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
- CCC (China Compulsory Certification approval) New
- >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

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 LFWLP120-1X01-L LFWLP120-1X01-B LFWLP120-1X01-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	12 V	8.33 A	10.0 A	1%
LFWLP120-1X02-CK	In CK cover Kit	70 W	15 V	4.66 A		1%
LFWLP120-1X02 LFWLP120-1X02-L LFWLP120-1X02-B LFWLP120-1X02-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	15 V	6.66 A	8.0 A	1%
LFWLP120-1X03-CK	In CK cover Kit	70 W	24 V	2.91 A		1%
LFWLP120-1X03 LFWLP120-1X03-L LFWLP120-1X03-B LFWLP120-1X03-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	24 V	4.16 A	5.00 A	1%
LFWLP120-1X04-CK	In CK cover Kit	70 W	48 V	1.46 A		1%
LFWLP120-1X04 LFWLP120-1X04-L LFWLP120-1X04-B LFWLP120-1X04-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	48 V	2.08 A	2.5 A	1%
LFWLP120-1X05-CK	In CK cover Kit	70 W	30 V	2.33 A		1%
LFWLP120-1X05 LFWLP120-1X05-L LFWLP120-1X05-B LFWLP120-1X05-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	30 V	3.33 A	4.0 A	1%
LFWLP120-1X06-CK	In CK cover Kit	70 W	58 V	1.20 A		1%
LFWLP120-1X06 LFWLP120-1X06-L LFWLP120-1X06-B LFWLP120-1X06-U	In Open Frame With L Bracket With Base Plate With U channel	120 W	58 V	1.72 A	2.07 A	1%

For Screw Terminal version replace "X" above with "0", example LFWLP120-1005
For Header version replace "X" above with "3", example LFWLP120-1305

LFWLP120-CK metal cover kit accessory available.

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 μF (Electrolytic capacitor) in parallel with a 0.1 μF 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

Mechanical Specifications

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	Conditions/Description	Criteria
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 A	Pass Level B with external core (King core K5B RC 25x12x15-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

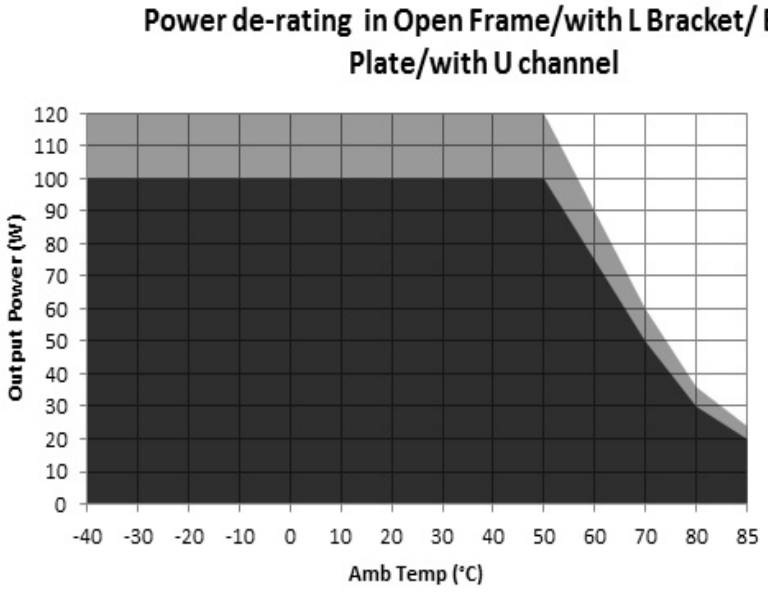
Safety

CE Mark	Complies with LVD Directive
Approval Agency	Nemko, UL, C-UL , CCC
Safety Standard(s)	IEC 62368-1:2018, EN 62368-1:2014;A11, UL 62368-1 and CAN/CSA C22.2 No. 62368-1:19 GB17625.1-2012;GB4943.1-2011;GB/T9254-2008
Safety File Number(s)	Class-I : UL: Certificate Number 20200713-E515384, Nemko: Certificate No. P20224328, CB Certificate No.: NO110825, CCC Certificate No.: 2016010907856054

Environmental

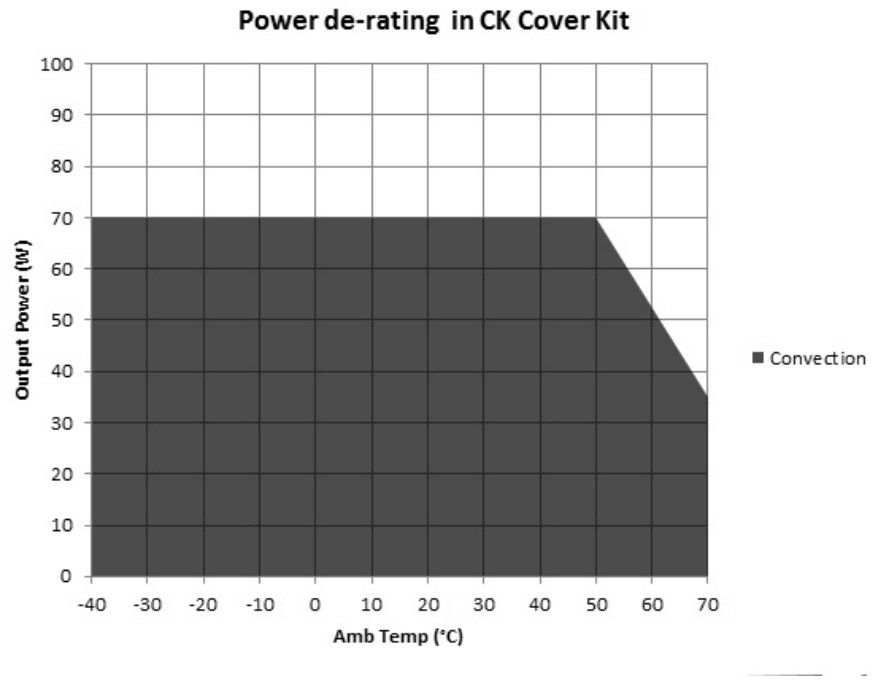
RoHS Version	LFWLP120 series meet RoHS compliance as per european RoHS directive (Directive 2011 / 65 / EU)

Derating Curve



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 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

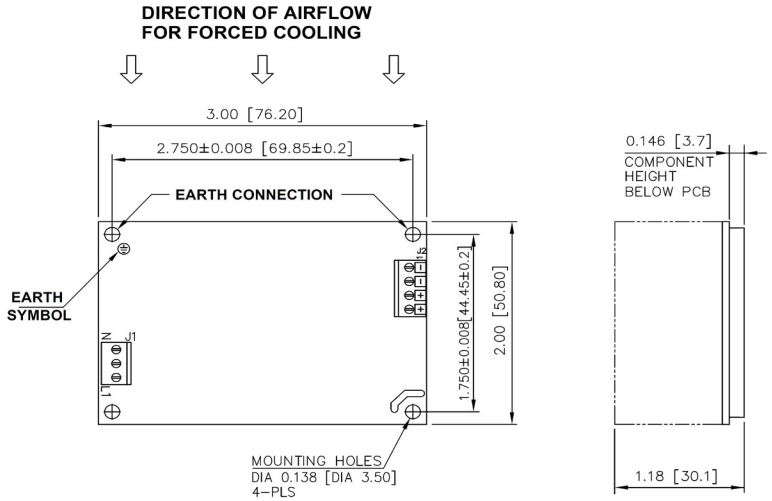


Convection load: 70W up to 50 °C
De-rate above 50 °C @ 2.5% per °C

Screw Terminal

Mechanical Drawing

Option -1



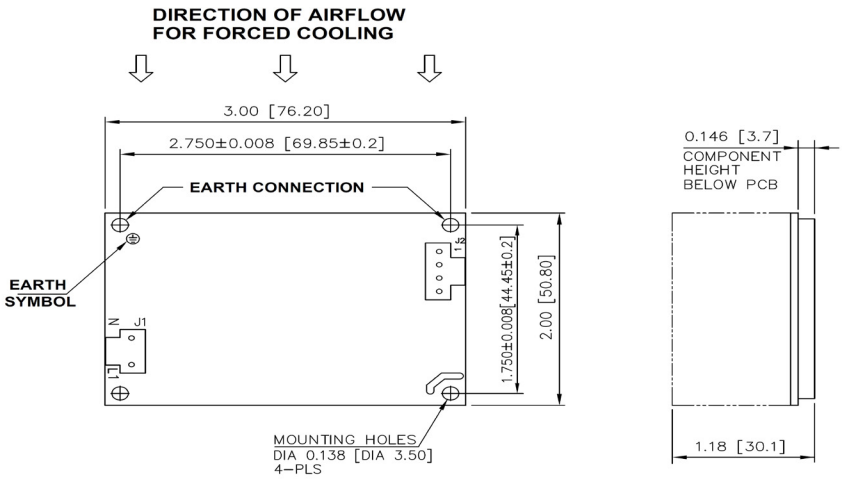
MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: ±0.06

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

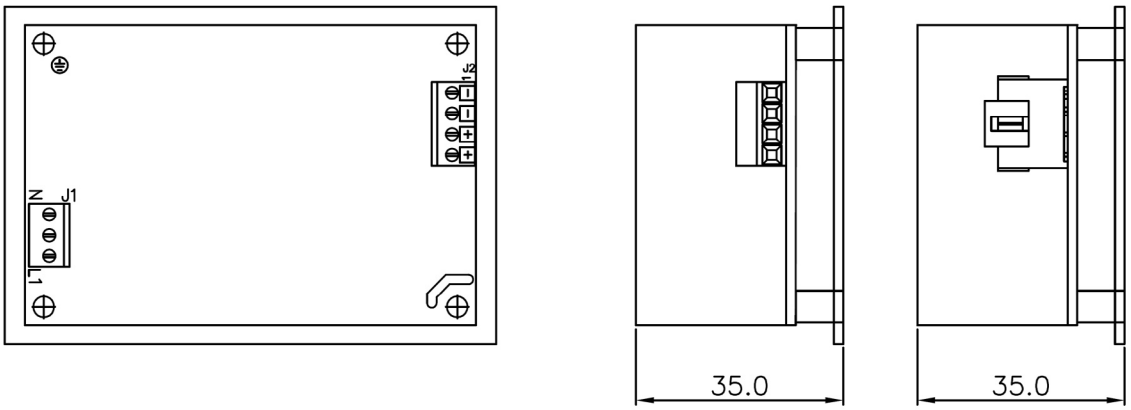
Option -2

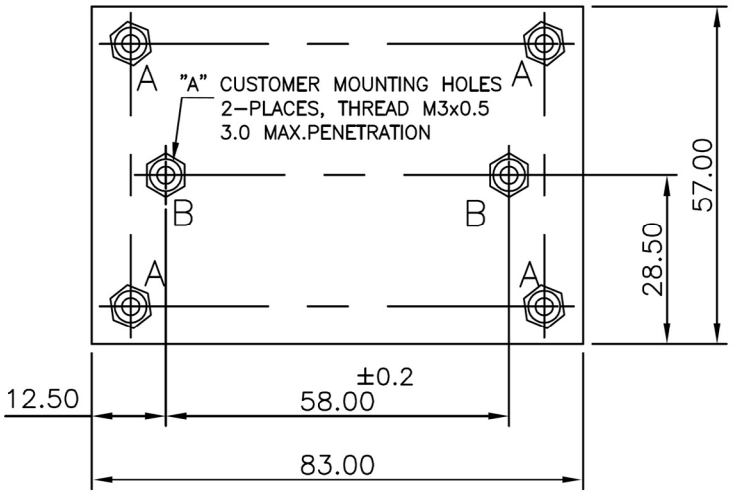


MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: ±0.06

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.

WLP120 WITH BASE PLATE

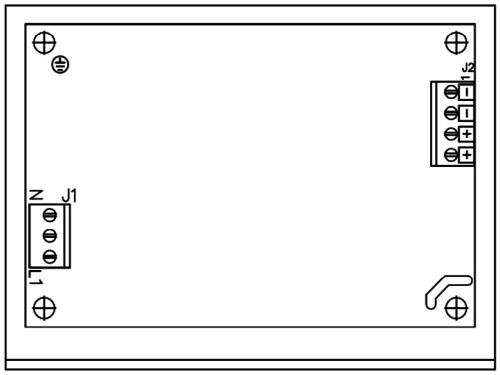


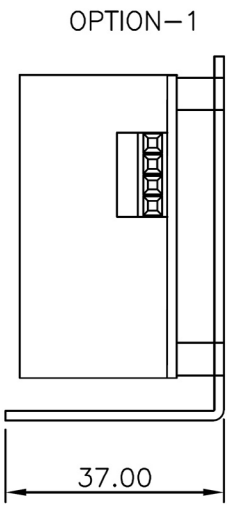


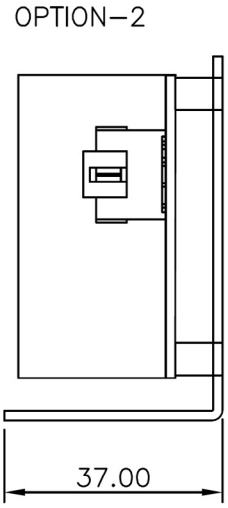
MECHANICAL OUTLINE DIMENSION
ALL DIMENSIONS ARE IN MM
GEN.TOLERANCE:+/-0.5 MM

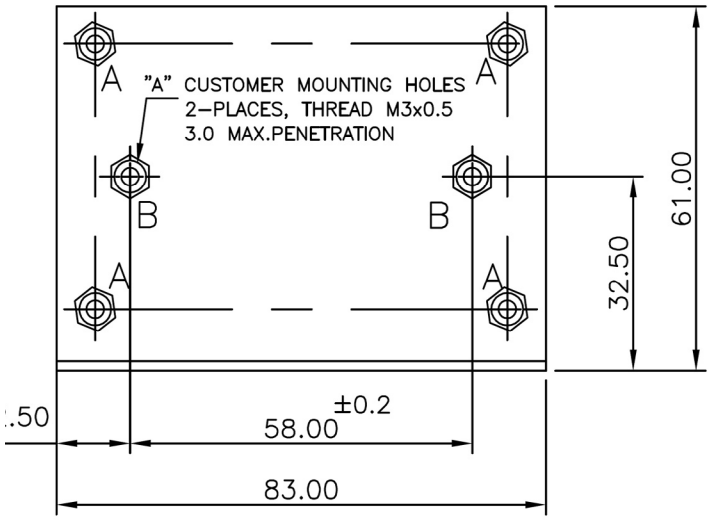
Notes: In case the PCB is mounted on a metal base plate, using metal hardware ensure the following
1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.

WLP120 SERIES WITH 'L' BRACKET





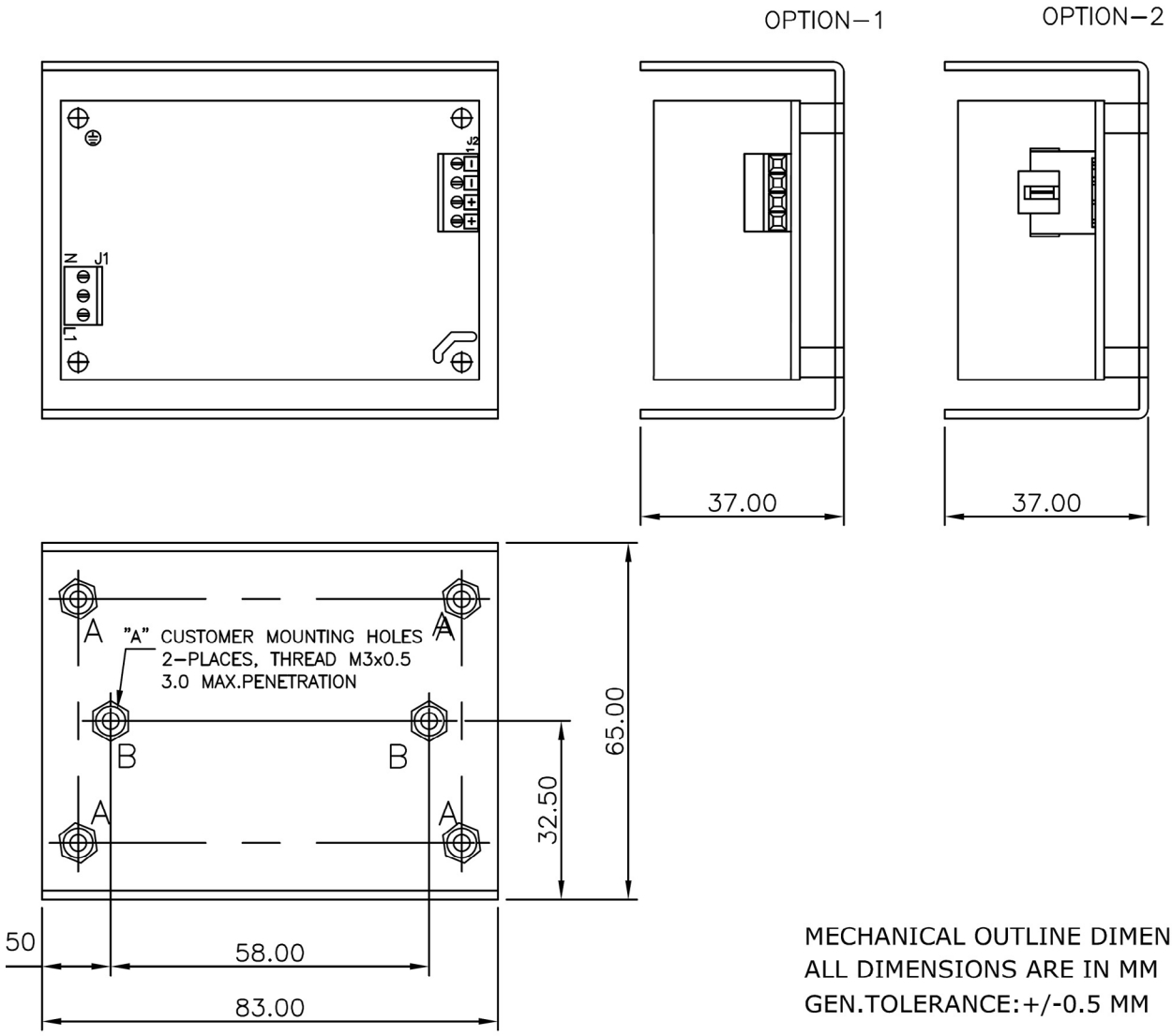




MECHANICAL OUTLINE DIMENSI
ALL DIMENSIONS ARE IN MM
GEN.TOLERANCE:+/-0.5 MM

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.

WLP120 SERIES WITH 'U' CHANNEL

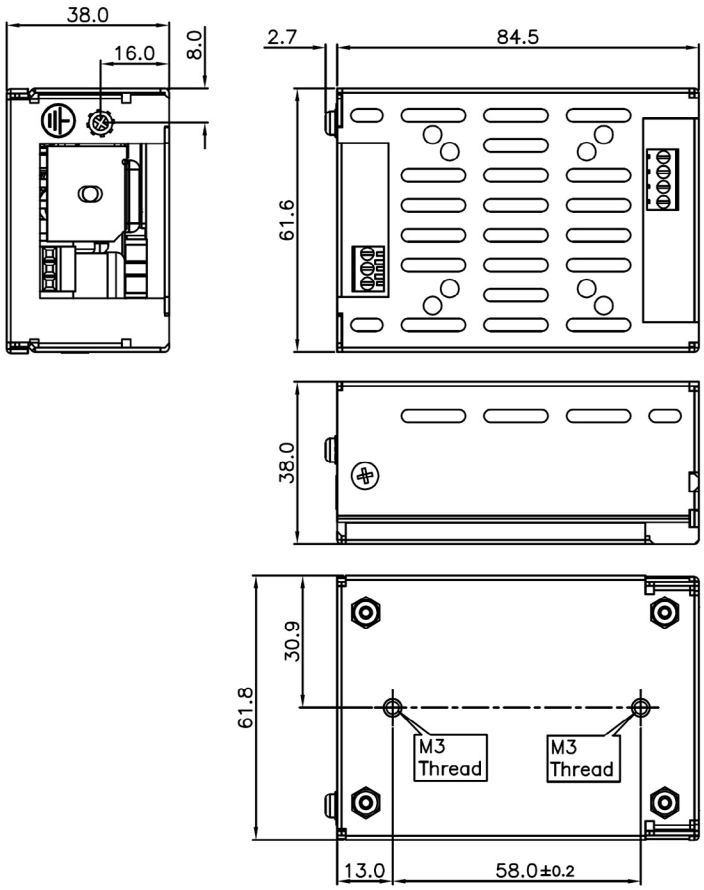


MECHANICAL OUTLINE DIMEN
ALL DIMENSIONS ARE IN MM
GEN.TOLERANCE:+/-0.5 MM

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.
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

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.