

# 225 Watt Industrial



## Features

- 4 x 2 x 1 Inches Form factor
- 225 Watt Forced cooled, 130W Convection cooled
- Efficiencies upto 94% & No Load Power < 0.5W
- -40°C to 70°C degree operating temperature\*
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 3.37m Hours, Telcordia -SR332-issue 3 MTBF
- Remote ON/OFF **New \*\*\***
- Now IEC/UL62368-1:2018 (Ed 3.0) Compliant **New**
- CCC (China Compulsory Certification approval) certified **New \*\*\***
- Approved with metal enclosures/accessories

## Electrical Specifications

Input Voltage	85-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 95% at 85V AC)	
Input Frequency	47-63 Hz	
Input Current	115 VAC: 2.2 A max.	230 VAC: 1.1 A max.
No Load Power	less than 0.5W typical	
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A	
Leakage Current	300 uA Typical, (N.A. For Class II Option)	Touch current <100uA
Efficiency	94%(48V), 93%(24V,30V), 92%(12V,15V)	
Hold-up Time	at 225W:10 ms ; 110W: 16 ms	
Power Factor	exceeds 0.95 with Full Load	
Output Power	225W with 13 CFM, up to 120W Convection	
Line Regulation	+/-0.5%	
Load Regulation	+/-0.5%	
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%	
Output Voltage Adjustment	+/-3% (Ref. Note 8)	
Over Current Protection	>110%	
Over Voltage Protection	110 to 140%	
Short Circuit Protection	Hiccup mode	
Switching Frequency	PFC – 70 to 130 KHz ,PWM – 50-80 KHz	
Operating Temperature <sup>7</sup>	- 40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation	
Storage Temperature	-40 to +85°C	
Relative Humidity	5% to 95%, noncondensing	
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.	
MTBF	3.37m Hours, Telcordia -SR332-issue 3	
Isolation Voltage	Input to Output – 4000 VDC for ITE application Input to GND - 2500 VDC (Not Applicable For Class II Option)	
Cooling	up to 225W with 13 CFM forced air cooling <sup>6</sup> (refer Mechanical Drawing) up to 120 W with natural convection cooling <sup>6</sup> (refer Derating Curve)	

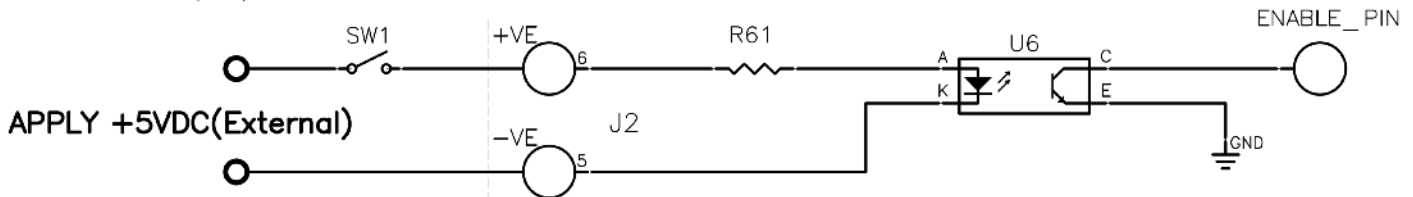
Model Number	Power Supply Unit & its Installation Type	Power	Voltage	Max. Load (Convection) (112.5 W) 50°C	Max. Load (Convection) (120 W) 40°C	Max. Load (13CFM) (225 W)
FWLWP225-1X01-CK	In CK cover Kit	84 W	12 V	6.50 A	7.00 A	
FWLWP225-1X01	In Open Frame					
FWLWP225-1X01-L	With L Bracket	225 W	12 V	9.37 A	10.0 A	18.75 A
FWLWP225-1X01-B	With Base Plate					
FWLWP225-1X01-U	With U channel					
FWLWP225-1X02-CK	In CK cover Kit	84 W	15 V	5.25 A	5.60 A	
FWLWP225-1X02	In Open Frame					
FWLWP225-1X02-L	With L Bracket	225 W	15 V	7.5 A	8.00 A	15.0 A
FWLWP225-1X02-B	With Base Plate					
FWLWP225-1X02-U	With U channel					
FWLWP225-1X03-CK	In CK cover Kit	84 W	24 V	3.28 A	3.50 A	
FWLWP225-1X03	In Open Frame					
FWLWP225-1X03-L	With L Bracket	225 W	24 V	4.68 A	5.0 A	9.37 A
FWLWP225-1X03-B	With Base Plate					
FWLWP225-1X03-U	With U channel					
FWLWP225-1X04-CK	In CK cover Kit	84 W	48 V	1.64 A	1.75 A	
FWLWP225-1X04	In Open Frame					
FWLWP225-1X04-L	With L Bracket	225 W	48 V	2.34 A	2.5 A	4.68 A
FWLWP225-1X04-B	With Base Plate					
FWLWP225-1X04-U	With U channel					
FWLWP225-1X05-CK	In CK cover Kit	84 W	30 V	2.63 A	2.80 A	
FWLWP225-1X05	In Open Frame					
FWLWP225-1X05-L	With L Bracket	225 W	30 V	3.75 A	4.0 A	7.5 A
FWLWP225-1X05-B	With Base Plate					
FWLWP225-1X05-U	With U channel					
FWLWP225-1X06-CK	In CK cover Kit	84 W	58 V	1.36 A	1.45 A	
FWLWP225-1X06	In Open Frame					
FWLWP225-1X06-L	With L Bracket	225 W	58 V	1.94 A	2.07 A	3.88 A
FWLWP225-1X06-B	With Base Plate					
FWLWP225-1X06-U	With U channel					
For Screw Terminal version replace "X" above with "0" (example: LFWLWP225-1005)						
For Header version replace "X" above with "3" (example: LFWLWP225-1305)						
Add Suffix '0' for Remote On/Off option (example: LFWLWP225-1303-0)						

Pin Connection		
J1	Pin 1	AC LINE
	Pin 2	NOT FITTED
	Pin 3	AC NEUTRAL
J2 Option 1 & 2	Pin 1,2,3	V1 +VE
	Pin 4,5,6	V1 -VE
J3	Pin 1	FAN +VE
	Pin 2	FAN -VE

## REMOTE ON/OFF INHIBIT

WLP225-1XXX

SWITCH (SW1) OPEN—POWER SUPPLY UNIT OPERATING.  
SWITCH (SW1) CLOSED—POWER SUPPLY UNIT INHIBITED.



Note : External supply voltage can be changed with pre Information

### Notes

1. Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Electrolytic capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges.
2. Class II version available. Add "-II" suffix at the end of the Model Number to Order.
3. Combined output power of main output, fan supply shall not exceed max. Power rating.
4. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-15 % and Ripple and noise is less than 10 %.  
With V1 fully loaded, Vfan need to have min load of 20mA to be within regulation band.
5. Specifications are for nominal input voltage, 25°C unless otherwise stated.
6. 225W with 13CFM forced air cooling and 120W with natural convection cooling at 100 to 264VAC.
7. Output ripple can be more than 10% of the output voltage.
8. Adjustment potentiometer is located on the SMT side of the PCB.
9. When used in Cover Kit, de-rate output power to 70 % under all operating conditions.
10. For improved thermal performance of WLP225 up to 130W convection cooling, enquire with EOS Sales Rep before Order.

## Mechanical Specifications

AC Input Connector (J1)	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector (J2) Option 1 (Screw Terminal)	Molex: 39357 Series or equivalent
DC Output Connector (J2) Option 2 (Molex Connector)	Molex: 26-60-4060 Mating: 09-50-3061; Pins: 08-50-0106
Aux (Fan) Output(J3)	AMP :640456-2 Mating: 640440-2
Dimensions	4 x 2 x 1 inches (101.60 x 50.8x 25.4 mm)
Weight	200 gm approx

## EMC

Parameter	Criteria
Conducted Emissions	Pass
Radiated Emissions	Pass Level B with external core (King core K5B RC 25x12x15-M in input cable)
Input Current Harmonics	Class D
Voltage Fluctuation and Flicker	Pass
ESD Immunity	Level 3, Criterion A
Radiated Field Immunity	Level 3, Criterion A
Electrical Fast Transient Immunity	Level 3, Criterion A
Surge Immunity	Level 3, Criterion A
Conducted Immunity	Level 3, Criterion A
Magnetic Field Immunity	Level 3, Criterion A
Voltage dips, interruptions	Criterion A & B

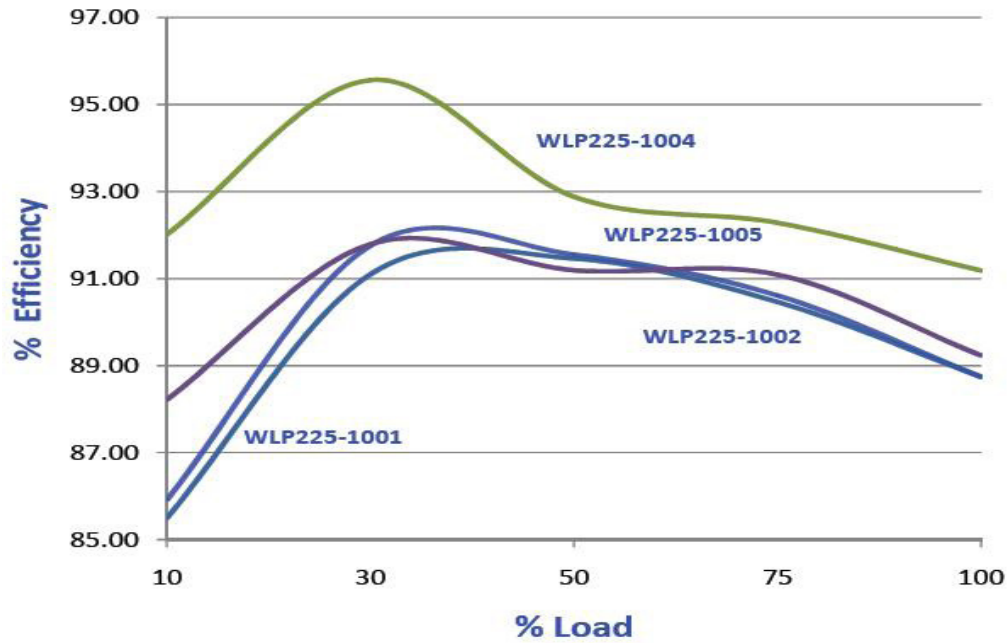
## Safety

CE Mark	Complies with LVD Directive
Approval Agency	Nemko, UL, C-UL , CCC***
Safety Standard(s)	IEC 62368-1:2018, EN 62368-1:2020;A11 UL 62368-1 and CAN/CSA C22.2 No. 62368-1:19, GB 17625.1-2012; GB 4943. 1-2011; GB/T 9254-2008
Safety File Number(s)	Class-I : Nemko: Certificate No. P21225480, CB Certificate No.: N0110371 UL: Certificate Number 20200529-E515384, CCC Certificate No.: 2015010907830085

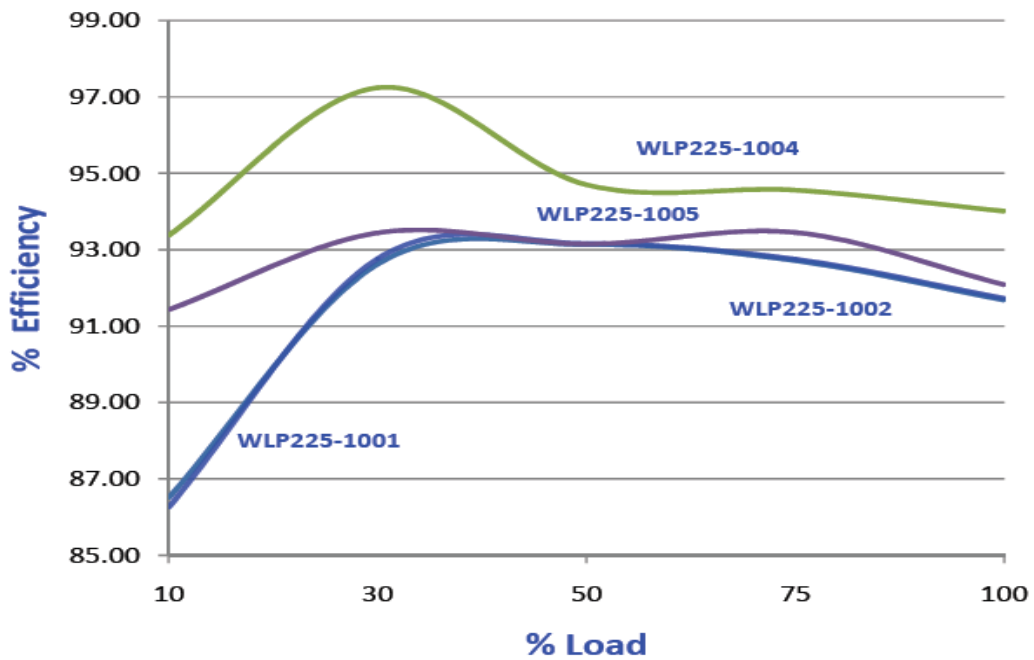
\*\*\* Available at additional cost to know more please contact sales.

## Efficiency Graph

### WLP225-100X efficiency graph at 115V AC

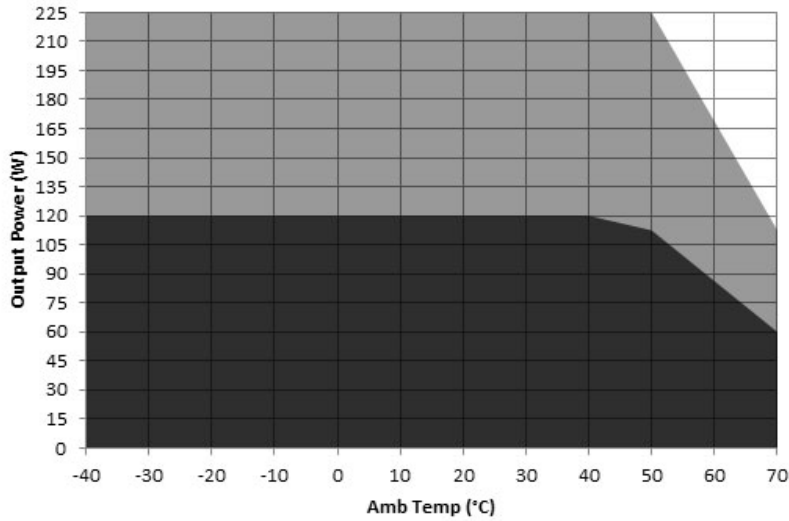


### WLP225-100X efficiency graph at 230V AC



## Derating Curve

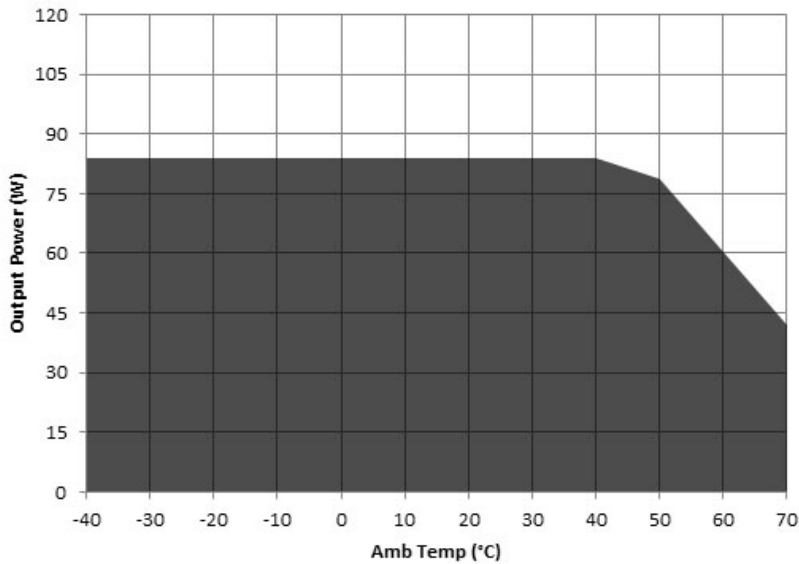
### Power de-rating for Open frame/Base plate/L Bracket/U Channel



Convection load: 120W up to 40 °C  
 De-rate between 40-50 °C @ 0.625% per °C  
 De-rate above 50 °C @ 2.33% per °C

Forced air cooled load : 225W up to 50°C  
 De-rate above 50 °C @ 2.5% per °C

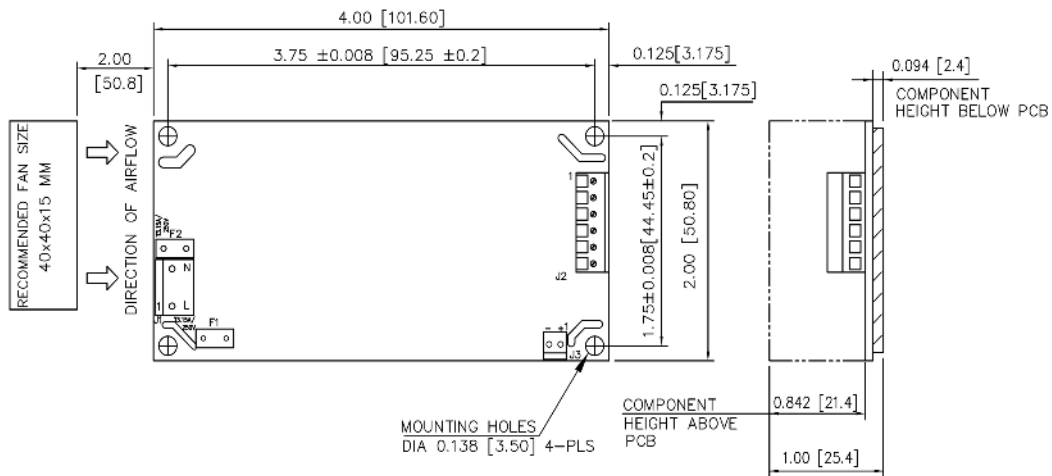
### Power de-rating with CK



Convection load: 84W up to 40 °C  
 De-rate between 40-50 °C @ 0.625% per °C  
 De-rate above 50 °C @ 2.33% per °C

## Mechanical Drawing

### Option 1



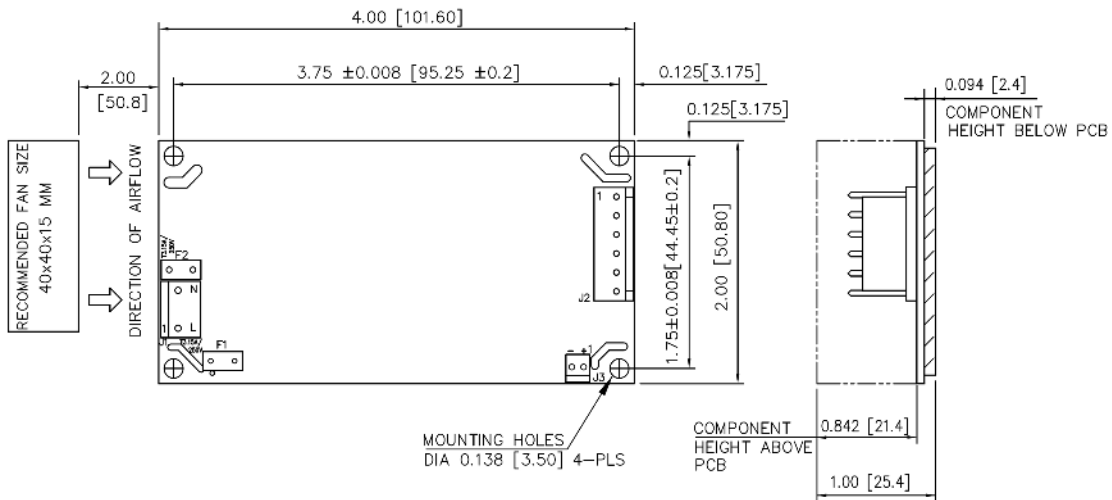
MECHANICAL OUTLINE DIMENSIONS  
ALL DIMENSIONS ARE IN INCHES[MM]  
GEN TOLERANCE : +/-0.04 [+/-1.0MM]

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.

## Mechanical Drawing

### Option 2



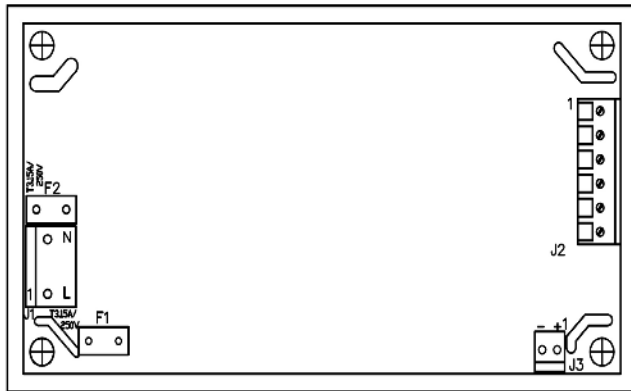
MECHANICAL OUTLINE DIMENSIONS  
ALL DIMENSIONS ARE IN INCHES[MM]  
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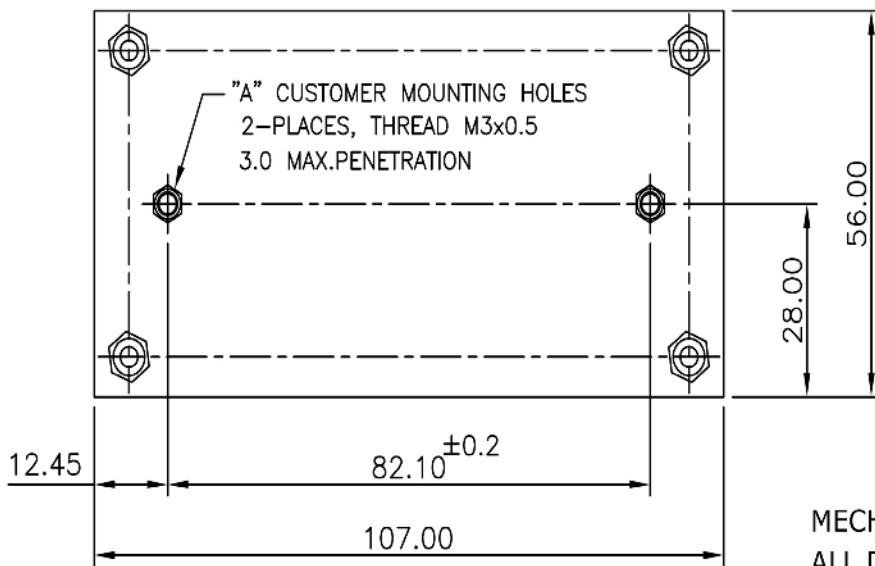
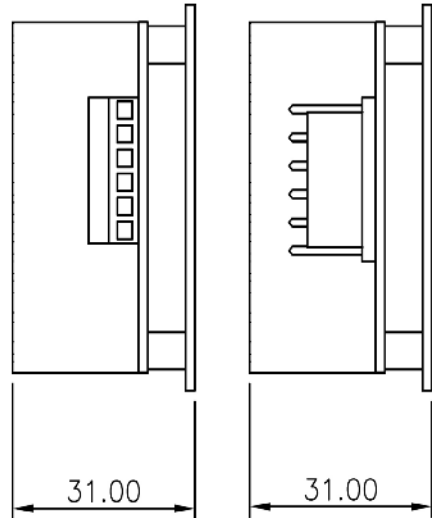
Mechanical Drawing

WLP225 SERIES WITH BASE PLATE



OPTION-1

OPTION-2

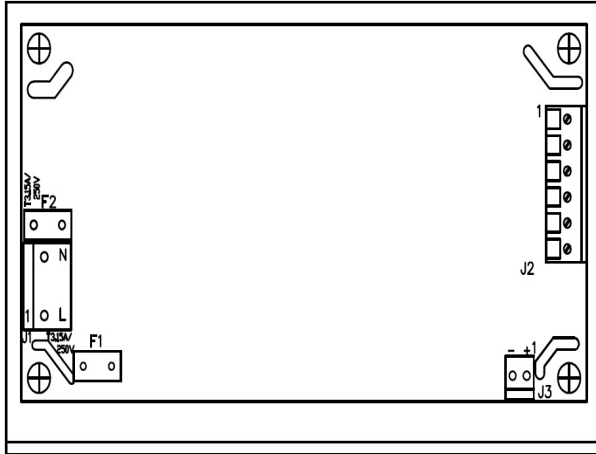


MECHANICAL OUTLINE DIMENSIONS  
ALL DIMENSIONS ARE IN MM  
GEN.TOLERANCE: +/-0.5 MM

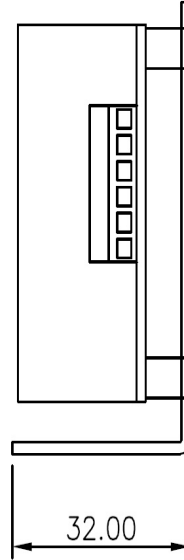


Mechanical Drawing

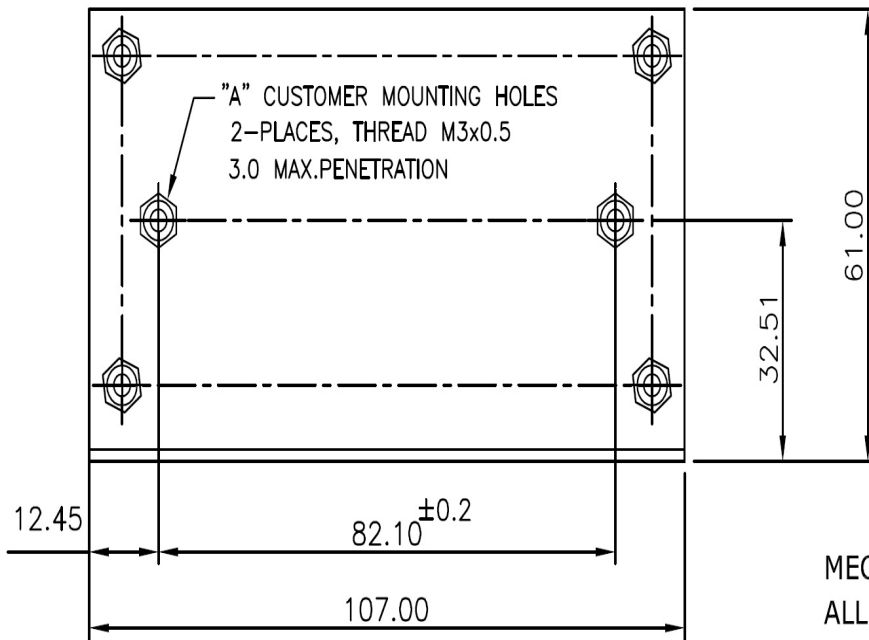
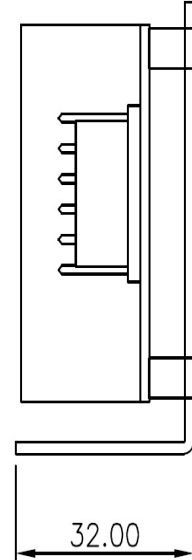
WLP225 SERIES WITH 'L' BRACKET



OPTION-1



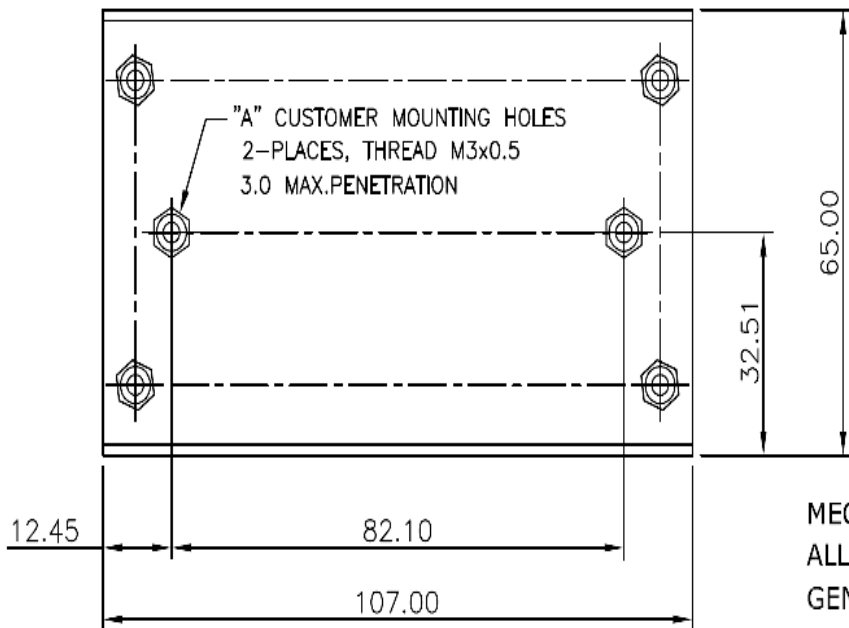
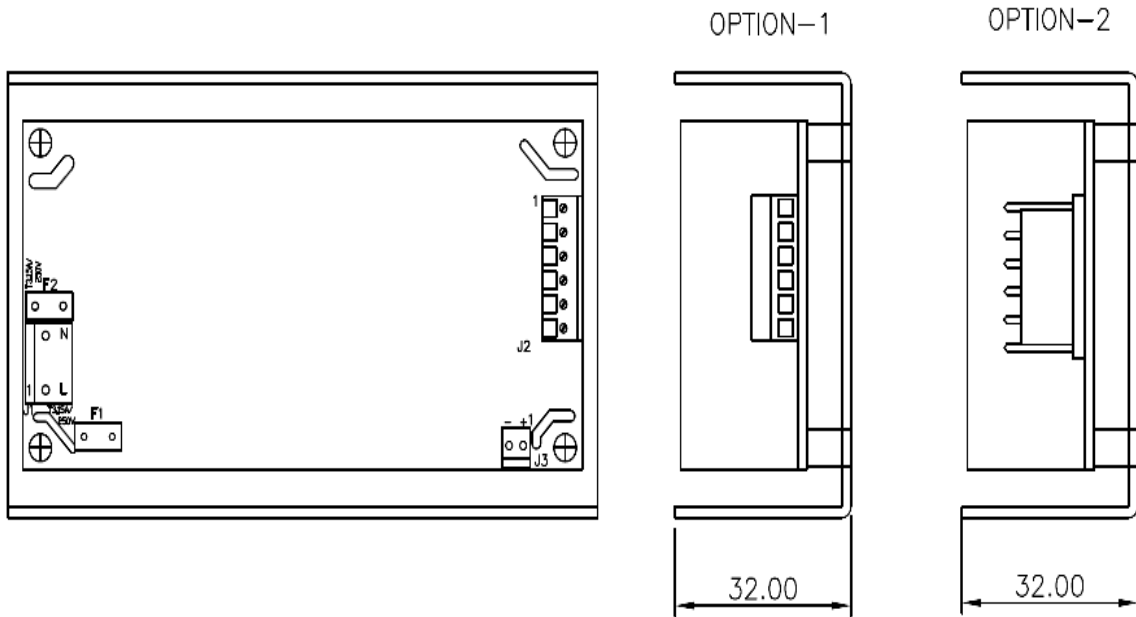
OPTION-2



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

Mechanical Drawing

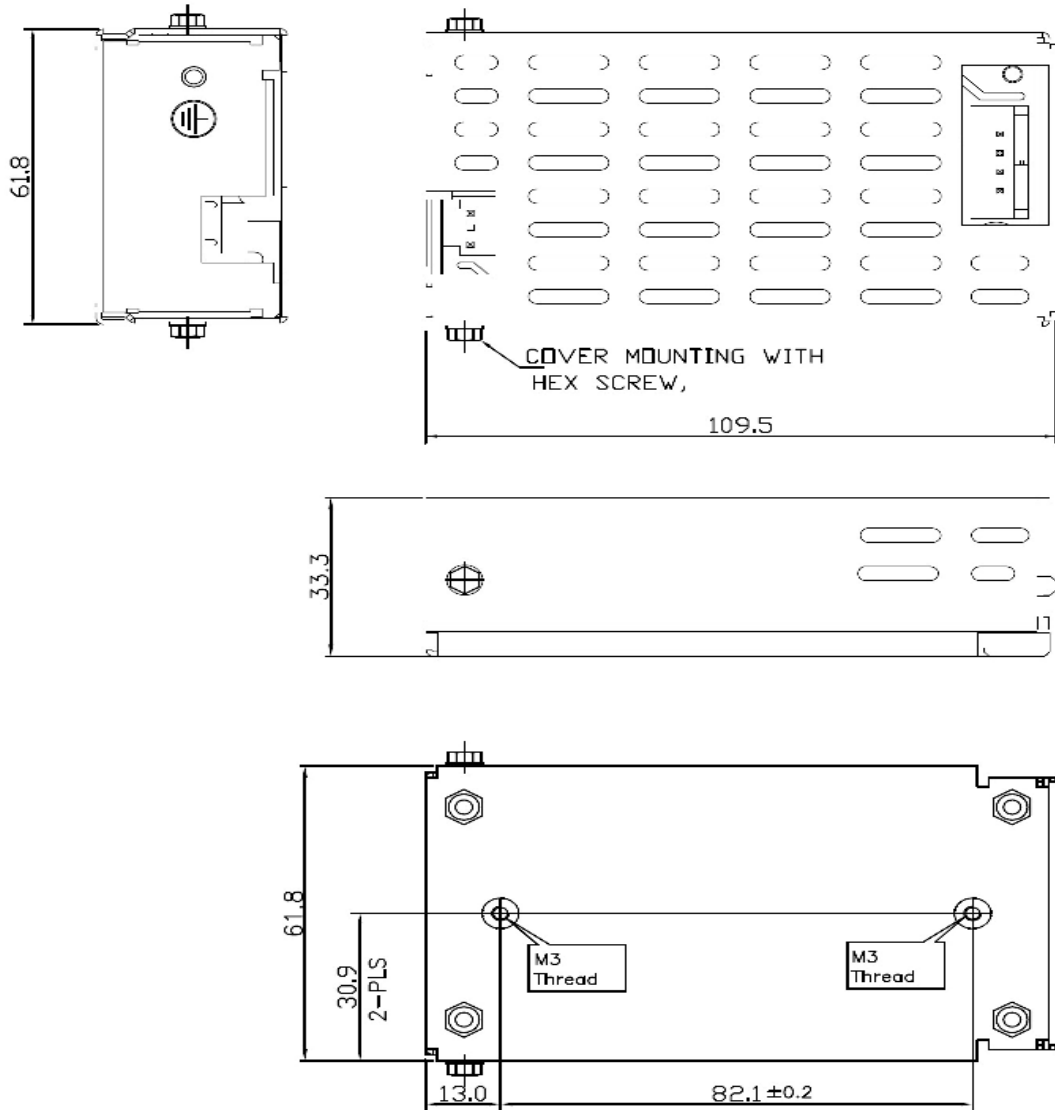
WLP225 SERIES WITH 'U' CHANNEL



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

Mechanical Drawing

WLP225 SERIES WITH COVER KIT

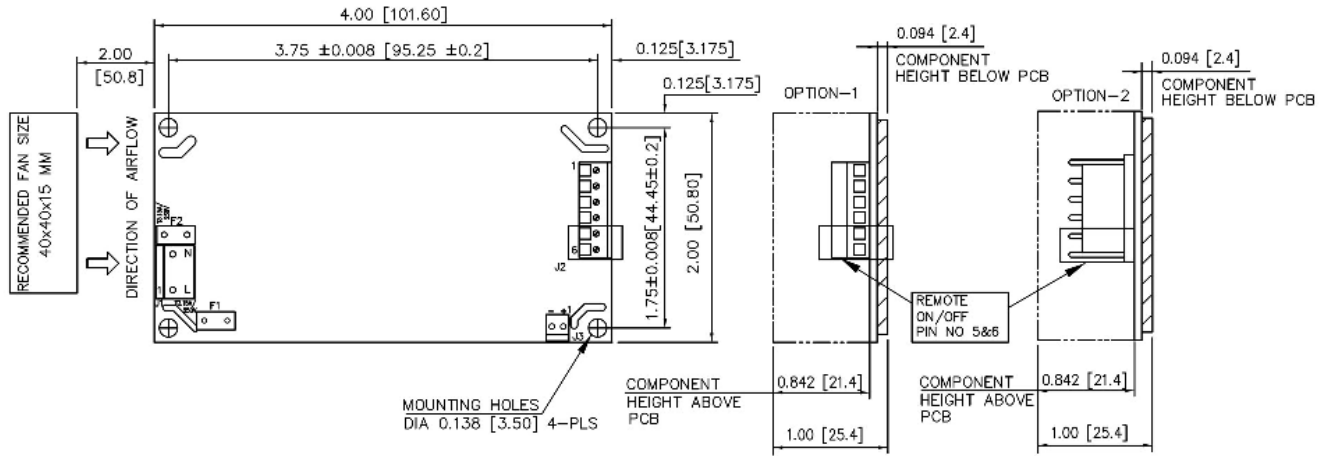


MECHANICAL OUTLINE DIMENSIONS  
ALL DIMENSIONS ARE IN MM  
GEN TOLERANCE: +/-1.0 MM  
MATERIAL: CRCA/GI 1.0MM THICK  
(POWDER COATING/ PASSIVATION/  
ED COATING BLACK)

# Mechanical Drawing

## WLP225 SERIES WITH REMOTE ON/OFF

### WLP225 SERIES WITH REMOTE ON/OFF



MECHANICAL OUTLINE DIMENSIONS  
ALL DIMENSIONS ARE IN INCHES[MM]  
GEN TOLERANCE : +/-0.04 [+/-1.0MM]