## Astrodyne

## 150 Watt Open Frame Switching Power Supply with PFC

## PMK150 series



150 Watts Output Power

- Single and Dual Outputs
- Universal 90-264VAC Input
- 5VDC to 48VDC Outputs

3000VAC Input to Output Isolation
Active Power Factor Correction
Model Number Output Voltage Output Amps (max) Line Regulation Ripple \& Noise

SINGLE OUTPUT

| PMK150S-5 | 5 VDC | 30 | $\pm 0.5 \%$ | 100 mV pk-pk |
| :--- | :--- | :--- | :--- | :--- |
| PMK150S-12 | 12 VDC | 12.5 | $\pm 0.5 \%$ | 100 mV pk-pk |
| PMK150S-15 | 15 VDC | 10 | $\pm 0.5 \%$ | 100 mV pk-pk |
| PMK150S-24 | 24 VDC | 6.3 | $\pm 0.5 \%$ | 100 mV pk pk |
| PMK150S-48 | 48 VDC | 3.2 | $\pm 0.5 \%$ | $100 \mathrm{mV} \mathrm{pk}-\mathrm{pk}$ |

DUAL OUTPUT

| PMK150D-A | $5 / 12$ VDC | $15 / 7$ | $\pm 0.5 / 1 \%$ | $50 / 100 \mathrm{mV}$ pk-pk |
| :--- | :--- | :--- | :--- | :--- |
| PMK150D-B | $5 / 24$ VDC | $15 / 3.5$ | $\pm 0.5 / 2 \%$ | $50 / 200 \mathrm{mV}$ pk-pk |
| PMK150D-C | $12 / 24$ VDC | $7 / 3.5$ | $\pm 1 / 2 \%$ | $100 / 200 \mathrm{mV}$ pk-pk |
| PMK150D-D | $12 / 48$ VDC | $7 / 1.5$ | $\pm 1 / 4 \%$ | $100 / 400 \mathrm{mV} \mathrm{pk-pk}$ |

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## INPUT SPECIFICATIONS

| Input Voltage Range | $90-264$ VAC |
| :--- | :--- |
| Frequency Range | $47-63 \mathrm{~Hz}$ |
| Power Factor Correction | 0.96 to 0.98 |
| Inrush Current, typ: | 30 A @ 115VAC |
|  | 60 A @ 230VAC * |

## OUTPUT SPECIFICATIONS

| Voltage and Current (Note 6) | See Selection Chart |
| :--- | :--- |
| Line Regulation (Note 8) | See Selection Chart |
| Load Regulation (10\%-FL, Note 7) |  |
| Singles: | $\pm 0.5 \%$, typ |
| Duals: | $\pm 3 / 5 \%$, typ |
| Preset Accuracy (Note 9) | $\pm 1 \%$, typ |
| DC Voltage Adjust (typ) | $\pm 6 \%$, typ |
| Temperature Coefficient | $\pm 0.05 \% /{ }^{\circ} \mathrm{C}$ |
| Ripple/Noise (Notes 1, 3, 10) | See Selection Chart |
| Over Voltage Protection | Latching, Auto Recover after fault |
|  | condition is removed * |
| Short Circuit Protection | Latching, Auto Recover after fault |
|  | condition is removed * |
| Hold Up Time | 20 mS, typ (Nom I/P, FL) |

## GENERAL SPECIFICATIONS

| Isolation (Note 4) | I/P-O/P: 3000VAC |
| :--- | :--- |
|  | I/P-Ground: 2000VAC |
|  | O/P-Ground: 500 VAC |
| Efficiency | 75\%, min. |
| Switching Frequency | 67Khz, (fixed, typical) |
| Safety | UL,TUV, CB, CE |

All specifications are typical at nominal input, full load, and $25^{\circ} \mathrm{C}$ unless otherwise noted

[^0]
## ENVIRONMENTAL SPECIFICATIONS

| Oper. Temperature | -10 to $+70^{\circ} \mathrm{C}$ |
| :--- | :--- |
|  | (See Derate Curve) |
| Storage Temperature | -25 to $+85^{\circ} \mathrm{C}$ * |
| Relative Humidity | $0 \%$ to $+95 \%$, non-cond ${ }^{*}$ |
| EMC | EN55011 Class B |
| MTBF | $270,000 \mathrm{Hrs}$ |
|  | Mil Std $217,25^{\circ} \mathrm{C}$ |

## PHYSICAL SPECIFICATIONS

| Size | $3^{\prime \prime} \times 5.5^{\prime \prime} \times 1.4^{\prime \prime}$ |
| :--- | :--- |
| Construction | Open Frame |
| Weight | $0.5 \mathrm{lb},(226 \mathrm{~g})$ |

## NOTES

1. All measurements should be made directly at the terminals of the power supply
2. All specifications typical @ $25^{\circ} \mathrm{C}$, unless otherwise noted, at nominal line and load.
3. Ripple and noise dependent upon output voltage as specified per particular model.
4. Isolation for up to 1 minute duration.
5. Specified for free air convection cooling.
6. Minimum load is not required for proper operation.
7. Load Regulation is measured by change $\pm 40 \%$ of measured output load from $60 \%$ full load, with the other output set to $60 \%$ full load.
8. Line Regulation measured from 90-264VAC. 100VAC minimum required for full load start.
9. Preset Accuracy measured at nominal load, 120VAC input.
10. O/P Noise measured directly at the pins/terminals at nominal load, $0.1 u F$ bypass and 47uF electrolytic, pk-pk @ 20MHz bandwidth.

Astrodyne products are not authorized or warranteed for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

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 MECHANICAL DIMENSIONS

Pin\#
Outputs

|  | GND |
| :--- | :--- |
| 2 | ACN |
| 3 | ACL |
| 4 | + Output |
| 5 | + Output |
| 6 | Common |
| 7 | Common |
| 8 | Common |
| 9 | $\mathrm{~N} / \mathrm{C}$ |

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## OUTPUT DERATING CURVE - SINGLE OUTPUT



1. 5 V convection
2. $12 \cdot 15 \cdot 24 \cdot 48 \mathrm{~V}$ convection
3. Forced air cooling 10 CFM

## OUTPUT DERATING CURVE - DUAL OUTPUT



1. Forced air colling 10 CFM
2. Free air convection

- Open Frame, U-Channel

3. Free air convection

- Enclosed


[^0]:    * These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranteed nor implied.

