

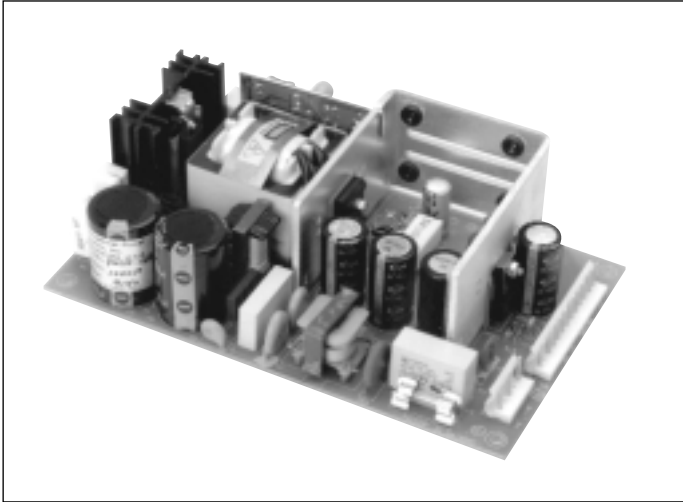
# DC/DC Converters

**XPiQ inc.**

Intelligent Design Quality Product



**110 Watts  
PD110 Series**



Low Cost

•  
100% Burn-In

•  
Small Size, Light Weight

•  
Three Wide Input Ranges

•  
Overvoltage Protection

•  
Overcurrent Protection

## Specification

All specifications typical at nominal line, full load and 25°C

### Input

- Input Voltage*
- 10 to 20 VDC (PD110 "L" series)
  - 18 to 36 VDC (PD110 "M" series)
  - 36 to 72 VDC (PD110 "H" series)
- Input Current*
- 15A (rms) for 12 VDC
  - 9.4A (rms) for 24 VDC
  - 4.7A (rms) for 48 VDC

### Output

- Output Voltage/Current*
- See rating chart
- Ripple*
- 1% peak to peak maximum
- Overvoltage Protection*
- Provided on output #1 only, set at 112-132% of its nominal output voltage
- Overcurrent Protection:*
- All outputs protected in short circuit conditions
- Temperature Coefficient:*
- All outputs  $\pm 0.04\%/^{\circ}\text{C}$  maximum

### General

- Efficiency*
- 60% minimum
- Hold-up time*
- 10 msec
- Line Regulation*
- $\pm 0.5\%$  max.
- Isolation Voltage*
- 1000 VDC from input to output

### Environmental

- Operating Temperature*
- 0°C to +70°C\*
- Storage Temperature*
- -40°C to +85°C
- MTBF*
- 100,000 hours
- Weight*
- 670 g without cover

\* Derate linearly from 100% load to 50°C to 50% load at 70°C



# OUTPUT VOLTAGE & CURRENT RATINGS

PD110

| Model      | Output #1 |       |        |      | Output #2 <sup>(1)</sup> |      |       |      | Output #3 |      |      |      | Output #4 |      |      |      | Maximum Output Power |
|------------|-----------|-------|--------|------|--------------------------|------|-------|------|-----------|------|------|------|-----------|------|------|------|----------------------|
|            | Vnom      | Imin  | Imax   | Tol. | Vnom                     | Imax | Ipeak | Tol. | Vnom      | Imin | Imax | Tol. | Vnom      | Imin | Imax | Tol. |                      |
| PD110-10   | 5 V       | 0.0 A | 22.0 A | 3%   |                          |      |       |      |           |      |      |      |           |      |      |      | 110 W                |
| PD110-12   | 12 V      | 0.0 A | 9.0 A  | 2%   |                          |      |       |      |           |      |      |      |           |      |      |      | 110 W                |
| PD110-13   | 15 V      | 0.0 A | 7.5 A  | 2%   |                          |      |       |      |           |      |      |      |           |      |      |      | 110 W                |
| PD110-14   | 24 V      | 0.0 A | 4.5 A  | 2%   |                          |      |       |      |           |      |      |      |           |      |      |      | 110 W                |
| PD110-16   | 30 V      | 0.0 A | 3.6 A  | 2%   |                          |      |       |      |           |      |      |      |           |      |      |      | 110 W                |
| PD110-23   | +5 V      | 0.8 A | 10.0 A | 3%   | +12 V                    | 5 A  | 9.0 A | 3%   |           |      |      |      |           |      |      |      | 110 W                |
| PD110-31   | +5 V      | 0.8 A | 10.0 A | 3%   | +12 V                    | 5 A  | 9.0 A | 3%   | -12 V     | 0 A  | 1 A  | 4%   |           |      |      |      | 110 W                |
| PD110-32   | +5 V      | 0.8 A | 10.0 A | 3%   | +15 V                    | 4 A  | 7.5 A | 3%   | -15 V     | 0 A  | 1 A  | 4%   |           |      |      |      | 110 W                |
| PD110-40   | +5 V      | 0.8 A | 10.0 A | 3%   | +12 V                    | 5 A  | 9.0 A | 3%   | -12 V     | 0 A  | 1 A  | 4%   | -5 V      | 0 A  | 1 A  | 4%   | 110 W                |
| PD110-41   | +5 V      | 0.8 A | 10.0 A | 3%   | +15 V                    | 4 A  | 7.5 A | 3%   | -15 V     | 0 A  | 1 A  | 4%   | +24 V     | 0 A  | 1 A  | 4%   | 110 W                |
| PD110-42   | +5 V      | 0.8 A | 10.0 A | 3%   | +12 V                    | 5 A  | 9.0 A | 3%   | -12 V     | 0 A  | 1 A  | 4%   | +12 V     | 0 A  | 1 A  | 4%   | 110 W                |
| PD110-45-1 | +5 V      | 0.8 A | 10.0 A | 3%   | +12 V                    | 5 A  | 9.0 A | 3%   | -12 V     | 0 A  | 1 A  | 4%   | +24 V     | 0 A  | 3 A  | 8%   | 110 W                |
| PD110-45-2 | +5 V      | 0.8 A | 10.0 A | 3%   | +24 V                    | 3 A  | 5.0 A | 5%   | -12 V     | 0 A  | 1 A  | 4%   | +12 V     | 0 A  | 1 A  | 4%   | 110 W                |
| PD110-46   | +5 V      | 0.8 A | 10.0 A | 3%   | +15 V                    | 4 A  | 7.5 A | 3%   | -15 V     | 0 A  | 1 A  | 4%   | -5 V      | 0 A  | 1 A  | 4%   | 110 W                |

## Notes

1. For output #2, minimum load is 0 A and peak current is shown for 10% maximum duty cycle for less than 60 seconds.
2. PD110 "M" & "H" series is suitable for 110 watts maximum at 20 CFM forced air cooling or 80 watts maximum at convection cooling.
3. PD110 "L" series is suitable for 90 watts maximum at 20 CFM forced air cooling or 70 watts maximum at convection cooling.
4. Suffix codes for mechanical format and input range are as follows: PD110-XYZ: "XX" is the model code from the above table. "Y" is the input range.  
(L=10-20VDC, M=18-36VDC, H=36-72VDC); "Z" is the mechanical format (A=open PCB, C=enclosed) EX: PD110-31MC, 18-36VDC input, enclosed form.

## Pin Chart

| Model  | 1, 2, 3   | 4, 5          | 6, 7          | 8, 9      | 10   | 11        | 12  | 13        |
|--|-----------|---------------|---------------|-----------|------|-----------|-----|-----------|
| PD110-10, PD110-12<br>PD110-13, PD110-14<br>PD110-16               | OUTPUT #1 | RETURN        | RETURN        | OUTPUT #1 | N.C. | N.C.      | KEY | N.C.      |
| PD110-23   | OUTPUT #1 | COMMON RETURN | COMMON RETURN | OUTPUT #2 | N.C. | N.C.      | KEY | N.C.      |
| PD110-31, PD110-32   | OUTPUT #1 | COMMON RETURN | COMMON RETURN | OUTPUT #2 | N.C. | OUTPUT #3 | KEY | N.C.      |
| PD110-40, PD110-41<br>PD110-42, PD110-45-1<br>PD110-45-2, PD110-46 | OUTPUT #1 | COMMON RETURN | COMMON RETURN | OUTPUT #2 | N.C. | OUTPUT #3 | KEY | OUTPUT #4 |

## Mechanical Details

