

**Features:**

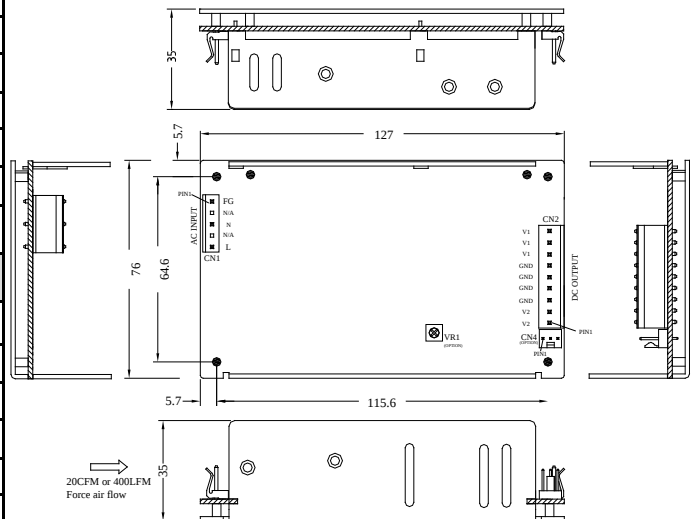
- ◆ High Density, High Efficiency > 90%
- ◆ Mini. Size, Low Profile 3" x 5" x 1.5"
- ◆ Low Leakage Current < 750uA @ 230Vac
- ◆ Safety Compliant With UL60950
- ◆ 12Vaux For External Fan Cooling(Optional)
- ◆ OCP , OVP , OTP Protection
- ◆ High Power 200W/Convection , 300W/20CFM Air

**Application:**

POE , POS , LCD TV  
Industrial Equipment  
Gaming Machine

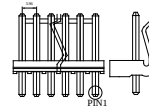
**Safety Certified:****Typical Mechanical Drawing :**

**WP213F12-4812 (Connector code→AA)**  
Case dimension ( L\*W\*H ): 127\*76\*35 mm

**Input Connector (CN1) :**

MOLEX 09-65-2058 (5273 SERIES) or equivalent  
Mates with (MOLEX 5239) or equivalent

| Pin | Signal |
|-----|--------|
| 1   | F.G    |
| 2   | N/A    |
| 3   | N      |
| 4   | N/A    |
| 5   | L      |

**Output Connector (CN2)-9PIN:**

MOLEX 09-65-2098 (5273 SERIES) or equivalent  
Mates with (MOLEX 5239) or equivalent

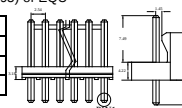
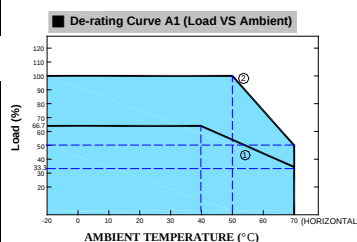
| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | V2     | 6   | GND    |
| 2   | V2     | 7   | V1     |
| 3   | GND    | 8   | V1     |
| 4   | GND    | 9   | V1     |
| 5   | GND    |     |        |

V1=48V  
V2=12V

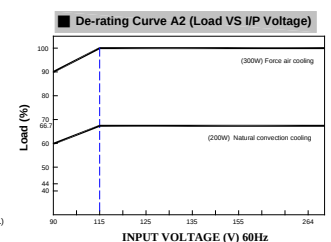
**Connector (CN4) :Optional(For Fan)**

MOLEX 22-23-2031 (6373 SERIES) or EQU  
Mates with (MOLEX 2695) or EQU

| Pin | Signal |
|-----|--------|
| 1   | F+     |
| 2   | F-     |
| 3   | V2s+   |

**De-rating Curve**

Note: ① Convection (Temperature derating) [1.6% / degree 40°C to 70°C]  
② Fan air (400LFM) [2.5% / degree 50°C to 70°C]



| INPUT SPECIFICATIONS  |                                   |
|-----------------------|-----------------------------------|
| INPUT VOLTAGE         | Universal Input : 90 ~ 264Vac     |
| INPUT FREQUENCY       | 47 ~ 63Hz                         |
| INPUT CURRENT         | 4.5A/115Vac , 2.0A/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                           | V1 = +48V   | V2 = +12V |
| RATED LOAD(Convection)            | 0 ~ 4.16A   | 0 ~ 1A    |
| Max. LOAD(W/20CFM Airflow or Fan) | 6.25A       | 2A        |
| RIPPLE & NOISE                    | 480mV       | 120mV     |
| REGULATION                        | ±3%         | ±3%       |
| Max. POWER                        | 200W / 300W |           |

| PROTECTION SPECIFICATIONS       |                              |
|---------------------------------|------------------------------|
| OCP: ( Over Load Protection)    | 150 ~ 200%                   |
| OVP: ( Over Voltage Protection) | 52.8 ~ 58.8V      110 ~ 130% |
| OTP: ( Over Temp. Protection)   | Shut down O/P voltage        |

| GENERAL SPECIFICATIONS  |                                             |
|-------------------------|---------------------------------------------|
| HOLD UP TIME (Typ.)     | ≥16mS @ 115V                                |
| REMOTE CONTROL          | N/A                                         |
| DC OK SIGNAL            | Led.                                        |
| 12Vaux For External Fan | F12-NF w/o 12Vaux, F12-VF with 12Vaux. @ 1A |
| COOLING                 | Convection/200W, 20CFM for 300W             |

| SAFETY & ENVIRONMENTAL SPECIFICATIONS |                                 |
|---------------------------------------|---------------------------------|
| SAFETY APPROVALS REQUIRED :           | UL , cUL , CE , FCC , CB        |
| SAFETY STANDARDS                      | UL 60950-1 2nd , EN 60950-1     |
| EMC EMISSION                          | EN55022(CISPR22) & FCC Class B. |
| OPERATING AMBIENT TEMP.               | -20 ~ 70°C                      |