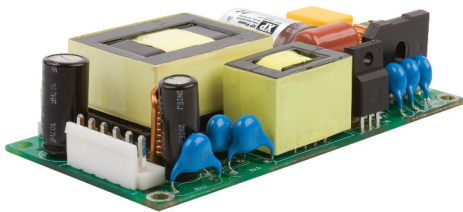


ECP180 Series



- Low 1" Profile
- High Power Density
- 2.0" by 4.0" Footprint
- 120W Convection-cooled Rating
- 180W Force Cooled Rating
- Medical & ITE Approvals
- Class I and Class II Applications
- High Efficiency, up to 94%
- Less than 0.5W No Load Input Power
- Built-In Fan Supply
- Low Earth Leakage Current
- 5000m Operating Altitude



The ECP180 series has been designed to minimise no load power consumption and maximise efficiency facilitating equipment design to meet the latest environmental legislation and minimising power loss and heating within equipment enclosures.

Approved for medical and ITE applications, this range of single output AC/DC power supplies are packaged in an ultra-low profile 1" height with a foot print of just 2.0" by 4.0". The ECP180 series is suitable for use in both class I and class II applications.

The ECP180 provides up to 180W force-cooled or 120W convection-cooled leading to very high power densities of 22W/in³ or 15W/in³ respectively. A 12V, 500mA fan supply is included in the design.

The power supply contains two fuses and low leakage currents as required by medical applications and is safety approved to operate in a 70 °C ambient.

The low profile and safety approvals covering ITE and medical standards for both class I and class II applications along with conducted emissions meeting EN55011/32 level B allow the versatile ECP180 series to be used in a vast range of applications.

Models and Ratings

| Output Voltage | Output Current | | Ripple and Noise pk-pk ⁽²⁾ | Fan Output | Efficiency ⁽³⁾ | Model Number ⁽⁴⁾ |
|----------------|-------------------|------------------------------|--|------------|---------------------------|-----------------------------|
| | Convection-cooled | Forced-cooled ⁽¹⁾ | | | | |
| 12.0 V | 10.00 A | 15.00 A | 120 mV | 12 V/0.5 A | 92% | ECP180PS12 |
| 15.0 V | 8.00 A | 12.00 A | 150 mV | 12 V/0.5 A | 92% | ECP180PS15 |
| 24.0 V | 5.00 A | 7.50 A | 240 mV | 12 V/0.5 A | 93% | ECP180PS24 |
| 28.0 V | 4.30 A | 6.43 A | 280 mV | 12 V/0.5 A | 93% | ECP180PS28 |
| 36.0 V | 3.33 A | 5.00 A | 360 mV | 12 V/0.5 A | 94% | ECP180PS36 |
| 48.0 V | 2.50 A | 3.75 A | 480 mV | 12 V/0.5 A | 94% | ECP180PS48 |

Notes:

1. Requires 10 CFM.
2. Measured with 20 MHz bandwidth and 10 μ F electrolytic capacitor in parallel with 0.1 μ F ceramic capacitor
3. Minimum average efficiencies measured at 25%, 50%, 75% & 100% of 180 W load and 230 VAC input.

Input Characteristics

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---------------------------|---|---------|---------|---------|---|
| Input Voltage - Operating | 85 | 115/230 | 264 | VAC | Derate output from 120 W at 100 VAC to 110 W at 90 VAC and 100 W at 85 VAC when convection-cooled |
| Input Frequency | 47 | 50/60 | 63 | Hz | Agency approval 47-63 Hz |
| Power Factor | | >0.9 | | | 230 VAC, 100% load EN61000-3-2 class A EN61000-3-2 class C > 145W |
| Input Current - Full Load | | 1.8/0.9 | | A | 115/230 VAC |
| Inrush Current | | 80 | | A | 230 VAC cold start, 25 °C |
| Earth Leakage Current | | 85/150 | 230 | μ A | 115/230 VAC/50 Hz (Typ.), 264 VAC/60 Hz (Max.) |
| No Load Input Power | | | 0.5 | W | |
| Input Protection | F3.15 A/250 V Internal fuse fitted in line and neutral. | | | | |

Output Characteristics

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|----------------------------|---------|---------|------------|---------|--|
| Output Voltage - V1 | 12 | | 48 | VDC | See Models and Ratings table |
| Initial Set Accuracy | | | ± 1 | % | 50% load, 115/230 VAC |
| Minimum Load | 0 | | | A | |
| Start Up Delay | | | 2 | s | 115/230 VAC full load. See fig. 3 & 4. |
| Hold Up Time | 10 | 17/11 | | ms | Min at full load, 115 VAC. Typical at 120W/180W |
| Drift | | | ± 0.02 | % | After 20 min warm up |
| Line Regulation | | | ± 0.5 | % | 90-264 VAC |
| Load Regulation | | | ± 0.5 | % | 0-100% load |
| Transient Response | | | 4 | % | Recovery within 1% in less than 500 μ s for a 50-75% and 75-50% load step |
| Over/Undershoot | | 4 | | % | Full Load |
| Ripple & Noise | | | 1 | % pk-pk | 20 MHz bandwidth & 10 μ F electrolytic capacitor in parallel with 0.1 μ F ceramic capacitor, See fig. 6. |
| Overvoltage Protection | 110 | | 140 | % | Vnom, recycle input to reset |
| Overload Protection | 110 | | 160 | % I nom | See fig. 1. |
| Short Circuit Protection | | | | | Trip and Restart See fig. 2. |
| Temperature Coefficient | | | 0.02 | %/ °C | |
| Overtemperature Protection | | | | °C | Measured Internally, Auto Resetting |