

Full function, 50 to 300W DC-DC converters

Features

- ◆ High Density
- ◆ Wide Range Input
- ◆ Wide output adjustment capability
- ◆ Remote On/Off
- ◆ Fixed Switching Frequency
- ◆ International Safety Approvals
- ◆ Parallel Operation
- ◆ Low component count
- ◆ Signals to support N+1 redundancy



Key Market Segments & Applications



| Specifications | | 2V | 3.3V | 5V | 12V | 15V | 24V | 28V |
|-----------------------------|-------|---|-----------|------------|----------|-------|----------|-----------|
| Input range | VDC | 24V nom: 18-36, 48V nom: 36-76V, 110V nom: 82-185V, 280V nom: 200-400V | | | | | | |
| Output Voltage Adj. Range | VDC | 1.6~2.4 | 2.64~3.96 | 2~6 | 4.8~14.4 | 6~18 | 9.6~28.8 | 11.2~33.6 |
| Line Regulation | - | 0.4% or 20mV (whichever is greater) over entire input range with constant load | | | | | | |
| Load Regulation | - | 0.8% or 40mV (whichever is greater) from no load to full load with constant input line | | | | | | |
| Ripple and Noise | pk-pk | 100mV | | 150mV | | 240mV | 280mV | |
| Series Operation | - | Possible - Refer to installation manual | | | | | | |
| Over Voltage Protection | % | 150 - 180% | | 125 - 145% | | | | |
| Overload Protection | % | Approximately 105 - 140%, automatic recovery | | | | | | |
| Remote On/Off | - | Low = ON, Open = OFF | | | | | | |
| Remote Sensing | - | Yes | | | | | | |
| Parallel operation | - | Using current share pin (PC). Will share within 5%, see app. notes for connection details | | | | | | |
| Inverter Good signal | - | Signal available for status of inverter | | | | | | |
| Auxiliary Bias Supply | - | 8V 10mA auxiliary voltage to supply power to interface circuits (AUX pin) | | | | | | |
| Thermal Protection | - | Internal sensing, self resetting | | | | | | |
| Cooling | - | Conduction or forced air. See application notes for cooling and heatsink selection | | | | | | |
| Operating Temperature Range | °C | Baseplate temperature -20°C to +85°C. -40°C start up possible - consult factory | | | | | | |
| Storage Temperature | °C | -40°C to +85°C | | | | | | |
| Temperature Coefficient | - | 0.02%/°C | | | | | | |
| Isolation | - | Input to output: 3000VAC, Input to Baseplate: 2500VAC(1) | | | | | | |
| Isolation Resistance | - | Output to Baseplate -100MOhm at 500VDC and 70%RH | | | | | | |
| Safety Agency Approval | - | UL60950-1, CSA60950-1, EN60950-1 and CE Mark. | | | | | | |
| Warranty | yrs | Two years | | | | | | |

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

(1) 24V input models input to output: 2kVAC; input to baseplate: 2kVAC

Not Recommended For New Designs

| Model Selector | | | | | | |
|----------------------------|--------------------|------------------|-------------|-------------|--------------|--------------|
| Nominal Output Voltage (V) | Output Current (A) | Output Power (W) | 24V input | 48V input | 110V input | 280V input |
| 2.0 | 15.0 | 30 | - | PH75F48-2 | PH75F110-2 | PH75F280-2 |
| 2.0 | 20.0 | 40 | PH100F24-2 | - | - | - |
| 2.0 | 30.0 | 60 | - | PH150F48-2 | PH150F110-2 | PH150F280-2 |
| 2.0 | 60.0 | 120 | - | PH300F48-2 | PH300F110-2 | PH300F280-2 |
| 3.3 | 15.0 | 45 | - | PH75F48-3 | PH75F110-3 | PH75F280-3 |
| 3.3 | 20.0 | 60 | PH100F24-3 | - | - | - |
| 3.3 | 30.0 | 90 | - | PH150F48-3 | PH150F110-3 | PH150F280-3 |
| 3.3 | 60.0 | 180 | - | PH300F48-3 | PH300F110-3 | PH300F280-3 |
| 5.0 | 15.0 | 75 | - | PH75F48-5 | PH75F110-5 | PH75F280-5 |
| 5.0 | 20.0 | 100 | PH100F24-5 | - | - | - |
| 5.0 | 30.0 | 150 | - | PH150F48-5 | PH150F110-5 | PH150F280-5 |
| 5.0 | 60.0 | 300 | - | PH300F48-5 | PH300F110-5 | PH300F280-5 |
| 12.0 | 6.3 | 75 | - | PH75F48-12 | PH75F110-12 | PH75F280-12 |
| 12.0 | 8.4 | 100 | PH100F24-12 | - | - | - |
| 12.0 | 12.5 | 150 | - | PH150F48-12 | PH150F110-12 | PH150F280-12 |
| 12.0 | 20.0 | 240 | PH300F24-12 | - | - | - |
| 12.0 | 25.0 | 300 | - | PH300F48-12 | PH300F110-12 | PH300F280-12 |
| 15.0 | 5.0 | 75 | - | PH75F48-15 | PH75F110-15 | PH75F280-15 |
| 15.0 | 6.7 | 100 | PH100F24-15 | - | - | - |
| 15.0 | 10.0 | 150 | - | PH150F48-15 | PH150F110-15 | PH150F280-15 |
| 15.0 | 20.0 | 300 | - | PH300F48-15 | PH300F110-15 | PH300F280-15 |
| 24.0 | 3.2 | 75 | - | PH75F48-24 | PH75F110-24 | PH75F280-24 |
| 24.0 | 4.2 | 100 | PH100F24-24 | - | - | - |
| 24.0 | 6.3 | 150 | - | PH150F48-24 | PH150F110-24 | PH150F280-24 |
| 24.0 | 12.6 | 300 | - | PH300F48-24 | PH300F110-24 | PH300F280-24 |
| 28.0 | 2.7 | 50 | - | PH75F48-28 | PH75F110-28 | PH75F280-28 |
| 28.0 | 3.6 | 100 | PH100F24-28 | - | - | - |
| 28.0 | 5.4 | 150 | - | PH150F48-28 | PH150F110-28 | PH150F280-28 |
| 28.0 | 10.8 | 300 | PH300F24-28 | PH300F48-28 | PH300F110-28 | PH300F280-28 |

| Pinout | |
|-----------------|---|
| Pin Description | Function |
| -Vin | Negative Input Terminal |
| +Vin | Positive Input Terminal |
| +S | Positive Remote sense |
| -S | Negative Remote sense |
| +V | Positive Output Terminal |
| -V | Negative Output Terminal |
| AUX | Bias voltage output (secondary reference) |
| IOG | DC Good |
| TRIM | Output adjustment trim pin |
| CNT | On/Off Control Terminal |
| SG | Signal (CNT RTN) |
| PC | Parallel control connection |

| Other DC-DC Products | |
|----------------------|---------------------------------------|
| PH Simple Func. | 50 - 300W, lower cost version of PH |
| PAQ, PAH, PAF | 50 - 700W quarter, half & full bricks |
| PX | 10-40W, 12-48V input, DC-DC |
| CC-E | 1.5-30W, 5-48V input, DC-DC |

For Additional Information, please visit us.tdk-lambda.com/lp/products/ph-series-ff.htm



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