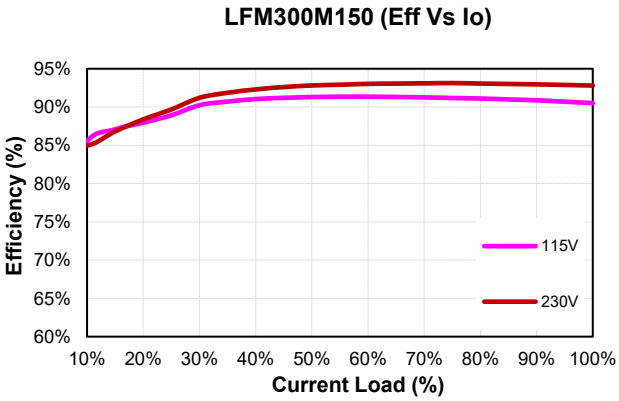




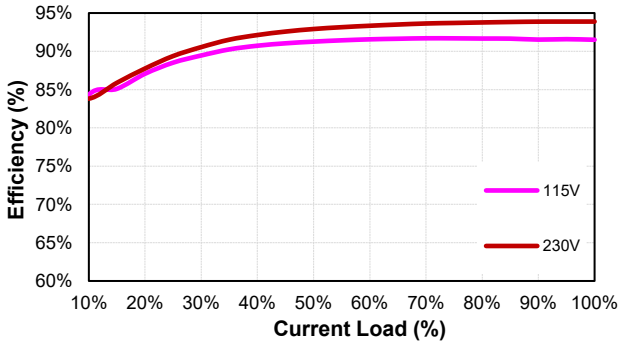


Performance Data

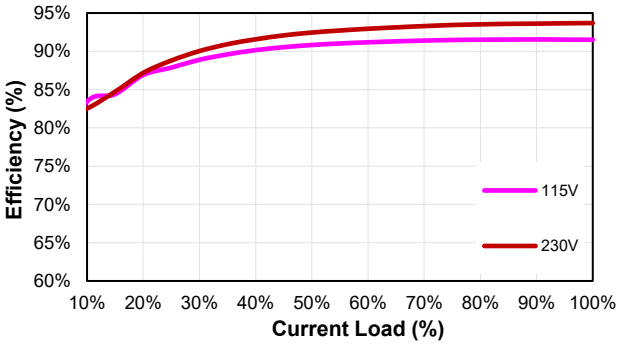




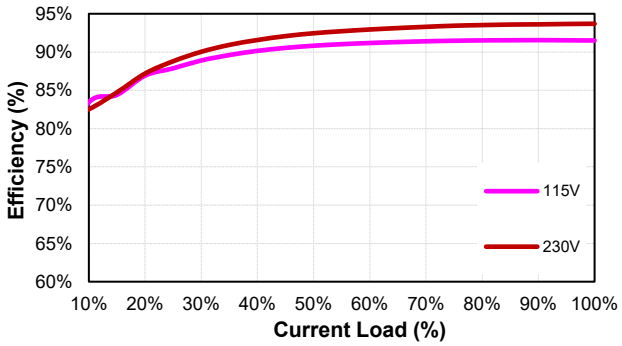
LFM300M240 (Eff Vs Io)



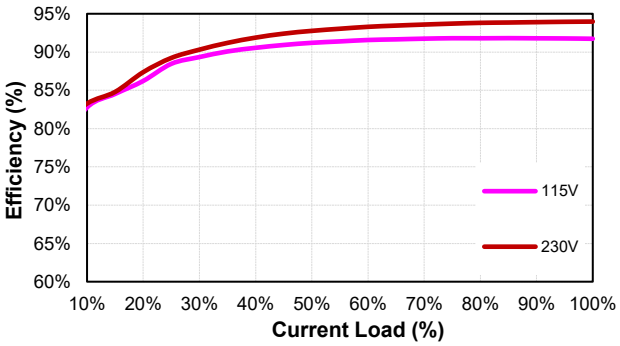
LFM300M280 (Eff Vs Io)



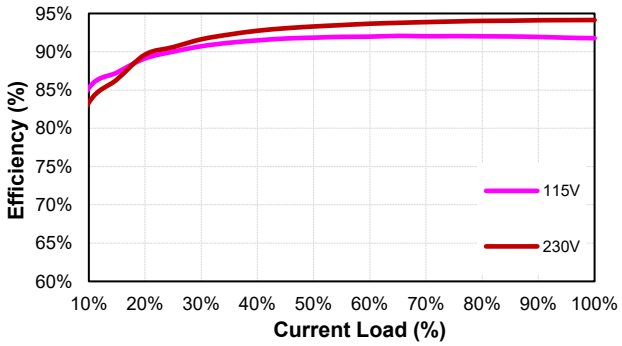
LFM300M300 (Eff Vs Io)



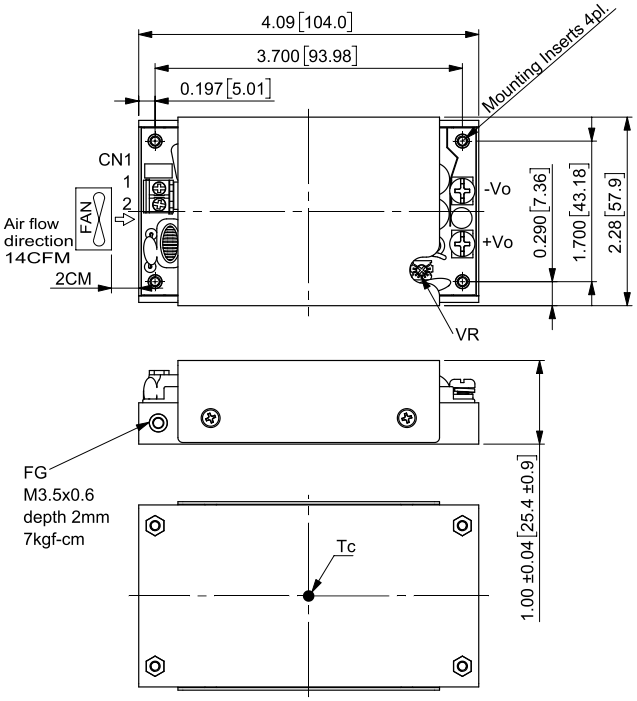
LFM300M480 (Eff Vs Io)



LFM300M540 (Eff Vs Io)



MECHANICAL SPECIFICATION



LFM300MXXXC
LFM300MXXXC-C0

All Dimensions in Inches[mm]
Tolerance Inches: x.xx=±0.03, x.xxx=±0.020
Millimeters: x.x=±0.7, x.xx=±0.50

AC Input Connector(CN1):ECE ETB22

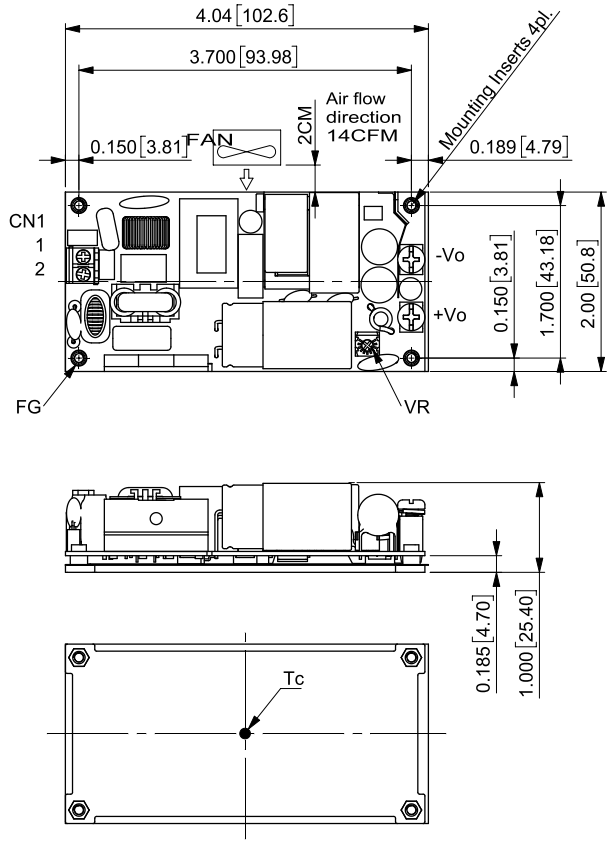
Pin	Function	Mating Wire Range
1	ACL	14~18 AWG
2	ACN	

DC Output Connector:KANG YANG PCB-58M4

Function	The screw locked torque
+Vo	M4 7kgf-cm
-Vo	

Mounting Inserts

Series	Option
Blank	∅3.2 Through depth 10.5mm
-C0	M3x0.5 Threaded depth 10.5mm



LFM300MXXXB
LFM300MXXXB-C0

All Dimensions in Inches[mm]
Tolerance Inches: x.xx=±0.03, x.xxx=±0.020
Millimeters: x.x=±0.7, x.xx=±0.50

AC Input Connector(CN1):ECE ETB22

Pin	Function	Mating Wire Range
1	ACL	14~18 AWG
2	ACN	

DC Output Connector:KANG YANG PCB-58M4

Function	The screw locked torque
+Vo	M4 7kgf-cm
-Vo	

Mounting Inserts

Series	Option
Blank	∅3.2 Through depth 7.8mm
-C0	M3x0.5 Threaded depth 7.8mm

CINCON Electronics Co. Ltd.
Add: 14F, No. 306, Sec.4, Hsin Yi Rd., Taipei, Taiwan
Tel: 886-2-27086210
Fax: 886-2-27029852
E-mail: sales@cincon.com.tw
Web: www.cincon.com

REVISION: October 2025, V16

powerbox
Powering Progress

Authorised, valued-added distributor

Australia & New Zealand

Powerbox Australia Pty Ltd
Sydney Head Office
4 Beaumont Road,
Mt Kuring-Gai, NSW 2080
Australia

1800 251 380

sales@powerbox.com.au

powerbox.com.au

Powerbox Pacific Ltd
New Zealand Sales Office
1a Henry Rose Place,
Albany, Auckland
New Zealand 0632

09 4158 320

sales@powerbox.co.nz

powerbox.co.nz