MPM-K450

450W Medical AC / DC

FEATURES

- ✓ 300W convection cooling and 450W fan cooling.
- ✓ Peak Load 600W.
- ✓ Safety Class I or Class II.
- ✓ Design for BF application.
- ✓ High efficiency up to 94%.
- ✓ No load input power < 0.5W.
- ✓ Remote sense & built-in fan supply.
- ✓ Optional remote on/off and PG / PF signal.
- ✓ 5,000m operation altitude.
- ✓ Optional cover-kit.
- ✓ Medical Safety IEC/UL 60601-1 3.1 approved. Also designed to meet IT Standard IEC 62368-1.

Models & Ratings

Model Number	Wattage (Rated / Max)	Output Voltage	Min. Current	Rated Current	Max. Current	Typical Efficiency
MPM-K453	300 W / 400~450W	+12 V	0 A	25 A	37.5 A	94%
MPM-K455	300 W / 400~450W	+24 V	0 A	12.5 A	18.75 A	95%
MPM-K456	300 W / 400~450W	+48 V	0 A	6.25 A	9.38 A	95%
Dimensions	152.4 (L) x 101.6 (W) x 37.6/40.1 (H) mm, Tolerance +/- 0.5mm.					

Total Output Power: Max. 300W convection cooled at 50°C environment temperature. Max. 450W with 16.3 CFM at 50°C environment temperature. 600W peak load with input 100VAC 10sec.

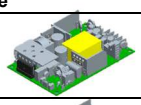
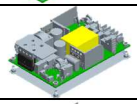
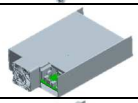
Model no. coding : M P M – K 4 5 0 – X – Y

(1) (2)

(1)

X=	Output set
blank	Single output
SB	Dual output (with +5Vsb & remote on/off & PG/PF function)

(2)

Y=	Cover Type
1	No cover, open frame CLASS I 
2	Additional bottom plate CLASS II 
F	With cover and internal fan CLASS I , II 
C	With cover only CLASS I , II 

Input

Input Voltage	● 85 ~ 264VAC
Input Frequency	● 47 ~ 63 Hz
Input Current	● 6/3A
Inrush Current	● 30/60A
No-load power consumption	● <0.5W
Input Protection	● Fuse: 6.3A /250VAC * 2pc

General

Isolation	● IP to OP 4000 VAC IP to GND 1500 VAC OP to GND 1500 VAC
Switching Frequency	● 67 KHZ

Output

Output Voltage	● 12V, 24V, 48V
Minimum Load	● 0A
Hold up Time	● 25 / 16 mS
Line Regulation	● ±1.0
Load Regulation	● ±1.0
Ripple & Noise	● $120^{(+12V)}$, $240^{(+24V)}$, $240^{(+48V)}$
Leakage Current	● 100/300 uA
Overvoltage Protection	● $110\%_{MIN.}$, $120\%_{TYP.}$, $140\%_{MAX.}$
Short Circuit Protection	● Automatic recovery mode.

MPM-K450

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EMC: Immunity

ESD	IEC 61000-4-2
Radiated	IEC 61000-4-3
EFT	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted	IEC 61000-4-6
Power Magnetic	IEC 61000-4-8
Dips and Interruptions	IEC 61000-4-11

Environmental

Operating Temperature	-30 ~ +70°C
Storage Temperature	-40 ~ +85°C
Relative Humidity	5 ~ 95%RH
Cooling	16.3 CFM
Operating / Non-operating Altitude	5000m

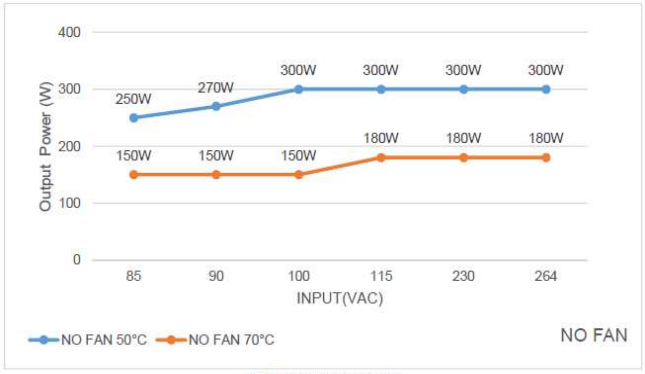
EMC: Emissions

Conducted	EN 55011 / CISPR 11 & FCC Part 18
Radiated	EN 55011 / CISPR 11 & FCC Part 18
Harmonic Current	EN 61000-3-2
Voltage Fluctuations	EN 61000-3-3

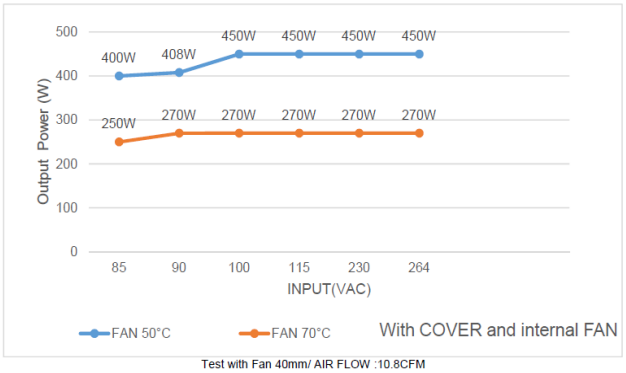
Safety Approvals

CB	IEC 60601-1: 2005+CORR. 1: 2006+CORR. 2: 2007+A1: 2012
UL/cUL	ANSI/AAMI ES60601-1, CAN/CSA-C22. 2 No. 60601-1
IEC/EN	62368-1:2014

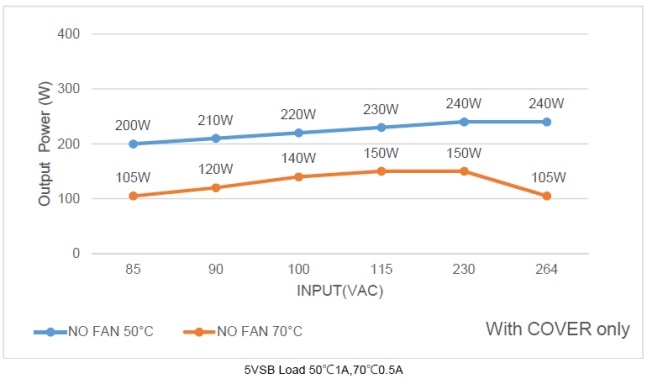
Derating curve



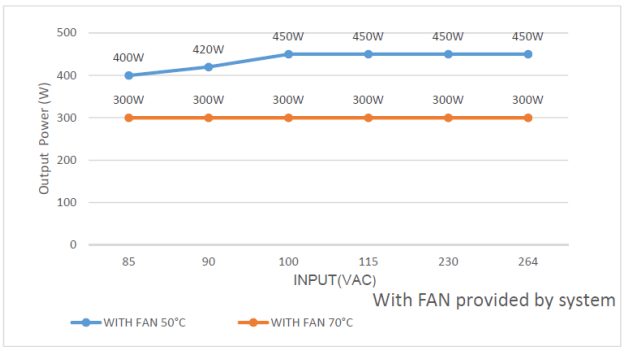
5VSB Load 50℃1A,70℃0.5A



Test with Fan 40mm/ AIR FLOW :10.8CFM
5VSB Load 50℃1A,70℃0.5A



5VSB Load 50℃1A,70℃0.5A



5VSB Load 50℃1A,70℃0.5A
Test with Fan 60mm/ AIR FLOW :16.3CFM

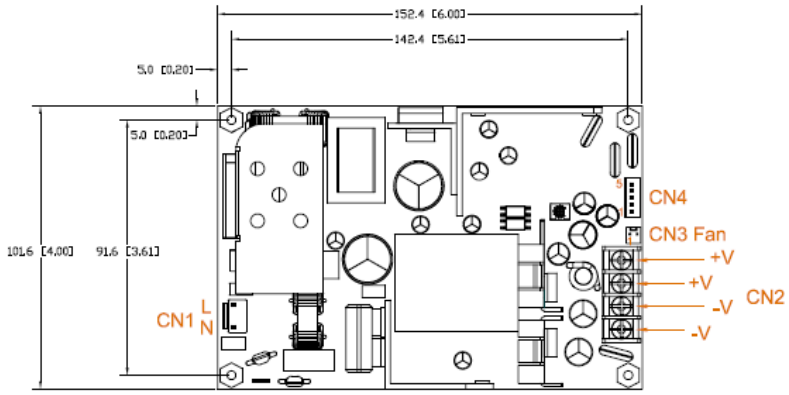
Mechanical Details

CLASSⅡ

All dimensions are in Inches [mm] Tolerance ±0.02 [±0.5]

Ac Input Connector CN1 Mates with MOLEX 09-50-1031(5195-03) OR 09-52-4034(5239-03) OR Equivalent JST: VHR-3N OR Equivalent (Note)	
PIN number	PIN assignment
1	AC In(L)
2	AC In(N)

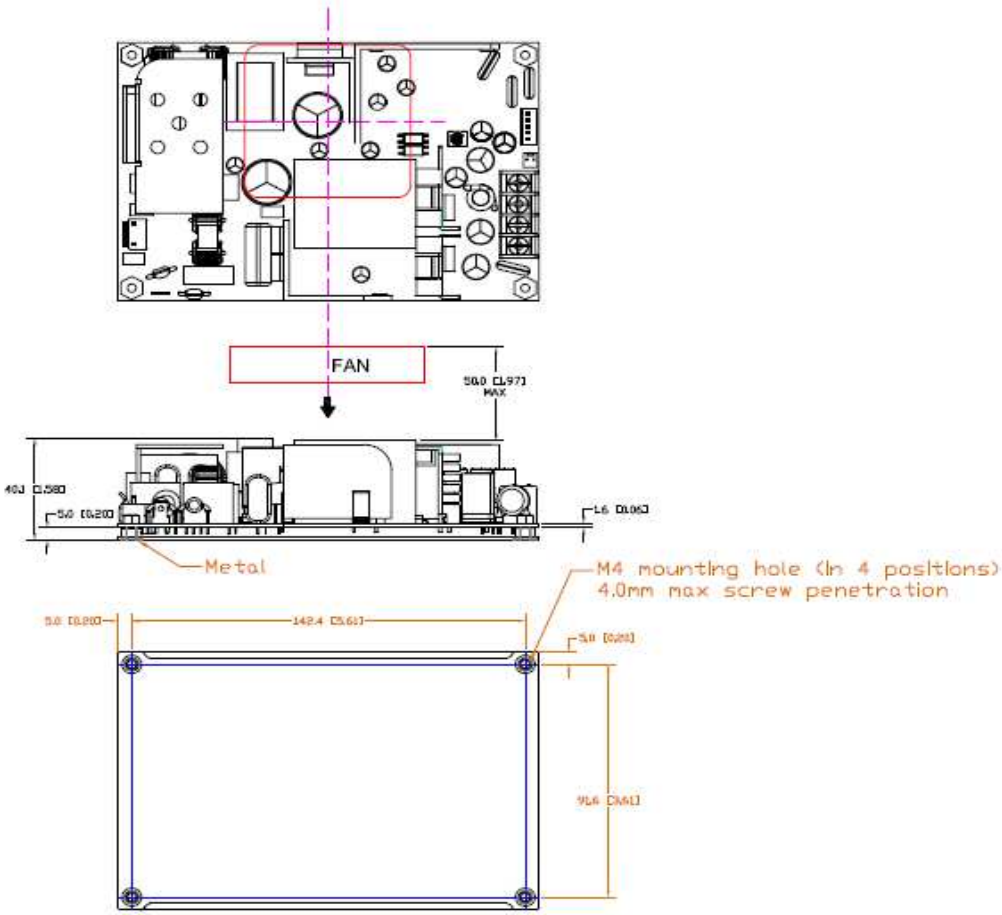
Note:Exist with model no.suffixed -J,
plaese see comparison in Model no.coding:



Singal Connector CN4 MOLEX5045-05A or Equivalent	
PIN number	PIN assignment
1	Fan 12V (V_{Fan})
2	0V
3	+5VSB(V_{2})
4	PG/PF
5	Remote

Singal Connector CN3 MOLEX5045-02A or Equivalent	
PIN number	PIN assignment
1	Fan 12V (V_{Fan})
2	0V

Dc Output Terminal Blocks CN2 DINKLE DT-35 European type by request	
PIN number	PIN assignment
1	+V
2	+V
3	-V
4	-V



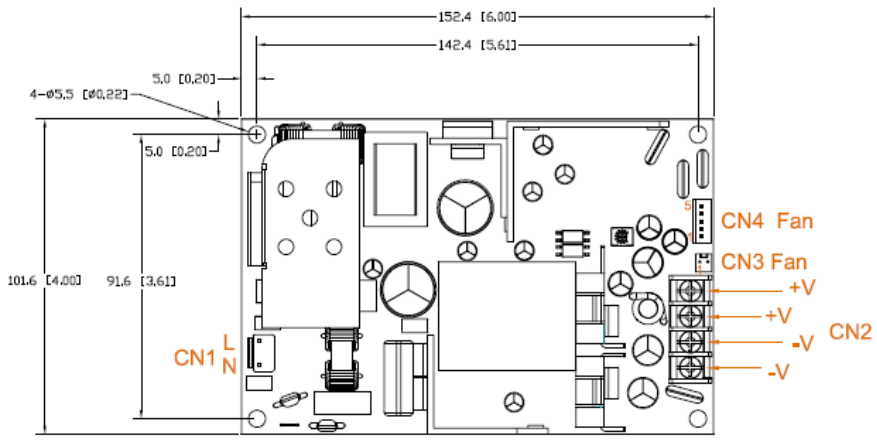
Note:
If you want to use the metal plate beneath this PSU as class II, the metal plate should be treated as "floating" that both distances from human body and primary side to accessible metal part (plate) have to be at least 4mm of 1xMOPP to meet Class II (The metal plate should be kept 1XMOPP away from human body).

CLASS Ⅰ

All dimensions are in Inches [mm] Tolerance ±0.02 [±0.5]

Ac Input Connector CN1 Metes with MOLEX 09-50-1031(5195-03) OR 09-52-4034(5239-03) OR Equivalent JST: VHR-3N OR Equivalent (Note)	
PIN number	PIN assignment
1	AC In(L)
2	AC In(N)

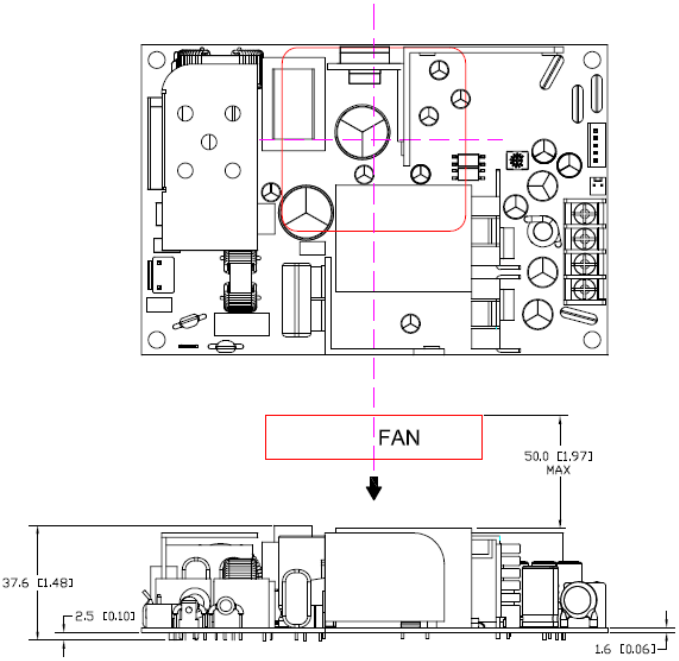
Note:Exist with model no.suffixed -I,
plaese see comparison in Model no.coding:



Singal Connector CN4 MOLEX5045-05A or Equivalent	
PIN number	PIN assignment
1	Fan 12V (V Fan)
2	0V
3	+5VSB(V2)
4	PG/PF
5	Remote

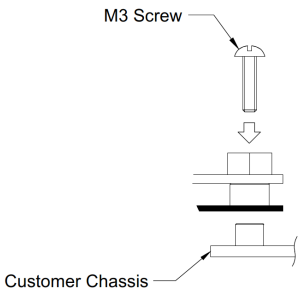
Singal Connector CN3 MOLEX5045-02A or Equivalent	
PIN number	PIN assignment
1	Fan 12V (V Fan)
2	0V

Dc Output Terminal Blocks CN2 DINKLE DT-35 European type by request	
PIN number	PIN assignment
1	+V
2	+V
3	-V
4	-V

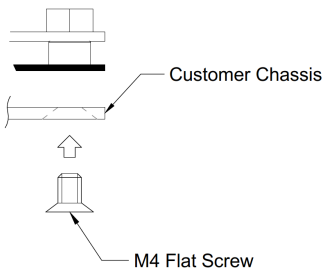


Application notes：

Application (1)



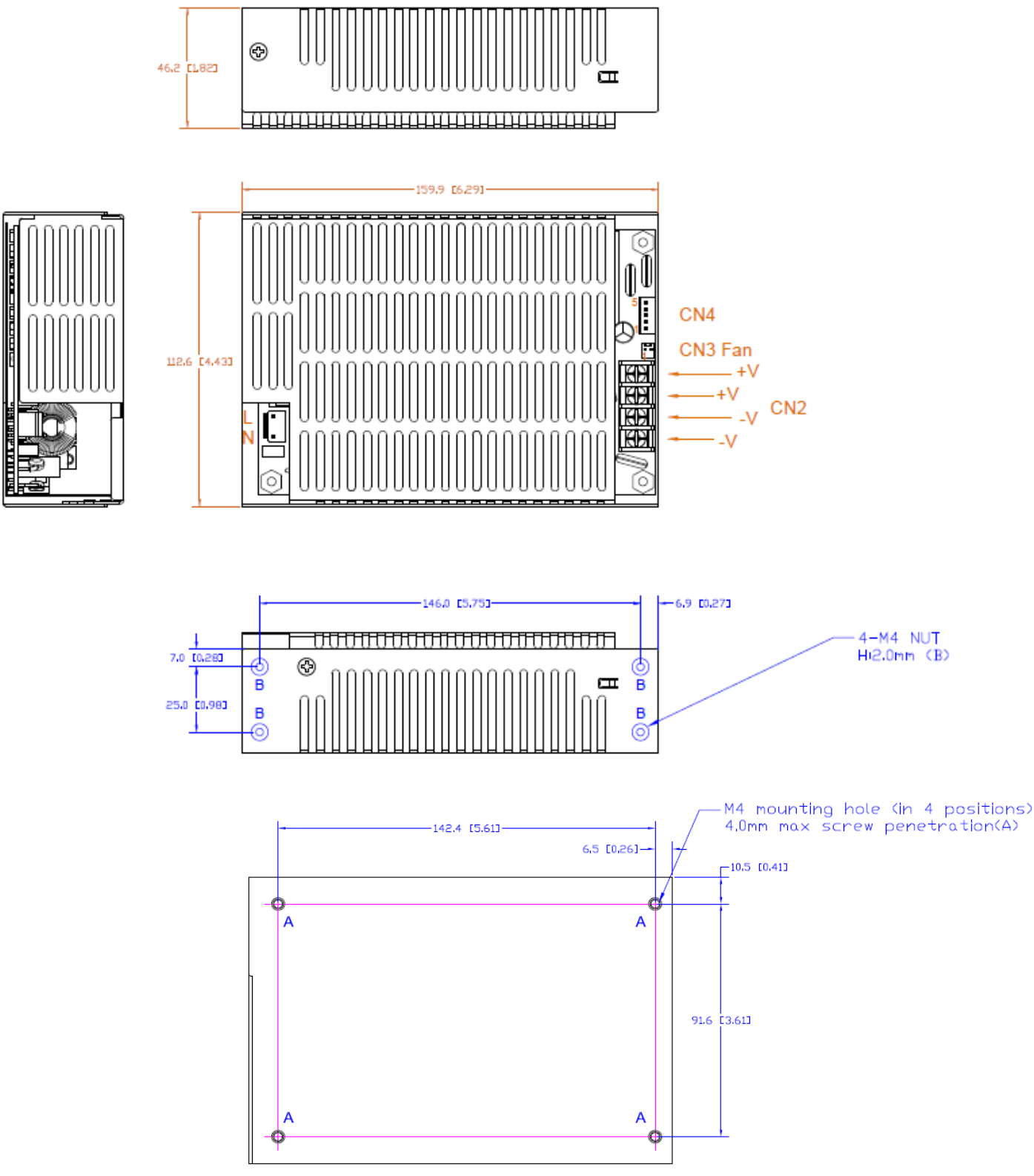
Application (2)



Note:
The safety GND should be connected to the customer's enclosure.

With cover

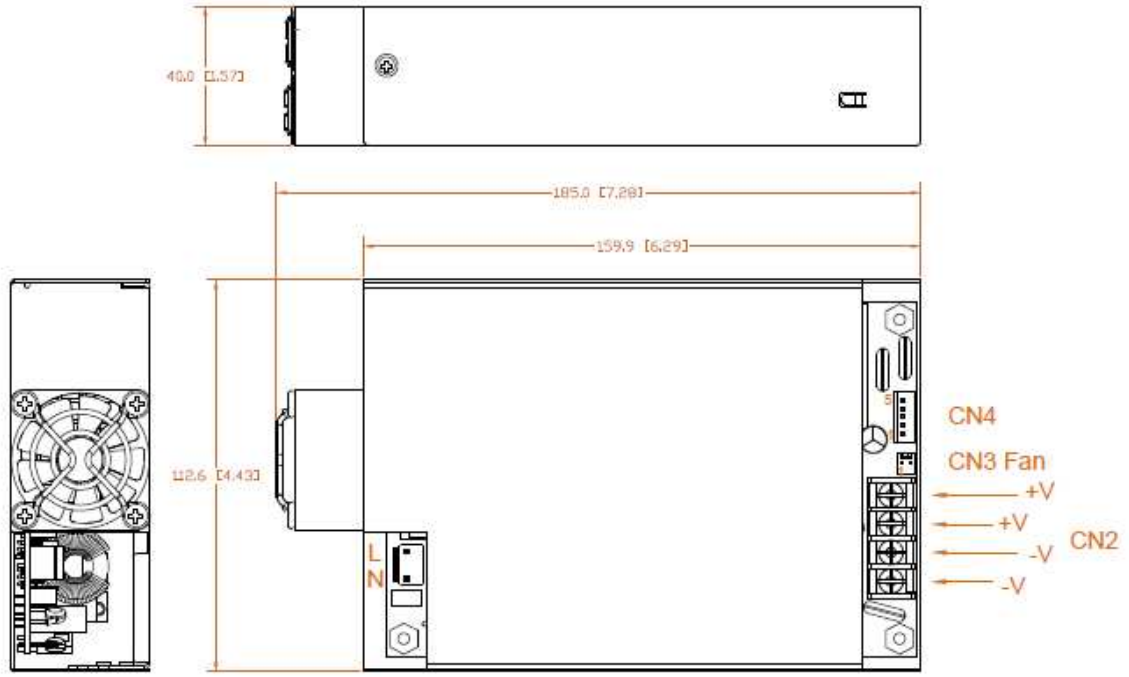
All dimensions are in Inches [mm] Tolerance: +/- 0.5mm

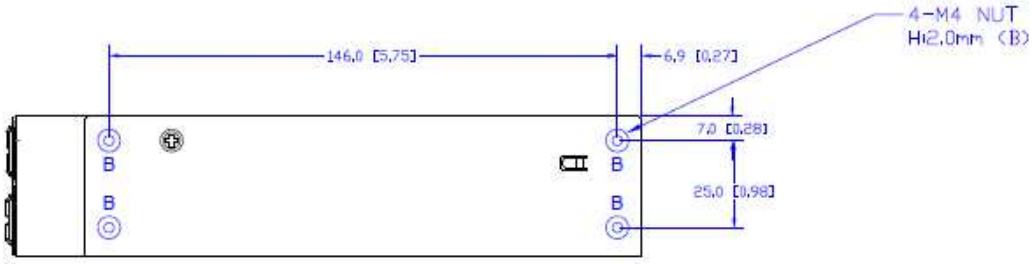


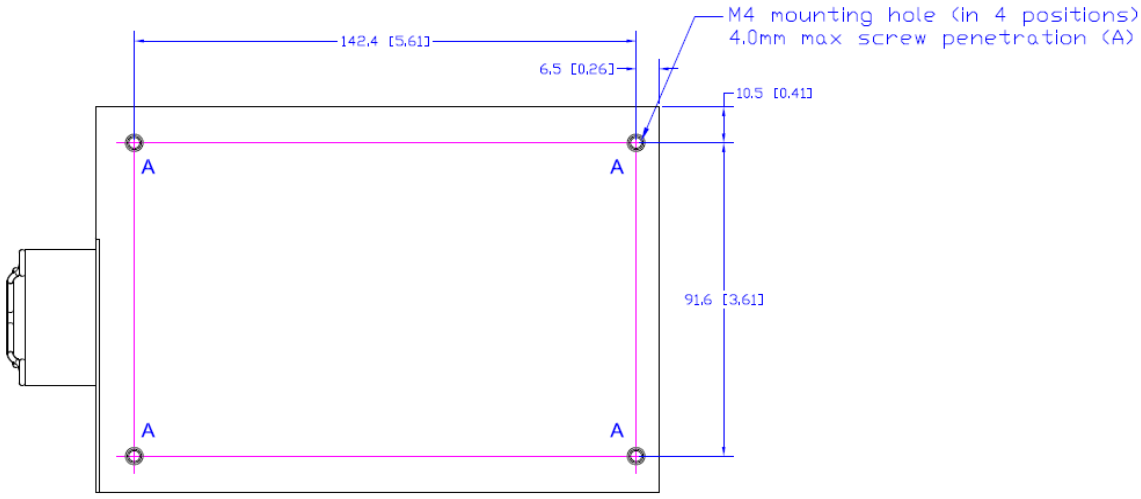
Note:
If you want to use the metal plate beneath this PSU as class II, the metal plate should be treated as "floating" that both distances from human body and primary side to accessible metal part (plate) have to be at least 4mm of 1xMOPP to meet Class II (The metal plate should be kept 1XMOPP away from human body).

With fan

All dimensions are in Inches [mm] Tolerance: +/- 0.5mm







Note:
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