

## 300W to 450W Half Brick Converters

### Features

- ◆ Standard Half Brick Footprint
- ◆ 18-36 or 36-76VDC Inputs
- ◆ 12V 29A - 48V 9.4A Nominal Outputs
- ◆ Through Hole Mounting
- ◆ Low 12.7mm Profile
- ◆ High operating efficiencies (up to 92%)
- ◆ Constant switching frequency
- ◆ Baseplate cooling



### Key Market Segments & Applications



| Specifications                  |        |                                                                  |             |                |
|---------------------------------|--------|------------------------------------------------------------------|-------------|----------------|
| Model                           |        | PAH300S, 350S, 450S<br>(see model selector)                      |             |                |
| Nominal Output Voltage          | VDC    | 12V                                                              | 28V         | 48V            |
| Input Voltage range             | VDC    | 18-36 or 36-76                                                   |             |                |
| Input Current (max)             | A      | 6.8-17.4A (model dependant)                                      |             |                |
| Output Voltage Adjustment       | VDC    | 7.2 - 13.2                                                       | 16.8 - 33   | 28.8 - 57.6(5) |
| Ripple & Noise (max) (pk to pk) | mV     | 200                                                              | 280(1)      | 480            |
| Line Regulation (max)           | mV     | 24                                                               | 56          | 96             |
| Load Regulation (max)           | mV     | 24                                                               | 56          | 96             |
| Overload Protection             | %      | 105 - 140%, constant current with auto recovery                  |             |                |
| Overvoltage Protection (3)      | %      | 115-135%                                                         | 125-140%(2) | 125-145%(6)    |
| Remote Sense                    | -      | Yes                                                              |             |                |
| Remote On / Off (See options)   | -      | Standard; Low = ON, Open = OFF /P option; Low = OFF, Open = ON   |             |                |
| Temperature (operating)         | °C     | -40°C to +100°C baseplate, full power(4)                         |             |                |
| Temperature (storage)           | °C     | -40°C to +100°C                                                  |             |                |
| Temperature Coefficient         | -      | 0.02%/°C                                                         |             |                |
| Humidity (operating)            | -      | 5-95% RH Non condensing                                          |             |                |
| Humidity (storage)              | -      | 5-95% RH Non condensing                                          |             |                |
| Cooling                         | -      | Conduction (See Installation Manual for heatsink selection)      |             |                |
| Isolation Voltage               | VDC    | 1500VDC Input to output & baseplate, 500VDC Output to baseplate  |             |                |
| 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    |             |                |
| Shock                           | -      | 196.1m/s <sup>2</sup>                                            |             |                |
| Safety Agency Approvals         | -      | UL60950-1, CSA60950-1, EN60950-1, CE LVD (48V input models only) |             |                |
| Weight (Typ)                    | g      | 110                                                              |             |                |
| Size (WxHxD)                    | in(mm) | 2.4x0.5x2.28 (61x12.7x57.9) See outline drawing                  |             |                |
| Warranty                        | yrs    | 2 Years                                                          |             |                |

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

(1) 240mV for PAH300

(2) 125-145% for PAH450S48-28

(3) Manual reset

(4) PAH350S24-28 & -48: derate linearly to 85% load from 90°C to 100°C

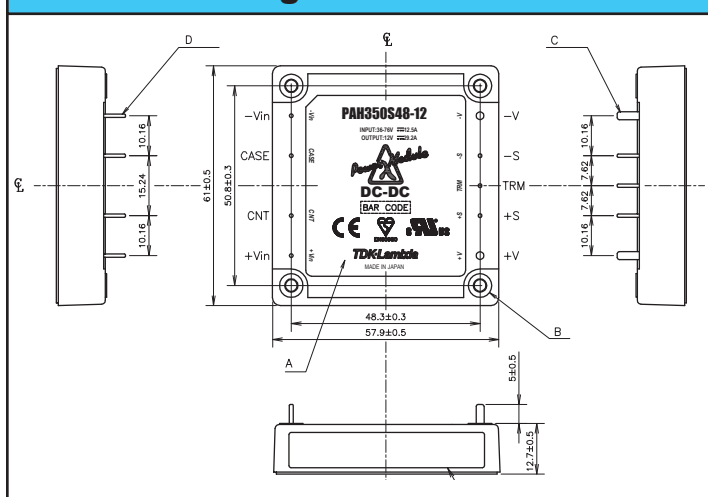
(5) 28.8-52.8 PAH350S28-48

(6) 115-140% PAH350S28-48

## Model Selector

| Model        | Input Voltage (V) | Output Voltage (V) | Max. Curr. (A) | Max. Output Power (W) | Efficiency Typ. (%) |
|--------------|-------------------|--------------------|----------------|-----------------------|---------------------|
| PAH300S24-12 | 18 - 36           | 12                 | 25             | 300                   | 87                  |
| PAH300S48-12 | 36 - 76           | 12                 | 25             | 300                   | 90                  |
| PAH350S48-12 | 36 - 76           | 12                 | 29.2           | 350                   | 89                  |
| PAH300S24-28 | 18 - 36           | 28                 | 11             | 308                   | 88                  |
| PAH350S24-28 | 18 - 36           | 28                 | 12.5           | 350                   | 88                  |
| PAH350S24-48 | 18 - 36           | 48                 | 7.3            | 350                   | 87                  |
| PAH300S48-28 | 36 - 76           | 28                 | 11             | 308                   | 90                  |
| PAH350S48-28 | 36 - 76           | 28                 | 12.5           | 350                   | 89                  |
| PAH450S48-28 | 36 - 76           | 28                 | 16             | 448                   | 92                  |
| PAH450S48-48 | 36 - 76           | 48                 | 9.4            | 451                   | 92                  |

## Outline Drawing



## Pinout

| Pin Description | Function                   |
|-----------------|----------------------------|
| -Vin            | Negative Input Terminal    |
| +Vin            | Positive Input 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      |

## Options

| Suffix | Description                                   |
|--------|-----------------------------------------------|
| -      | M3 Tapped inserts for mounting                |
| /T     | M3 clearance inserts for mounting             |
| /P     | Positive logic remote On/Off (Not on PAH450S) |

## Other DC-DC Products

|     |                                   |
|-----|-----------------------------------|
| PAF | 400-700W Full brick DC-DC         |
| PAH | Other half brick DC-DC converters |
| PAQ | Quarter brick DC-DC converters    |
| PAE | Eighth brick DC-DC converters     |
| PX  | 10-48W, 12-48V DC-DC              |

For Additional Information, please visit  
[us.tdk-lambda.com/lp/products/pah300-series.htm](http://us.tdk-lambda.com/lp/products/pah300-series.htm)



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