



**THE DATASHEET OF  
PAH100S48-24/V**



## 50W to 200W 48V Input Half brick DC-DC Converters

### Features

- ◆ Industry Standard Footprint & Pinouts
- ◆ 12V output for driving non-isolated converters
- ◆ Safety Approved
- ◆ Full power at 100°C baseplate
- ◆ Wide Adjustable Output Range
- ◆ Zero Pre-load
- ◆ ASIC Design
- ◆ No potting materials



### Key Market Segments & Applications



| Specifications             |        | 2.5V   | 3.3V    | 5V      | 12V   | 15V | 24V   | 28V     | 48V |
|----------------------------|--------|--|---------|---------|-------|-----|-------|---------|-----|
| Efficiency (Typ)           | %      | 75-76  | 79-80   | 83-84   | 85-86 |     | 86-88 |         | 88  |
| Input Voltage range        | VDC    | 36-76  |         |         |       |     |       |         |     |
| Output Voltage Accuracy    | %      | ±1.6   |         |         |       |     |       |         |     |
| Max Ripple & Noise         | mV     | 150  |         |         | 200   |     | 280   |         | 250 |
| Max Line Regulation        | mV     | 10   |         |         | 24    | 30  | 48    | 56      | 96  |
| Max Load Regulation        | mV     | 10   |         |         | 24    | 30  | 48    | 56      | 96  |
| Overcurrent Protection     | %      | 105 - 150% automatic recovery  |         |         |       |     |       |         |     |
| Overvoltage Protection (1) | %      | 120-160  | 120-140 | 125-145 |       |     |       | 135-155 |     |
| Remote Sense               | -      | Yes  |         |         |       |     |       |         |     |
| Remote On/Off              | -      | Standard; Low = ON, Open = OFF /P option; Low = OFF, Open = ON)            |         |         |       |     |       |         |     |
| Operating Temperature      | °C     | -40°C to +100°C baseplate  |         |         |       |     |       |         |     |
| Overtemperature            | °C     | Shutdown between 105 - 130°C, Auto restart                                 |         |         |       |     |       |         |     |
| Cooling                    | -      | Conduction (See Installation Manual for heatsink selection)                |         |         |       |     |       |         |     |
| Isolation Voltage          | V      | Input - Baseplate 1500VAC, Input - Output 1500VAC, Output-Baseplate 500VDC |         |         |       |     |       |         |     |
| Shock                      | -      | 196.1m/s <sup>2</sup>  |         |         |       |     |       |         |     |
| Vibration                  | -      | Non Operating, 10-55Hz (sweep for 1 min.)                                  |         |         |       |     |       |         |     |
| Amplitude                  | -      | 0.825mm constant (Max 49 m/s <sup>2</sup> ) X,Y,Z 1 hour each              |         |         |       |     |       |         |     |
| Safety Agency Approvals    | -      | UL60950-1, CSA60950-1, EN60950-1, CE LVD                                   |         |         |       |     |       |         |     |
| Weight (Typ)               | g      | 80   |         |         |       |     |       |         |     |
| Size (WxHxD)               | in(mm) | 2.28x0.5x2.4 (57.9x12.7x61) See outline drawing                            |         |         |       |     |       |         |     |
| Warranty                   | yrs    | 2 Years  |         |         |       |     |       |         |     |

(1) See options table.

General: See Installation Manual for full details, test methods of parameters and application notes

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| Model Selector |                |             |                |               |
|----------------|----------------|-------------|----------------|---------------|
| Model Name     | Output Voltage | Adjustment  | Output Current | Maximum Power |
| PAH50S48-2.5   | 2.5            | 2.25 - 2.75 | 11.70          | 29.3          |
| PAH75S48-2.5   | 2.5            | 2.25 - 2.75 | 17.50          | 43.8          |
| PAH100S48-2.5  | 2.5            | 2.25 - 2.75 | 23.40          | 58.5          |
| PAH150S48-2.5  | 2.5            | 2.25 - 2.75 | 35.00          | 87.5          |
| PAH50S48-3.3   | 3.3            | 2.97 - 3.63 | 11.70          | 38.6          |
| PAH75S48-3.3   | 3.3            | 2.97 - 3.63 | 17.50          | 57.8          |
| PAH100S48-3.3  | 3.3            | 2.97 - 3.63 | 23.40          | 77.2          |
| PAH150S48-3.3  | 3.3            | 2.97 - 3.63 | 35.00          | 115.5         |
| PAH50S48-5     | 5.0            | 3.0 - 5.75  | 10.00          | 50.0          |
| PAH75S48-5     | 5.0            | 3.0 - 5.75  | 15.00          | 75.0          |
| PAH100S48-5    | 5.0            | 3.0 - 5.75  | 20.00          | 100.0         |
| PAH150S48-5    | 5.0            | 3.0 - 5.75  | 30.00          | 150.0         |
| PAH50S48-12    | 12.0           | 7.2 - 13.2  | 4.20           | 50.4          |
| PAH75S48-12    | 12.0           | 7.2 - 13.2  | 6.30           | 75.6          |
| PAH100S48-12   | 12.0           | 7.2 - 13.2  | 8.40           | 100.8         |
| PAH150S48-12   | 12.0           | 7.2 - 13.2  | 12.50          | 150.0         |
| PAH200S48-12   | 12.0           | 7.2 - 13.2  | 16.70          | 200.4         |
| PAH50S48-15    | 15.0           | 9.0 - 16.5  | 3.40           | 51.0          |
| PAH75S48-15    | 15.0           | 9.0 - 16.5  | 5.00           | 75.0          |
| PAH100S48-15   | 15.0           | 9.0 - 16.5  | 6.70           | 100.5         |
| PAH150S48-15   | 15.0           | 9.0 - 16.5  | 10.00          | 150.0         |
| PAH200S48-15   | 15.0           | 9.0 - 16.5  | 13.40          | 201.0         |
| PAH50S48-24    | 24.0           | 14.4 - 26.4 | 2.10           | 50.4          |
| PAH75S48-24    | 24.0           | 14.4 - 26.4 | 3.20           | 76.8          |
| PAH100S48-24   | 24.0           | 14.4 - 26.4 | 4.20           | 100.8         |
| PAH150S48-24   | 24.0           | 14.4 - 26.4 | 6.30           | 151.2         |
| PAH200S48-24   | 24.0           | 14.4 - 26.4 | 8.40           | 201.6         |
| PAH50S48-28    | 28.0           | 16.8 - 30.8 | 1.80           | 50.4          |
| PAH75S48-28    | 28.0           | 16.8 - 30.8 | 2.70           | 75.6          |
| PAH100S48-28   | 28.0           | 16.8 - 30.8 | 3.60           | 100.8         |
| PAH150S48-28   | 28.0           | 16.8 - 30.8 | 5.40           | 151.2         |
| PAH200S48-28   | 28.0           | 16.8 - 30.8 | 7.20           | 201.6         |
| PAH150S48-48   | 48.0           | 38.4 - 57.6 | 3.20           | 153.6         |

| Options |                |              |
|---------|----------------|--------------|
| Suffix  | ON/OFF Control | Overshoot    |
| -       | Negative       | Manual Reset |
| /P      | Positive       | Manual Reset |
| /V*     | Negative       | Auto Reset   |
| /PV     | Positive       | Auto Reset   |

\* Standard US Stock Item.



| Pinout          |                            |
|-----------------|----------------------------|
| Pin Description | Function                   |
| -Vin            | Negative Input Terminal    |
| +Vin            | Positive Input Terminal    |
| Case            | Baseplate Terminal         |
| CNT             | On / Off Control terminal  |
| +V              | Positive Output Terminal   |
| -V              | Negative Output Terminal   |
| TRIM            | Output adjustment Trim pin |
| +S              | Positive Remote sense      |
| -S              | Negative Remote sense      |

| Other DC-DC Products |   |
|----------------------|---|
| PAF                  | 400-700W Full Brick DC-DC               |
| PAH75D               | Dual output Half Bricks                 |
| PAH200H              | High Efficiency Half Brick              |
| PAQ                  | Quarter brick DC-DC                     |
| CC-E                 | 1.5 to 30W, 5-48V Input DC-DC           |
| PX                   | 10-60W, 12-48VDC Input DC-DC converters |



For Additional Information, please visit [us.tdk-lambda.com/lp/products/pah-series.htm](http://us.tdk-lambda.com/lp/products/pah-series.htm)



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