

Features:

- ◆ High Density, High Efficiency > 90%
- ◆ Mini. Size, Low Profile 5" x 3" x 1.5"
- ◆ Low Leakage Current < 750uA @ 230Vac
- ◆ Safety Compliant With UL62368-1
- ◆ 12Vaux For External Fan Cooling(Optional)
- ◆ OCP , OVP , OTP Protection
- ◆ High Power 200W/Convection , 300W/20CFM Air

Application:

POE , POS , LCD TV
Industrial Equipment
Gaming Machine

Safety Certified:



INPUT SPECIFICATIONS	
INPUT VOLTAGE	Universal Input : 90 ~ 264Vac
INPUT FREQUENCY	47 ~ 63Hz
INPUT CURRENT	4.9A/115Vac , 2.5A/230Vac
INRUSH CURRENT (Typ.)	100A/230Vac half cycle cold start
POWER FACTOR (Typ.)	PF > 0.95 / full load
EFFICIENCY (Typ.)	90%
LEAKAGE CURRENT	Leakage current < 750uA/230Vac

OUTPUT SPECIFICATIONS	
VOLTAGE	+36V
RATED LOAD(Convection)	0 ~ 5.5A
Max. LOAD(W/20CFM Airflow or Fan)	8.33A
RIPPLE & NOISE (note 1)	360mV
REGULATION	±3%
Max. POWER	200W / 300W

PROTECTION SPECIFICATIONS	
OCP: (Over Load Protection)	130 ~ 200%
OVP: (Over Voltage Protection)	110 ~ 130%
OTP: (Over Temp. Protection)	Shut down O/P voltage

GENERAL SPECIFICATIONS	
HOLD UP TIME (Typ.)	≥ 16mS @ 200W
REMOTE CONTROL	N/A
DC OK SIGNAL	Led.
12Vaux For External Fan (Optional)	N/A
COOLING	Convection/200W, 20CFM for 300W

SAFETY & ENVIRONMENTAL SPECIFICATIONS	
SAFETY APPROVALS REQUIRED	UL , cUL , CE , FCC , CB
SAFETY STANDARDS	UL 60950-1 2nd , IEC 62368-1:2014
EMC EMISSION (note 2)	EN55032(CISPR22) & FCC Class A.
OPERATING AMBIENT TEMP.	-40 ~ 85°C (note 3)

Note 2: Suggested external input filter in order to meet class B in EN55032(CISPR22) and FCC Class B.

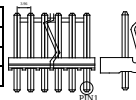
- a. Between system AC Inlet and power Vac-connect CN1 addition a 2~4 turns EMI common choke, that spec. is (L+N+FG) 3 wire together 2~4 turns insert with K5B RC 25x12x15-M clamp EMI core or equ. .
b. System with external EMI Filter on Vac input: Filter Type (15GEEG3E-R or equ)---Manufactory (Delta)

Note 3: -40°C start up condition, o/p ≤ 200W

Input Connector (CN1) :

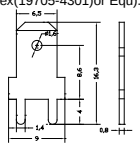
MOLEX 09-65-2038 (5273 SERIES) or equivalent
Mates with (MOLEX 5239) or equivalent

Pin	Signal
1	N
2	N/A
3	L



Input Connector(CN3) :(Optional)

Safety ground pin→Quick Disconnect TAB,
6.35[0.250] X 0.81[0.032] (Molex19705-4301)or Equ).
The safety ground connection is provided by the Quick Disconnect TAB near CN1.

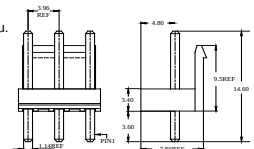


Output Connector (CN2) -8PIN:

JST B*P-VH Series or TKP PVH-XX Series or Equ.
Mates with JST VHR-*N Series or TKP HVH-XX Series or Equ.

Pin	Signal	Pin	Signal
1	V1	5	GND
2	V1	6	GND
3	V1	7	GND
4	V1	8	GND

V1=36V



De-rating Curve--- (Fan less)

Condition A: The bottom side of power unit direct fix to system frame.
Condition B: The reference top side view of the system box.



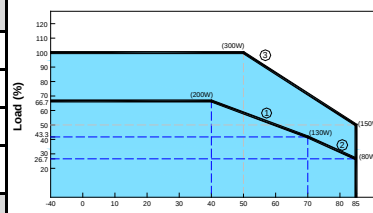
Condition A



Condition B

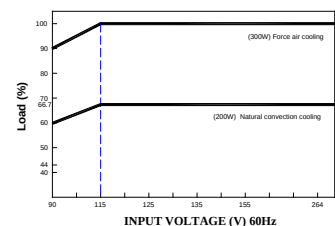
De-rating Curve

■ De-rating Curve A1 (Load VS Ambient)

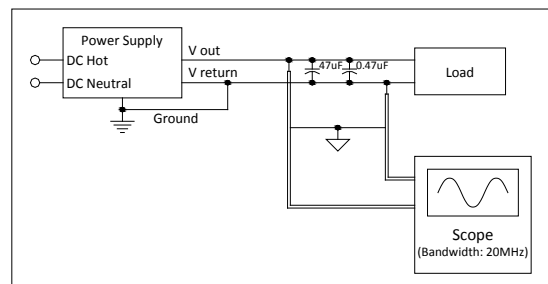


AMBIENT TEMPERATURE (°C)
Note: ① Convection (Temperature derating) [-2.33W / degree 40°C to 70°C]
② Convection (Temperature derating) [-3.33W / degree 70°C to 85°C]
③ Fan air (400LFM) [-4.28W / degree 50°C to 85°C]

■ De-rating Curve A2 (Load VS I/P Voltage)



Ripple& Noise Voltage Test Circuit



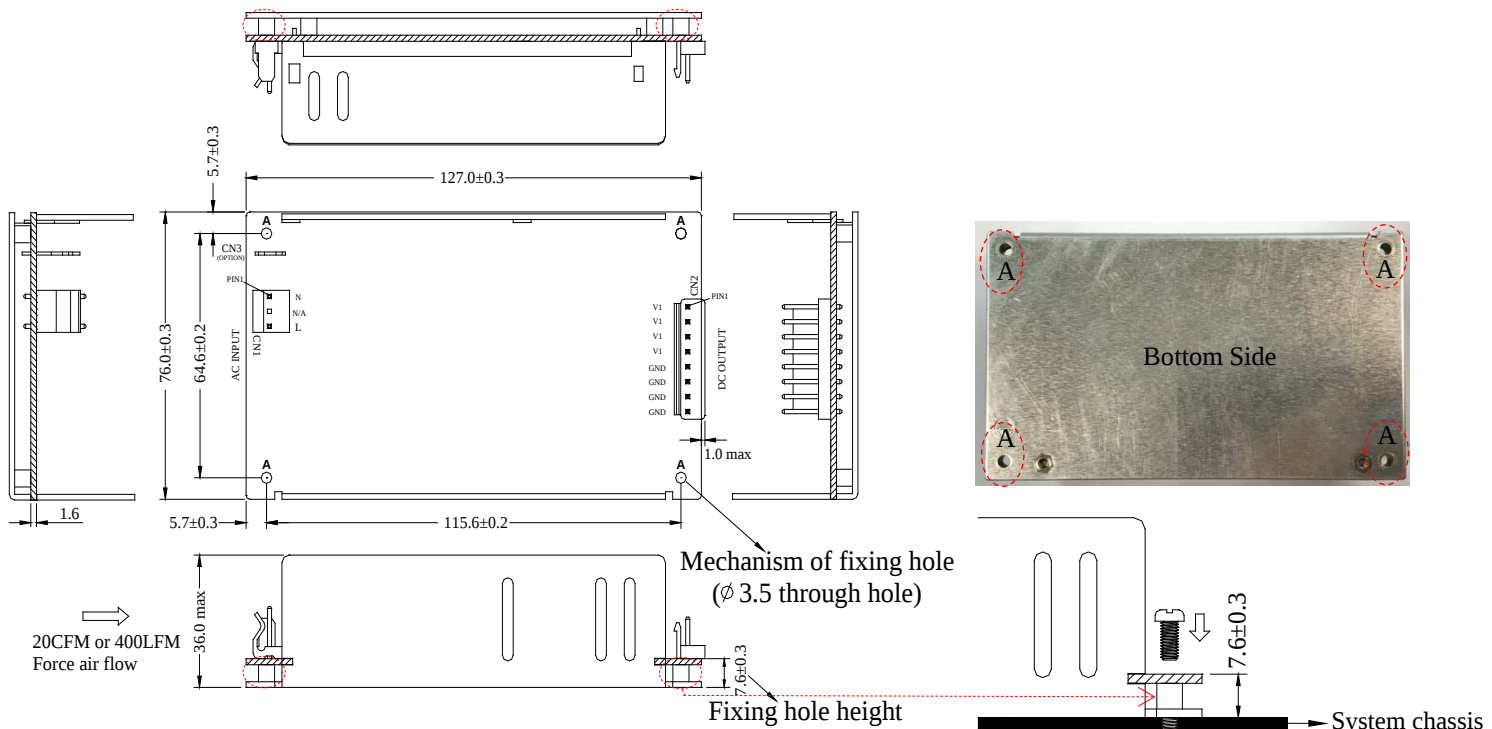
Note 1: The ripple noise voltage of the output shall be measured at end of the output pins connector of the length 100 mm output wire cable. Ripple and noise are measured at the connectors with a 0.47uF ceramic capacitor and a 47uF electrolytic capacitor to simulate system loading. (Please reference Ripple& Noise Voltage Test Circuit).

Mechanism of Fixing hole code : N → N40, N41, N42 ,N43**

Typical Mechanical Drawing :

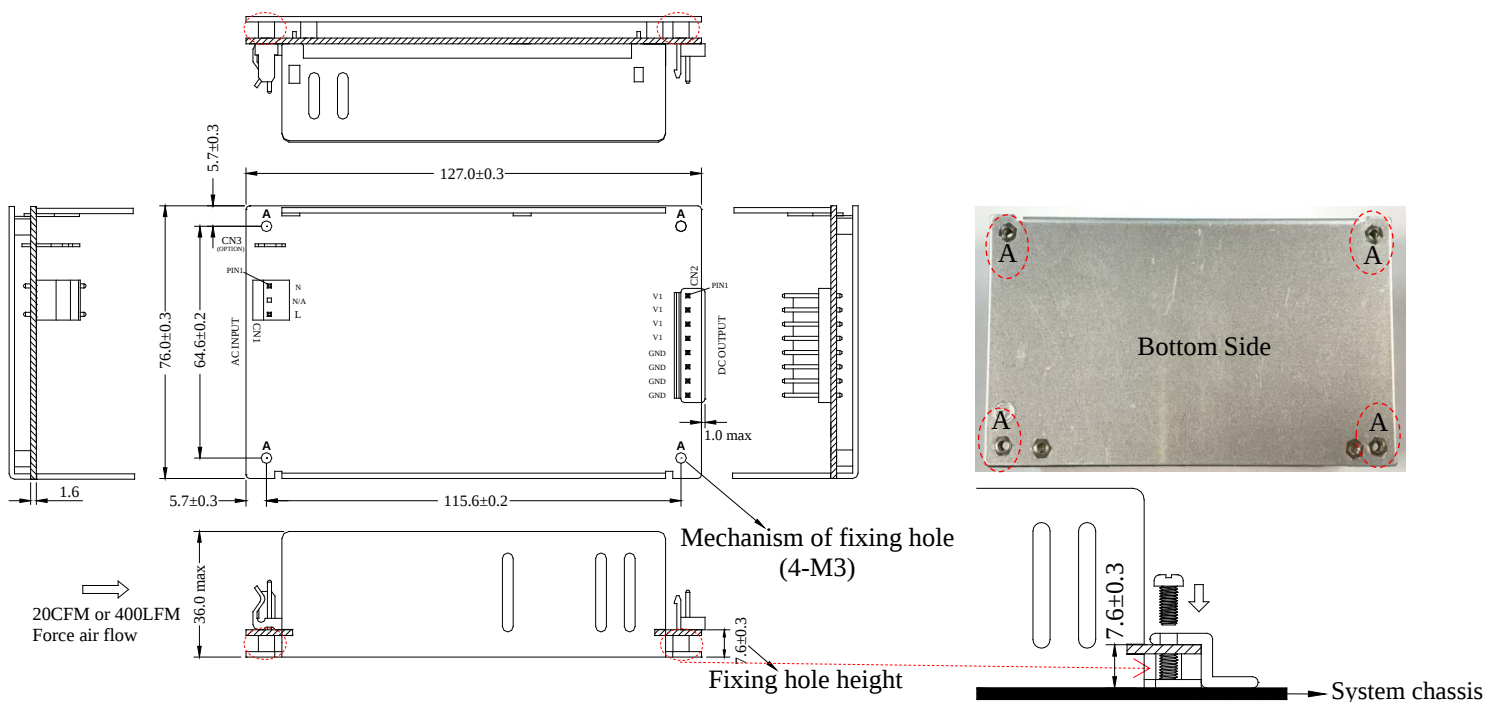
WP213F11-36-NFAD01N40 (Connector code→AD)

Fix hole: marker A are $\phi 3.5$ through holes, Case dimension (L*W*H): 127*76*36 mm



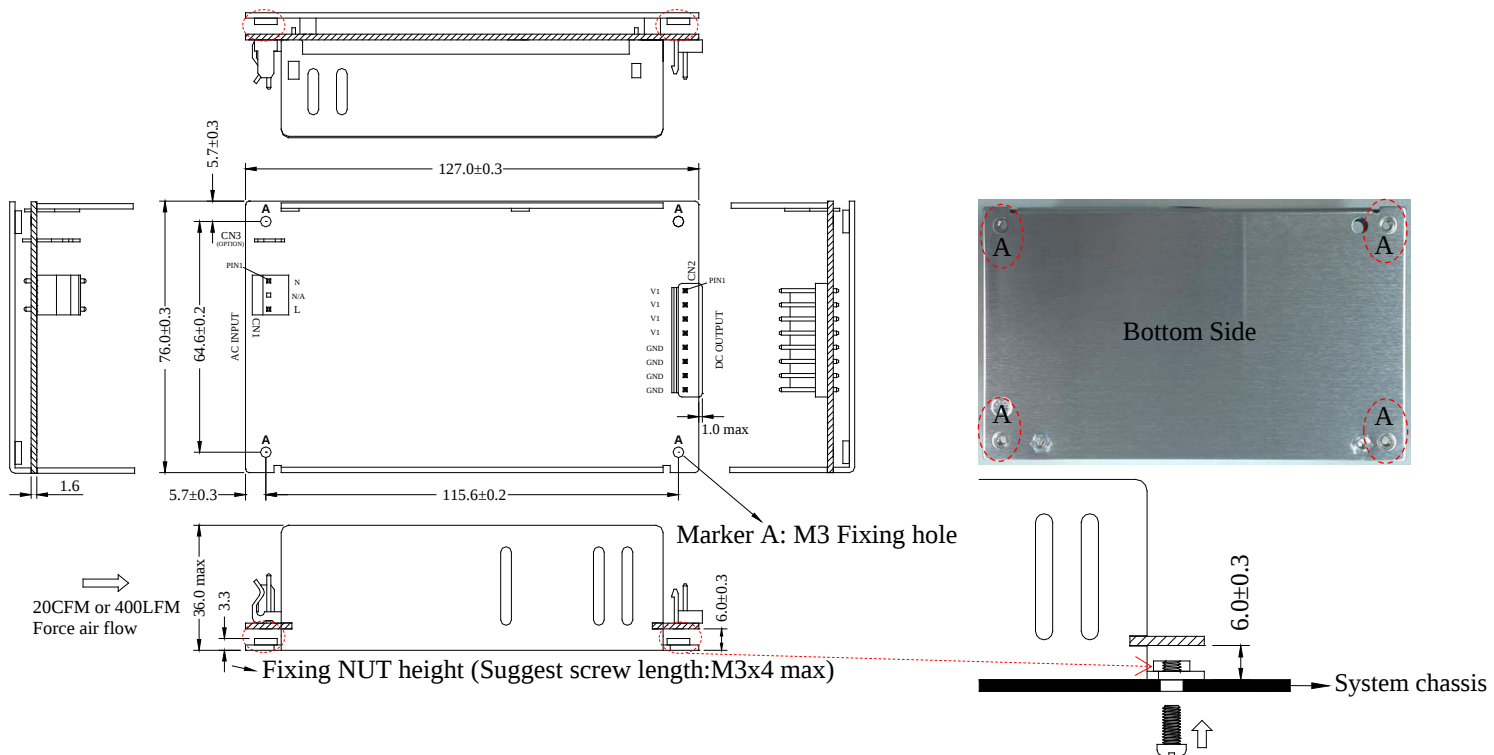
WP213F11-36-NFAD01N41 (Connector code→AD)

Fix hole: marker A are M3 fixing holes, Case dimension (L*W*H): 127*76*36 mm



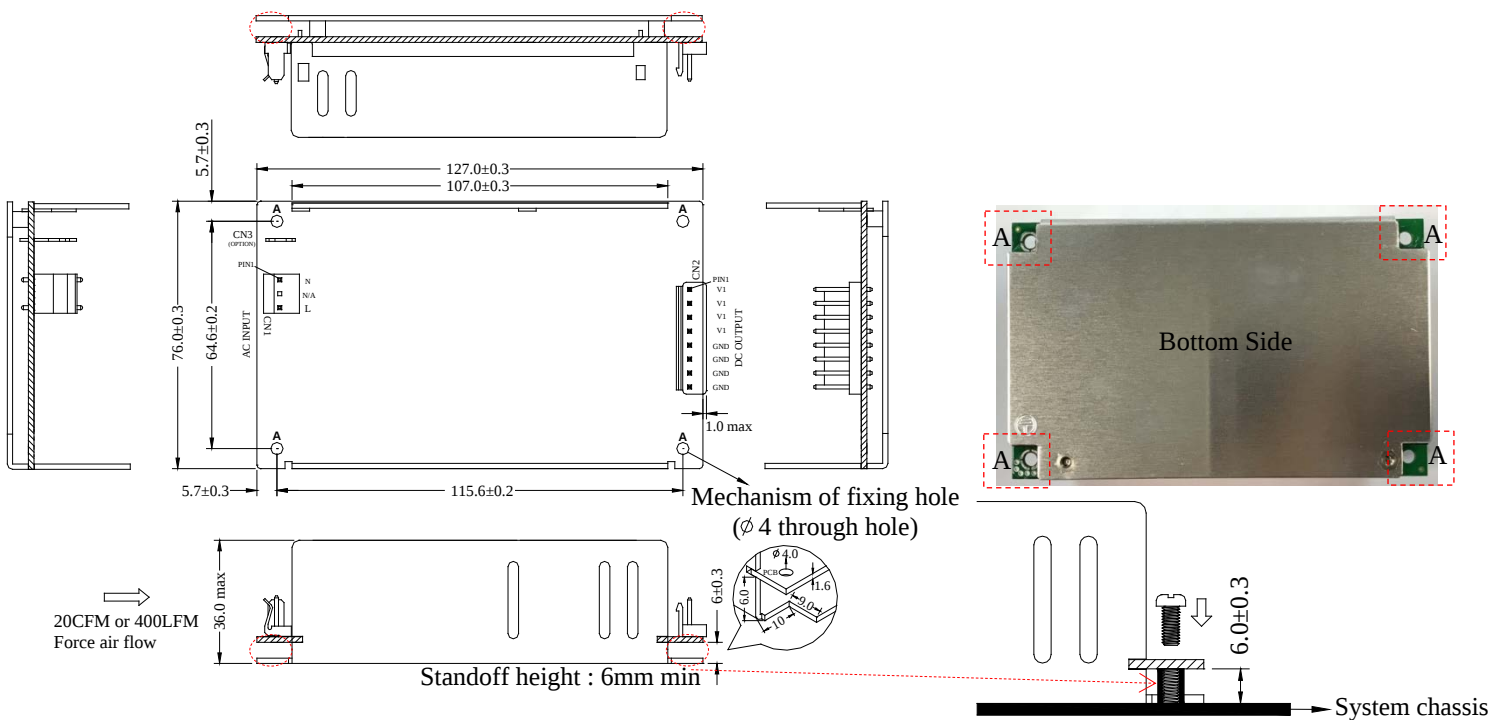
WP213F11-36-NFAD01N42 (Connector code→AD)

Fix hole: marker A are M3 fixing NUT, Case dimension (L*W*H): 127*76*36 mm



WP213F11-36-NFAD01N43 (Connector code→AD)

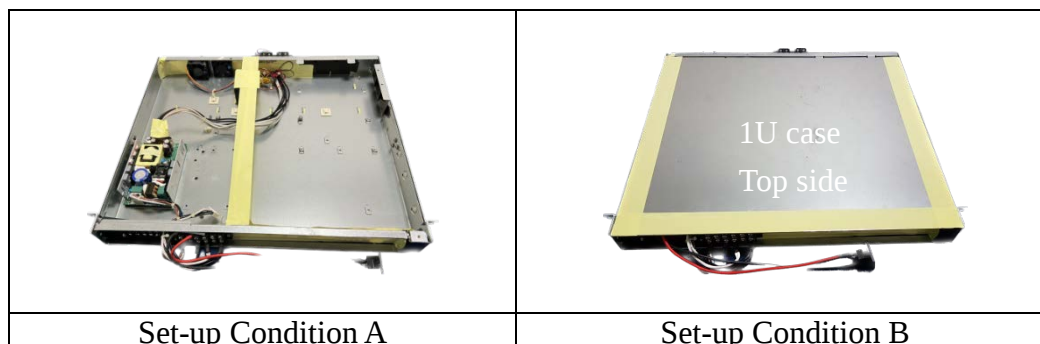
Fix hole: marker A are Cut off the 4 sides of case, directly fixed to PCB by stand-off., Case dimension (L*W*H): 127*76*36 mm



Power Supply (Thermal De-rating) Test Report

Condition A: The bottom side of power unit direct fix to system frame.

Condition B: The reference top side view of the system box.



Environment setting



Figure1: set-up and chamber

Force Fan air cooling –(20CFM)

Maximum O/P watts rating table (Ambient temperature 30°C-85°C IN CHAMBER)									
Ambient (W max.) VAC/IP	30°C	40°C	50°C	60°C	65°C	70°C	75°C	80°C	85°C
90V-100V	270W	270W	270W	230W	210W	190W	160W	150W	135W
100V-130V	300W	300W	300W	260W	230W	210W	180W	170W	150W
200V-240V	300W	300W	300W	260W	230W	210W	180W	170W	150W

Note: Set-up Condition → A+B

<<IN CHAMBER (巨孚 GIANT FORCE) CTH-150-60-CP-AR>>

Convection cooling –(Fan less)

Maximum O/P watts rating table (Top side of case without vents cooling hole) (Ambient temperature 30°C-85°C IN CHAMBER)									
Ambient (W max.) VAC/IP	30°C	40°C	50°C	60°C	65°C	70°C	75°C	80°C	85°C
90V-100V	180W	180W	160W	135W	130W	120W	105W	90W	80W
100V-130V	200W	200W	175W	150W	145W	130W	115W	100W	80W
200V-240V	200W	200W	175W	150W	145W	130W	115W	100W	80W

Note: Set-up Condition → A+B

<<IN CHAMBER (巨孚 GIANT FORCE) CTH-150-60-CP-AR>>