

## 1200 to 2500W Front End Power Supplies

### Features

- ◆ 1U High
- ◆ Up to 10,000W in 19" Rack
- ◆ Hot Swap Capable
- ◆ High Efficiency
- ◆ Full array of signals



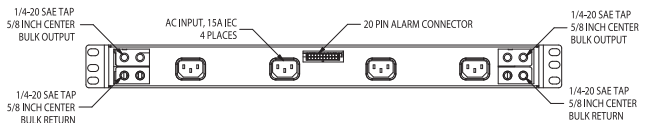
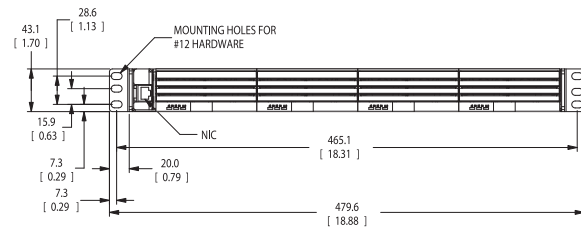
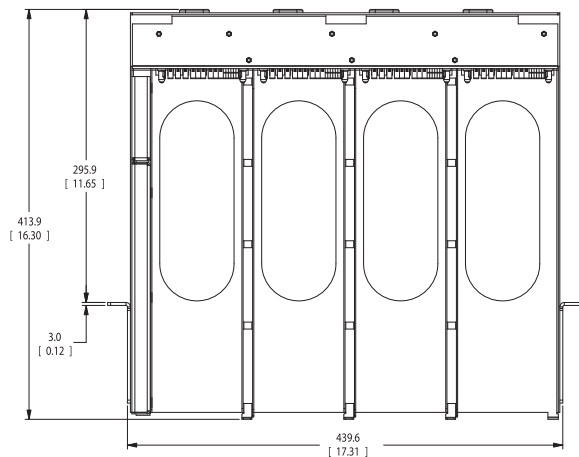
### Key Market Segments & Applications



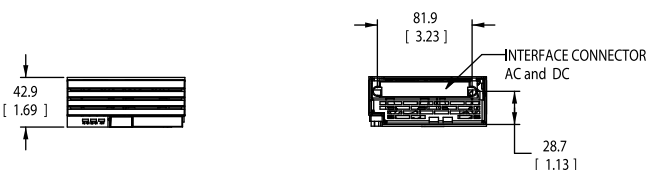
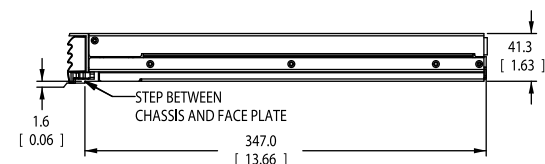
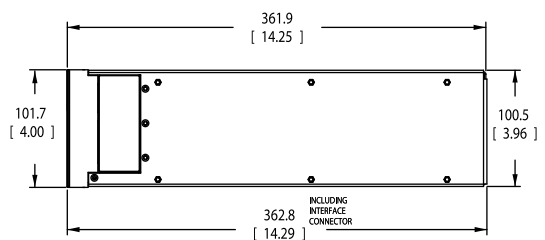
| Specifications               |         |                                                                               |          |          |                         |
|------------------------------|---------|-------------------------------------------------------------------------------|----------|----------|-------------------------|
| Model                        |         | TH120012 <sup>(5)</sup>                                                       | TH120024 | TH120048 | TH250048 <sup>(5)</sup> |
| Nominal Voltage              | V       | 12                                                                            | 24       | 48       | 48                      |
| Output Voltage Range         | VDC     | 10.5-14                                                                       | 21-28    | 42-56    | 42-56                   |
| Total Regulation             | %       | ±1%                                                                           |          |          |                         |
| Output Current               | A(max)  | 100                                                                           | 50       | 25       | 50                      |
| Current limit                | (1) A   | 120                                                                           | 60       | 30       | 60                      |
| Short Circuit Current        | %       | 150                                                                           | 75       | 37       | 75                      |
| Output Noise                 | mV      | 250mV peak to peak (10kHz to 20MHz)                                           |          |          |                         |
| Output Rise Time             | ms      | 100-400 ms                                                                    |          |          |                         |
| Dynamic Response             | %       | 3% in 10ms for a 10-100% load change                                          |          |          |                         |
| Overvoltage Protection       | (1) VDC | 13-15                                                                         | 27-30    | 50-60    | 50-60                   |
| Load Sharing                 | %       | ±5%                                                                           |          |          |                         |
| I2C Programming              | -       | Set output Volt, Monitors AC present, Converter OK, Thermal Profile, Fan fail |          |          |                         |
| Signals (opto isolated)      | (4) -   | AC Fail, Module Alarm, Temp Alarm                                             |          |          |                         |
| Remote On/Off                | V       | Shuts down outputs by applying 3.3 to 5V                                      |          |          |                         |
| Auxiliary Output             | (3) -   | 12V@100mA                                                                     |          |          |                         |
| AC Input                     | VAC     | 90-264                                                                        | 90-264   | 90-264   | 180-264                 |
| Input Frequency              | Hz      | 47-63                                                                         |          |          |                         |
| Power Factor                 | -       | 0.99 typ. @ 230VAC, full load, meets EN61000-3-2                              |          |          |                         |
| Inrush Current               | (2) A   | 30 Amps peak                                                                  |          |          |                         |
| Efficiency (at full load)    | %       | 88                                                                            | 90       | 92       | 93                      |
| Immunity                     | -       | EN61000-4-2,-3,-4,-5,-6,-8,-11                                                |          |          |                         |
| EMC (conducted and radiated) | -       | EN55022, Level B, FCC Class B                                                 |          |          |                         |
| Operating Temperature        | °C      | -40 to 70, derate linearly to 60% load above 50°C                             |          |          |                         |
| Storage Temperature          | °C      | -40 to 85                                                                     |          |          |                         |
| Humidity                     | %       | 5 to 95 (non-condensing)                                                      |          |          |                         |
| Altitude                     | ft      | -200 to 8000                                                                  |          |          |                         |
| Shock                        | G       | IEC68-2-27, Mil-STD-810E, 20G                                                 |          |          |                         |
| Vibration                    | Hz      | IEC68-2-64 (random) 20-2000Hz, 30 minutes                                     |          |          |                         |
| Safety Agency                | -       | UL60950, CSA 22.2 No. 60950-00, EN60950, CE Mark                              |          |          |                         |
| Size (L x W x H)             | in.     | 14.25 x 4.00 x 1.69 (stand alone), 16.30 x 17.31 x 1.7 (THR4 Rack)            |          |          |                         |
| Weight                       | lbs     | Power Module 6lbs, Rack 9lbs                                                  |          |          |                         |
| Warranty                     | yrs     | Two Years                                                                     |          |          |                         |

- 1 Adjustable via i2C or through Lambda Network Interface Card
- 2 Excludes Xcaps in the EMC input filter
- 3 Output operates independent of main DC output and is referenced to (-)Vout
- 4 All three signals share a common return - logic ground
- 5 Use rack model THR400

## THR4 Rack Outline Drawing



## TH Module Outline Drawing



## Other Industrial Products

PX, CC-E, PAQ, PAH, PAF DC-DC Converters  
FPS1000 1U 1kW to 3kW Low Cost Front End

## Models

| Model                   | Output Voltage                                                                                         | Output Current | Maximum Power |
|-------------------------|--------------------------------------------------------------------------------------------------------|----------------|---------------|
| TH120012 <sup>(5)</sup> | 12V                                                                                                    | 100A           | 1200W         |
| TH120024                | 24V                                                                                                    | 50A            | 1250W         |
| TH120048                | 48V                                                                                                    | 25A            | 1250W         |
| TH250048 <sup>(5)</sup> | 48V                                                                                                    | 50A            | 2500W         |
| THR4                    | 19" Rack holds up to 4 TH Modules;<br>200A maximum output current.                                     |                |               |
| THR400                  | 19" Rack holds up to 4 TH modules;<br>400A maximum output current. Screw<br>terminal input connection. |                |               |
| THRBP                   | Blanking panel for one module slot.                                                                    |                |               |
| THR4NIC                 | Network interface card for 48V systems.                                                                |                |               |
| THR4NIC12               | Network interface card for 12V systems.                                                                |                |               |
| THR4NIC24               | Network interface card for 24V systems.                                                                |                |               |
| TLCK232                 | RS232 Communications kit.                                                                              |                |               |
| TLRC01                  | Signal cable                                                                                           |                |               |

## Alarm Connector

|                 |                           |
|-----------------|---------------------------|
| Mating Housing  | Molex MicroFit 43025-2000 |
| Mating Terminal | Molex MicroFit 43030-0002 |

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



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