WLP120 Industrial



Features

- 3" x 2" foot print
- Height 1" above PCB
- 120 Watts with Forced Air Cooling
- Efficiencies upto 93%
- -40 to 70 degree operating temperature (85°C operational available on request)
- Thermal Shut-Down feature
- Now IEC/UL62368-1:2018 Compliant New
- Fulfils EN 62368-1:2014 +A11:2017
- >3.00m Hours, Telcordia-SR332-issue 3
- No Load Power < 0.3W
- Approved with metal enclosures/accessories

	Electrical Specifications		
Input Voltage	85-264 VAC/390 VDC ⁴ , Universal (see derating under output power)		
Input Frequency	47-63 Hz		
Input Current	115 VAC: 1.2 A max. 230 VAC: 0.65 A max.		
No Load Power	less than 0.3W typical		
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A		
Efficiency	93%(48V,58V), 91%(24V,30V), 90%(12V,15V)		
Hold-up Time	>10 ms typical		
Power Factor	exceeds 0.95 with Full Load, Active PFC		
Output Power	Forced cooling: 120W with 300LFM (refer mechnical drawing)		
	Convection cooling: 100W (for input 100-264 VAC)		
	(de-rate linearly to 80W @ 85VAC)		
Output Voltage Adjustability	+/-3%		
Line Regulation	+/-0.5%		
Load Regulation	+/-1%		
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4%, recovery time < 5 ms		
Rise Time	55ms typical		
Set Point Tolerance	+/-1%		
Over Current Protection	Typ 110%		
Over Voltage Protection	110 to 140%, Latch type (AC recycling required)		
Short Circuit Protection	Hiccup mode		
Switching Frequency	60 KHz typical		
Operating Temperature ³	- 40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation		
	(85°C operational available on request)		
Storage Temperature	-40 to +85°C		
Relative Humidity	5% to 95%, noncondensing		
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.		
MTBF	>3.00m Hours, Telcordia-SR332-issue 3		
Isolation Voltage	Input to Output — 4000 VDC for ITE application		
	Input to GND - 2500 VDC		

4EM-20-215 1 39-DE60-49050-002 / A10

Model Number	Power Supply Unit & its Installation Type	Power	Voltage	Max. Load (Convection)	Max. Load (300 LFM)	Ripple ¹
LFWLP120-1X01-CK	In CK cover Kit	70 W	12 V	5.83 A		1%
LFWLP120-1X01	In Open Frame					
LFWLP120-1X01-L	With L Bracket	120 W	12 V	8.33 A	10.0 A	1%
LFWLP120-1X01-B	With Base Plate					
LFWLP120-1X01-U	With U channel					
LFWLP120-1X02-CK	In CK cover Kit	70 W	15 V	4.66 A		1%
LFWLP120-1X02	In Open Frame					
LFWLP120-1X02-L	With L Bracket	120 W	15 V	6.66 A	8.0 A	1%
LFWLP120-1X02-B	With Base Plate					
LFWLP120-1X02-U	With U channel					
LFWLP120-1X03-CK	In CK cover Kit	70 W	24 V	2.91 A		1%
LFWLP120-1X03	In Open Frame					
LFWLP120-1X03-L	With L Bracket	120 W	24 V	4.16 A	5.00 A	1%
LFWLP120-1X03-B	With Base Plate					
LFWLP120-1X03-U	With U channel					
LFWLP120-1X04-CK	In CK cover Kit	70 W	48 V	1.46 A		1%
LFWLP120-1X04	In Open Frame					
LFWLP120-1X04-L	With L Bracket	120 W	48 V	2.08 A	2.5 A	1%
LFWLP120-1X04-B	With Base Plate					
LFWLP120-1X04-U	With U channel					
LFWLP120-1X05-CK	In CK cover Kit	70 W	30 V	2.33 A		1%
LFWLP120-1X05	In Open Frame					
LFWLP120-1X05-L	With L Bracket	120 W	30 V	3.33 A	4.0 A	1%
LFWLP120-1X05-B	With Base Plate					
LFWLP120-1X05-U	With U channel					
LFWLP120-1X06-CK	In CK cover Kit	70 W	58 V	1.20 A		1%
LFWLP120-1X06	In Open Frame					
LFWLP120-1X06-L	With L Bracket	120 W	58 V	1.72 A	2.07 A	1%
LFWLP120-1X06-B	With Base Plate					
LFWLP120-1X06-U	With U channel					

For Header version replace "X" above with "3", example LFWLP120-1305 LFWLP120-CK metal cover kit accessory available.



4EM-20-215 2

Connectors						
J1	Pin 1	AC LINE				
	Pin 2	NOT FITTED				
	Pin 3	AC NEUTRAL				
J2	Pin 1,2	V1 -VE				
	Pin 3,4	V1 +VE				

Notes

- 1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Electrolytic capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
- 2. Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 3. Output ripple can be more than 10% of the output voltage.
- 4. Functional, not approved.
- 5. When used in Cover Kit, de-rate output power to 70 % under all operating conditions.
- 6. For Class II version Enquire with EOS Sales Rep before Order

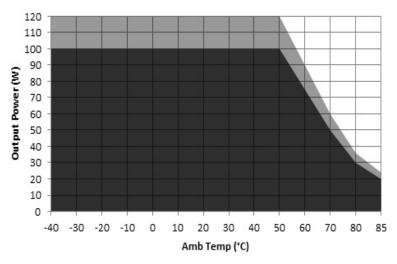
4EM-20-215 3 39-DE60-49050-002 / A10

	Mechanical S	pecifications		
AC Input Connector (J1) Option 1	Molex: 39357-0003 Tyco: 2-1776112-3	(J1) Option 2	Molex: 1722861103 (Mating conn: Molex 1722561003) (Mating conn: Molex 1722561103) (Mating conn: Molex 1722563103)	
DC Output Connector (J2) Option 1	Molex: 39357-0004 Tyco: 2-1776112-4	(J2) Option 2	Molex: 1722861104 (Mating conn: Molex 1722561004) (Mating conn: Molex 1722561104) (Mating conn: Molex 1722563104)	
Dimensions	3 x 2 x 1.18 inches (76.2 x 50.8 x 30.1 mm)			
Weight	200gm Max.			
	EMC			
Parameter Conducted Emissions	Conditions/Description EN55032-B, CISPR22-B, FCC		teria	
Radiated Emissions	EN 55032 A	Pass Level B v	with external core (King core K5B RC 5-M in input cable)	
Input Current Harmonics	EN 61000-3-2	Class D		
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass		
ESD Immunity	EN 61000-4-2	Level 3, Criterion A		
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A		
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A		
Surge Immunity	EN 61000-4-5	Level 3, Criterion A		
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A		
Magnetic Field Immunity	EN 61000-4-8	Level 3, Criterion A		
Voltage dips, interruptions	EN 61000-4-11	Criterion	A & B	
	Safety	/		
CE Mark	Complies with LVD Direct	ive		
Approval Agency	Nemko, UL, C-UL			
Safety Standard(s)	IEC 62368-1:2018, EN 62368 UL 62368-1 and CAN/CSA C			
Safety File Number(s)	Class-I : UL: Certificate N CB Certificate No.: NO110		4, Nemko: Certificate No. P20224328,	
	Environm	nental		
RoHS Version	LFWLP120 series meet RoH (Directive 2011 / 65 / EU)	S compliance as per europe	an RoHS directive	

4EM-20-215 4 39-DE60-49050-002 / A10

Derating Curve

Power de-rating in Open Frame/with L Bracket/ Base Plate/with U channel



Convection load: 100W up to 50 °C De-rate above 50 °C @ 2.5% per °C De-rate between 70 °C to 85°C @ 4% per °C

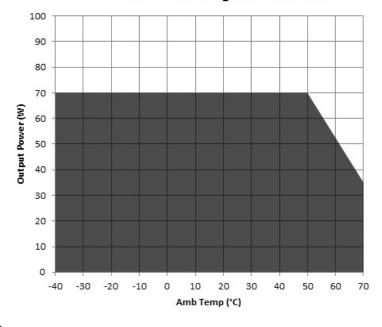
Forced Air Cooled

■ Convection cooled

■ Convection

Forced air cooled load: 120W up to 50°C De-rate above 50 °C @ 2.5% per °C De-rate between 70 °C to 85°C @ 4% per °C

Power de-rating in CK Cover Kit



Convection load: 70W up to 50 °C

De-rate above 50 °C @ 2.5% per °C



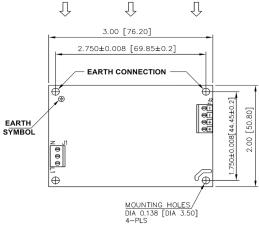
5 4EM-20-215

Screw Terminal

Mechanical Drawing

Option -1

DIRECTION OF AIRFLOW FOR FORCED COOLING



0.146 [3.7]
COMPONENT
HEIGHT
BELOW PCB

MECHANICAL OUTLINE DIMENSIONS ALL DIMENSIONS ARE IN INCHES[MM] GEN TOLERANCE: ±0.06

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

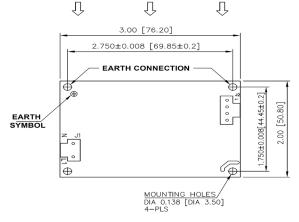
- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

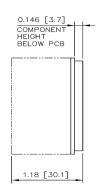
Tyco Header

Mechanical Drawing

Option -2

DIRECTION OF AIRFLOW FOR FORCED COOLING





MECHANICAL OUTLINE DIMENSIONS ALL DIMENSIONS ARE IN INCHES[MM] GEN TOLERANCE: ±0.06

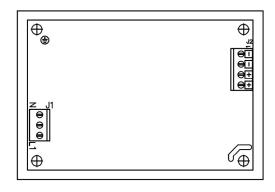
Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

Base Plate

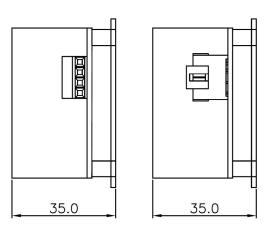
Mechanical Drawing

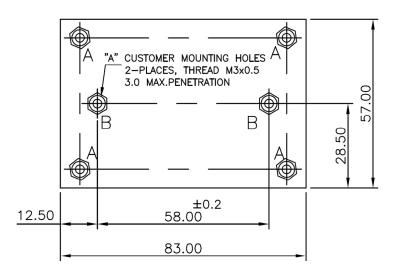
WLP120 WITH BASE PLATE











MECHANICAL OUTLINE DIMENSION ALL DIMENSIONS ARE IN MM GEN.TOLERANCE:+/-0.5 MM

Notes: In case the PCB is mounted on a metal base plate, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

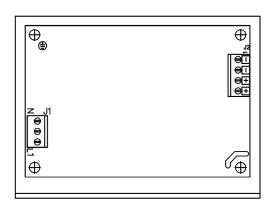


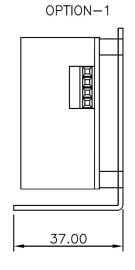
4EM-20-215 7

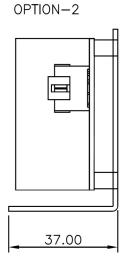
L Bracket

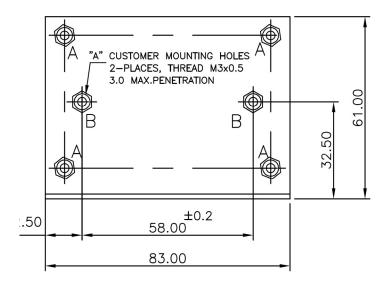
Mechanical Drawing

WLP120 SERIES WITH 'L' BRACKET









MECHANICAL OUTLINE DIMENS:
ALL DIMENSIONS ARE IN MM
GEN.TOLERANCE:+/-0.5 MM

Notes: In case the PCB is mounted on a metal 'L' bracket, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

Mechanical Drawing U Channel WLP120 SERIES WITH 'U' CHANNEL OPTION-2 OPTION-1 ⊕ 37.00 37.00 CUSTOMER MOUNTING HOLES 2-PLACES, THREAD M3x0.5 3.0 MAX.PENETRATION 65.00 В MECHANICAL OUTLINE DIMEN 50 58.00 ALL DIMENSIONS ARE IN MM GEN.TOLERANCE:+/-0.5 MM 83.00

Notes: In case the PCB is mounted on a metal 'U' Channel, using metal hardware ensure the following1. Stand off, used to mount PCB has OD of 5.4 mm max.

9

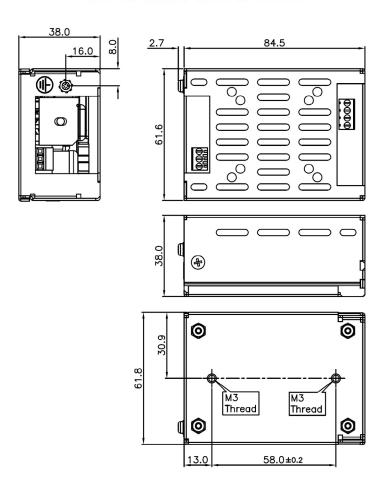
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.



Cover Kit

Mechanical Drawing

WLP120 SERIES WITH COVER KIT



MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN MM
GEN TOLERANCE: +/-1.0 MM
MATERIAL: CRCA/GI 1.0MM THICK
(POWDER COATING/ PASSIVATION/
ED COATING BLACK)

Notes: In case the PCB is mounted in a metal cover kit, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

4EM-20-215 10 39-DE60-49050-002 / A10