# AC-DC Converter

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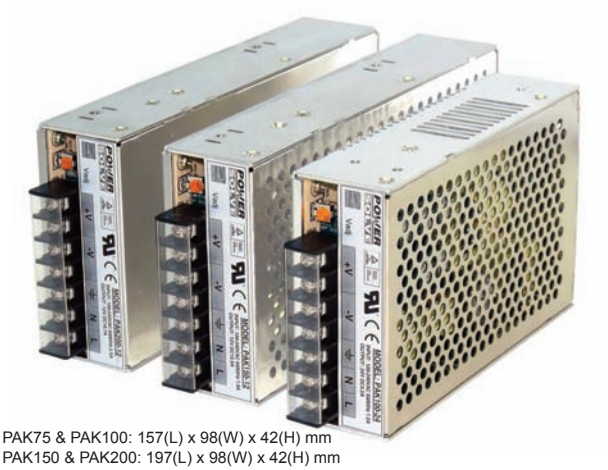
## PAK75/PAK100/PAK150/PAK200 Series
## 75-200W Active PFC
## Single Output



PAK75 & PAK100: 157(L) x 98(W) x 42(H) mm
PAK150 & PAK200: 197(L) x 98(W) x 42(H) mm

### Features

- Universal AC Input with active PFC
- Green Design, no-load power consumption <0.7W
- Short Circuit / Overvoltage / Overload Protections
- High Efficiency, Long Life and High Reliability
- Operating Temperature range -20°C to +70°C
- Power On LED Indicator
- 100% full load burn-in test

| Electrical Specification | |
|---|---|
| Input Voltage | 90-264VAC full range, 50-60Hz / 127-370VDC |
| Power Factor | >0.9 @ 230VAC / >0.98 @115VAC |
| AC Input Current (typ.) | 1A @ 115VAC / 0.5A @ 230VAC (PAK75)<br>1.2A @ 115VAC / 0.6A @ 230VAC (PAK100)<br>1.8A @ 115VAC / 0.9A @ 230VAC (PAK150)<br>2.3A @ 115VAC / 1.2A @ 230VAC (PAK200) |
| Inrush Current | 20A @ 115VAC / 45A @ 230VAC (PAK75 & PAK100)<br>30A @ 115VAC / 55A @ 230VAC (PAK150 & PAK200) |
| Leakage Current | <2mA @ 230VAC |
| Output Voltage | See Table |
| Output Current | See Table |
| Overload Protection | >105% of rated output power. Hiccup mode, recovers automatically when fault is removed |
| Overvoltage Protection | 115-150% rated output voltage. Output latches off |
| Over Temperature Protection | 90°C ±5°C. Shuts down output, re-power on to recover after temperature goes down |
| Operating Temperature Range | -20°C to +70°C. Above 50°C, derate linearly to 50% load at 70°C |
| Operating Humidity | 20-90% RH non-condensing |
| Storage Temperature Range | -40°C to +85°C |
| Storage Humidity | 10-95% RH non-condensing |
| Temperature Coefficient | ±0.03%/°C (0-50°C) |
| Vibration | 10-500Hz, 5G 0.5 Oct/min., for 60 mins, along X,Y & Z axis |
| Safety Standards | UL60950-1, TUV EN60950-1 approved |
| Green Energy | CEC Single Voltage External AC-DC & AC-AC power supplies eligibility criteria (version 1.1) |
| Withstand Voltage | I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC) all for 1 min. |
| Isolation Resistance | I/P-O/P, I/P-FG, O/P-FG: 100MΩ / 500VDC |
| EMI Conduction & Radiation | EN55022: 1998+A1 : 2000+A2 : 2003 Class B |
| Harmonic Current | EN61000-3-2: 2000+A2 : 2005 Class A, EN61000-3-3 : 1995+A1 : 2001 |
| EMS Immunity | EN61204-3 : 2000, EN50204 : 1998+A1 : 2001+A2 : 2003 light industry level, criteria A |
| Cooling | Free Air Convection (PAK75, PAK100 & PAK150)<br>Internal Fan (PAK200) |
| Dimensions | 157(L) x 98(W) x 42(H) mm (PAK75 & PAK100)<br>197(L) x 98(W) x 42(H) mm (PAK150 & PAK200) |
| Weight | 0.65Kg (PAK75 & PAK100)<br>0.70Kg (PAK150)<br>0.80Kg (PAK200) |

**Notes:**
1. All parameters NOT specifically mentioned are measured at 230Vac input, rated load and 25°C ambient temperature
2. Ripple and noise are measured at 20MHz bandwidth by using a 12" twisted pair wire terminated with a 0.1μF ceramic & 47μF electrolytic capacitors across the output
3. Derating is required at low input voltages. Derate linearly to 90% load at 90Vac under 100Vac input
4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC Directives

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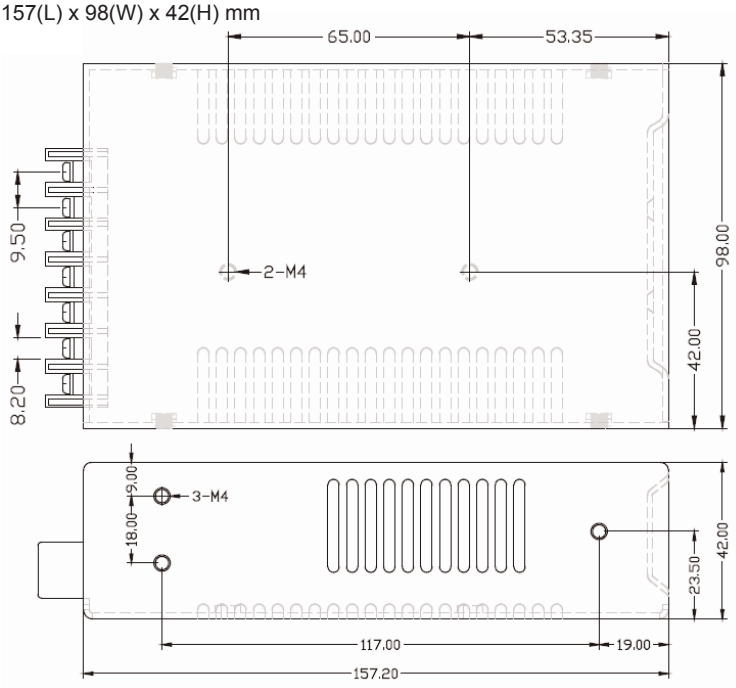
## Output Voltage and Current Ratings

| MODEL | OUTPUT VOLTAGE Preset | OUTPUT VOLTAGE Range | MAX OUTPUT CURRENT | VOLTAGE TOLERANCE | RIPPLE & NOISE | LINE REG. | LOAD REG. | POWER Max. | EFF. |
|---|---|---|---|---|---|---|---|---|---|
| PAK75-05 | 5V | 4.5 - 5.5V | 15A | ±2% | 100mV p-p | ±1% | ±1% | 75W | 83% |
| PAK75-7V5 | 7.5V | 6.75 - 8.25V | 10A | ±1.5% | 100mV p-p | ±1% | ±1% | 75W | 85% |
| PAK75-12 | 12V | 10.8 - 13.2V | 6.3A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 75.6W | 85% |
| PAK75-13V5 | 13.5V | 12.15 - 14.85V | 5.6A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 75.6W | 86% |
| PAK75-15 | 15V | 13.5 - 16.5V | 5A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 75W | 88% |
| PAK75-24 | 24V | 21.6 - 26.4V | 3.2A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 76.8W | 89% |
| PAK75-27 | 27V | 24.3 - 29.7V | 2.8A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 75.6W | 89% |
| PAK75-48 | 48V | 43.2 - 52.8V | 1.6A | ±1% | 200mV p-p | ±0.5% | ±0.5% | 76.8W | 89% |
| PAK100-05 | 5V | 4.5 - 5.5V | 20A | ±2% | 100mV p-p | ±1% | ±1% | 100W | 83% |
| PAK100-7V5 | 7.5V | 6.75 - 8.25V | 13.5A | ±1.5% | 100mV p-p | ±1% | ±1% | 101.2W | 85% |
| PAK100-12 | 12V | 10.8 - 13.2V | 8.5A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 102W | 85% |
| PAK100-13V5 | 13.5V | 12.15 - 14.9V | 7.5A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 101.2W | 86% |
| PAK100-15 | 15V | 13.5 - 16.5V | 6.7A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 100.5W | 88% |
| PAK100-24 | 24V | 21.6 - 26.4V | 4.2A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 100.8W | 89% |
| PAK100-27 | 27V | 24.3 - 29.7V | 3.8A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 102.6W | 89% |
| PAK100-48 | 48V | 43.2 - 52.8V | 1.95A | ±1% | 200mV p-p | ±0.5% | ±0.5% | 93.6W | 89% |
| PAK150-05 | 5V | 4.5 - 5.5V | 20A | ±2% | 100mV p-p | ±1% | ±1% | 100W | 79% |
| PAK150-7V5 | 7.5V | 6.75 - 8.25V | 20A | ±1.5% | 100mV p-p | ±1% | ±1% | 150W | 82% |
| PAK150-12 | 12V | 10.8 - 13.2V | 12.5A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 150W | 86% |
| PAK150-13V5 | 13.5V | 12.15 - 14.9V | 11.2A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 151.2W | 87% |
| PAK150-15 | 15V | 13.5 - 16.5V | 10A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 150W | 87% |
| PAK150-24 | 24V | 21.6 - 26.4V | 6.3A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 151.2W | 87% |
| PAK150-27 | 27V | 24.3 - 29.7V | 5.6A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 151.2W | 89% |
| PAK150-48 | 48V | 43.2 - 52.8V | 3.2A | ±1% | 200mV p-p | ±0.5% | ±0.5% | 153.6W | 89% |
| PAK200-05 | 5V | 4.5 - 5.5V | 40A | ±2% | 100mV p-p | ±1% | ±1% | 200W | 78% |
| PAK200-7V5 | 7.5V | 6.75 - 8.25V | 26.7A | ±1.5% | 100mV p-p | ±1% | ±1% | 200W | 81% |
| PAK200-12 | 12V | 10.8 - 13.2V | 16.7A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 200W | 85% |
| PAK200-13V5 | 13.5V | 12.15 - 14.85V | 14.9A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 201W | 86% |
| PAK200-15 | 15V | 13.5 - 16.5V | 13.4A | ±1% | 100mV p-p | ±0.5% | ±0.5% | 201W | 86% |
| PAK200-24 | 24V | 21.6 - 26.4V | 8.4A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 201W | 87% |
| PAK200-27 | 27V | 24.3 - 29.7V | 7.5A | ±1% | 120mV p-p | ±0.5% | ±0.5% | 202W | 88% |
| PAK200-48 | 48V | 43.2 - 52.8V | 4.2A | ±1% | 200mV p-p | ±0.5% | ±0.5% | 201W | 88% |

## Mechanical Details

PAK75 & PAK100 series: 157(L) x 98(W) x 42(H) mm

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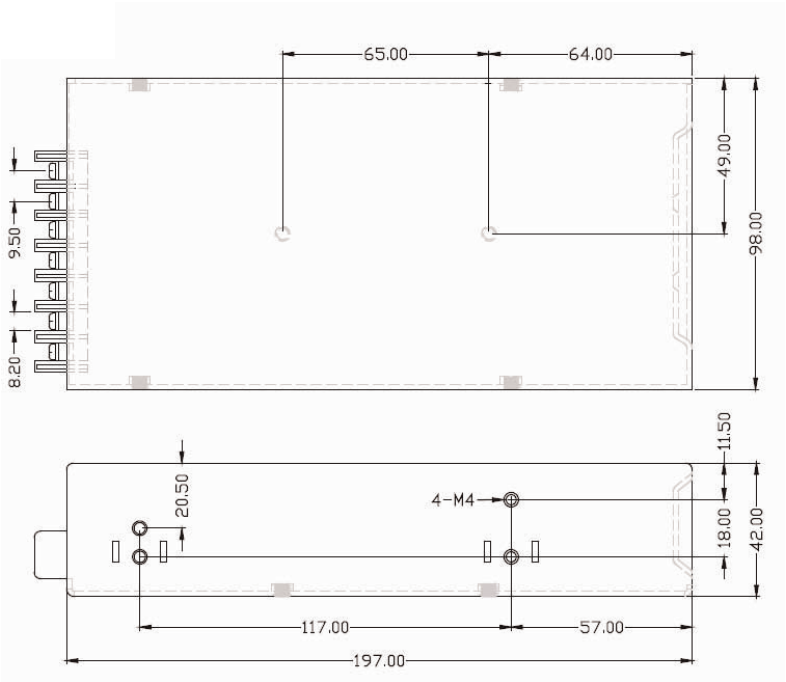
## Mechanical Details (cont.)

PAK150 series: 197(L) x 98(W) x 42(H) mm




PAK200 series: 197(L) x 98(W) x 42(H) mm