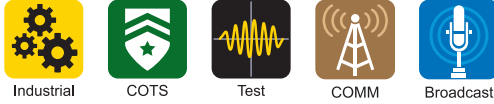


2500W 1U Front End Power Supplies

<https://product.tdk.com/en/power/hfe>
www.emea.lambda.tdk.com/uk/products/hfe



The HFE2500 AC-DC industrial power supplies can be operated in a hot-swap redundant configuration, or used to provide up to 9,500W of bulk power. Up to four power supplies can be fitted in a variety of 19" 1U high racks, for configuration as a single output. The HFE supplies have internal ORing MOSFETs and current share for automatic parallel operation. Communication is possible with the power supplies using the optional isolated PMBus™ (I²C) interface or a plug-in LAN module. AC fail, DC good, remote output adjust, remote on/off and a 12V auxiliary output are fitted as standard.

| Features | Benefits |
|---|--|
| • Internal ORing MOSFET and Current Share | • Suitable For N+1 Redundancy |
| • Up to 9500W in 1U Rack | • Utilizes Less System Space |
| • Full Array of Signals Available | • Easy Remote Monitoring |
| • PMBus™ (I ² C) and LAN options | • Industry Standard Communication Interfaces |
| • Analog Output Adjustment | • Simple External Resistance or Voltage Connection |

| Model Selector | | | | | | |
|----------------|--------------------|-------------------------------------|------------------------------|----------------------------|---|---|
| Model | Output Voltage (V) | Adjustment Range (V) ⁽¹⁾ | Max Current (A) (Vin>180Vac) | Max Power (W) (Vin>180Vac) | Max Current (A) (100<Vin<170Vac) ⁽²⁾ | Max Power (W) (100<Vin<170Vac) ⁽²⁾ |
| HFE2500-12 | 12 | 9.6 - 13.2 | 200 | 2400 | 125 | 1500 |
| HFE2500-24 | 24 | 19.2 - 29 | 104 | 2496 | 62.5 | 1500 |
| HFE2500-48 | 48 | 38.4V - 58 | 52 | 2496 | 31.25 | 1500 |

| HFE2500- | 12 | / | S |
|----------|---------------------------|---|---|
| | Output voltage 12, 24, 48 | | blank No PMBus™ / I ² C S PMBus™ / I ² C interface |

| Model Selector (Racks and LAN) | | |
|--------------------------------|--|-----------------------------|
| Model | Description | Maximum Rack Current |
| HFE2500-S1U | Four slot 19" rack, IEC320-C20 input connectors (4) | 320A each side (640A total) |
| HFE2500-S1U-TB | Four slot 19" rack, Terminal Block input connectors (4) | 320A each side (640A total) |
| HFE2500/BP | One slot blanking panel, three panels come with each rack | |
| HFE/C19-U-O | AC Power cord, 2.0m long, one per supply required | |
| HFE2500-LAN | Plug in LAN Module. Takes up one rack slot. For use with /S power supplies only. | |

| Specifications | | | | |
|---|-----|---|------------|------------|
| Model | | HFE2500-12 | HFE2500-24 | HFE2500-48 |
| Input | | | | |
| AC Input Voltage Range (Operating) ⁽²⁾ | Vac | 85 - 265, See model selector for power derating | | |
| Nominal Input Voltage Range | Vac | 100 - 240 (Note: Safety certified for 90 - 264Vac only) | | |
| Input Frequency | Hz | 47 - 63 | | |
| Input Current (Max) 100/230Vac | A | 15 / 12 | | |
| Inrush Current | A | <50 | | |
| Leakage Current 100/230Vac, 60Hz | mA | <0.75 / 1.5 | | |
| Power Factor Correction | - | Meets EN61000-3-2, PF > 0.98 at full load | | |
| Harmonic Compliance | - | Meets IEC61000-3-2 | | |
| Hold-Up Time 115/230Vac, 60Hz | ms | >10, 80% loading | | |
| Efficiency (3) | % | 90 / 92 | 90 / 92 | 91 / 93 |
| Conducted EMI | - | Designed to meet EN55032-B, FCC Class B, VCCI-B | | |
| Radiated EMI | - | Designed to meet EN55032-A, FCC Class A, VCCI-A | | |
| Immunity | - | See immunity section | | |
| Safety Certifications and Markings | - | IEC/UL/CSA/EN62368-1, 60950-1, CE Mark and UKCA Mark | | |

| Immunity | | | | |
|--------------------------------------|--------------|-------------------------|----------|-------|
| Test | Standard | Test Level | Criteria | Notes |
| ESD | EN61000-4-2 | 2,3 | B | - |
| Radiated Susceptibility | EN61000-4-3 | 2 | A | - |
| Electrical Fast Transient Burst | EN61000-4-4 | 2 | B | - |
| Surge | EN61000-4-5 | 3,4 | B | - |
| Conducted Susceptibility | EN61000-4-6 | 2 | A | - |
| Magnetic fields | EN61000-4-8 | 4 | A | - |
| Voltage Dips and Input Interruptions | EN61000-4-11 | >95% for 0.5 cycles | B | - |
| | | 30% for 25/30 cycles | C | - |
| | | >95% for 250/300 cycles | C | - |

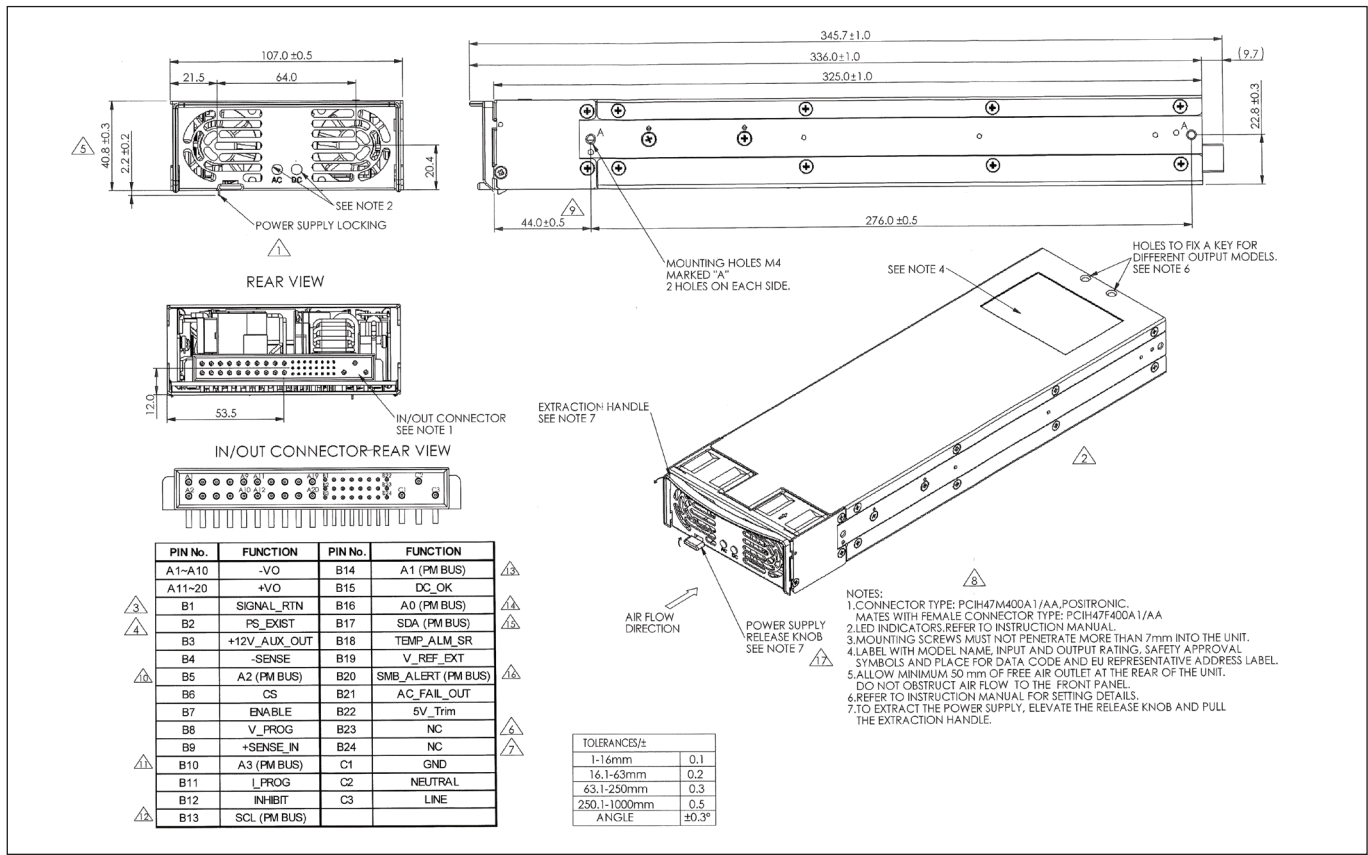
| Specifications | | | | |
|--------------------------------|--------|---|------------|------------|
| Model | | HFE2500-12 | HFE2500-24 | HFE2500-48 |
| Output | | | | |
| Line Regulation | mV | 30 | 60 | 120 |
| Load Regulation | mV | 60 | 120 | 240 |
| External Load Capacitance | uF | | 1000/A | |
| Ripple & Noise (1) | mV | 240 | 240 | 480 |
| Temperature Coefficient | %/°C | | <0.02 | |
| Minimum Load | - | No minimum load required | | |
| Overcurrent Protection | % | 105-115 | | |
| Overvoltage Protection (1) | % | 110% (Tracking). Cycle AC to reset or utilize Remote On/Off | | |
| Overtemperature Protection (1) | - | Shutdown with automatic reset. Warning signal provided | | |
| Remote Sense Compensation | V/wire | 0.25 | 0.5 | 1.0 |
| Remote On/Off | - | Unit ON: 0-0.6V or short, OFF: 2-15V or open circuit | | |
| Remote Adjust (1) | - | By either external 0-5V signal or 1k potentiometer | | |
| AC Fail Signal | - | Open Collector, ON when AC is within 85-270Vac | | |
| DC Good Signal | - | Open Collector, ON when output is above 85 to 95% of setpoint (tracking) | | |
| Auxiliary Output | - | 11.2 - 12.5V, 0.5A, 240mV ripple and noise | | |
| Communication | - | Optional isolated PMBus™ (I2C) interface (/S suffix) or plug-in LAN module. See model selectors | | |
| Indicators | - | AC OK: Green LED, DC OK / Fail: Green / Red LED | | |
| Parallel Operation (1) | - | Yes, single wire current share, up to 95% accuracy (load dependent), up to 8 units | | |

| Specifications | | | |
|----------------------------|------------|--|------------|
| Model | HFE2500-12 | HFE2500-24 | HFE2500-48 |
| Environmental | | | |
| Operating Temperature | °C | -10 to +50: 100% load; +50 to +60 derate: 2%/°C of load; +60 to +70 derate: 2.5%/°C of load. For models with reverse air contact factory. | |
| Storage Temperature | °C | -30 to +85 | |
| Humidity (non condensing) | %RH | Operating: 10 - 90, Storage: 10 - 95 | |
| Cooling | - | Internal variable speed fans. Airflow enters from the front. (4) | |
| Altitude | m | 3000 max. Derate output current 2%/100m above 2000m. | |
| Withstand Voltage | - | I/P to O/P 3kVac, I/P to GND 2kVac. O/P to GND: HFE2500-12, -24V 500Vac, HFE2500-48 2250Vdc 1 min, (POE) | |
| Isolation Resistance | MΩ | >100 at 25°C & 70%RH, Output to Ground 500Vdc | |
| Vibration (Non-operating)) | - | Meets IEC60068-2-64 (Basic Transportation) | |
| Shock (Non-operating) | - | Meets IEC60068-2-27 (Basic Transportation) | |
| Other | | | |
| Weight (Typ) | g | Power Supply: 2100, Rack: 5000 | |
| Size (LxWxH) | mm | Power supply: 325 x 107 x 40.1; Rack: 477.5 x 444.5 x 43.7 | |
| Size (LxWxH) | Inches | Power Supply: 12.8 x 4.21 x 1.61; Rack: 15.8 x 17.5 x 1.72 | |
| PMBus™ / I²C Interface (1) | - | Isolated from output, Add suffix /S, PMBus™ compatible | |
| MTBF - Telcordia | Hours | 219,557 | |
| Warranty | yrs | Three | |

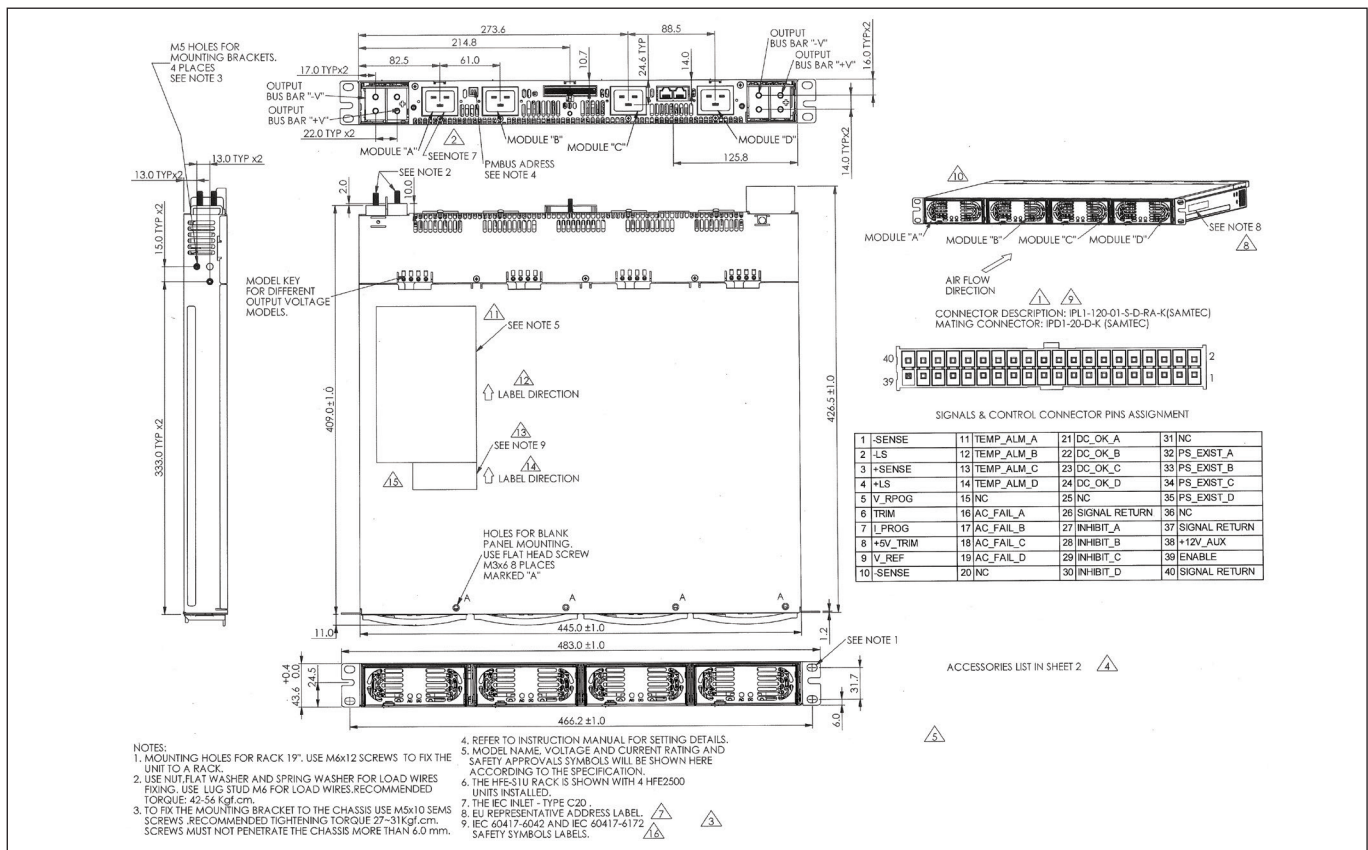
Notes

- (1) See installation manual for detailed specifications & test methods
- (2) Derate linearly 1.3%/V from 100Vac to 85Vac input
- (3) At 75% load, 100 / 230Vac input
- (4) Reverse air - contact factory

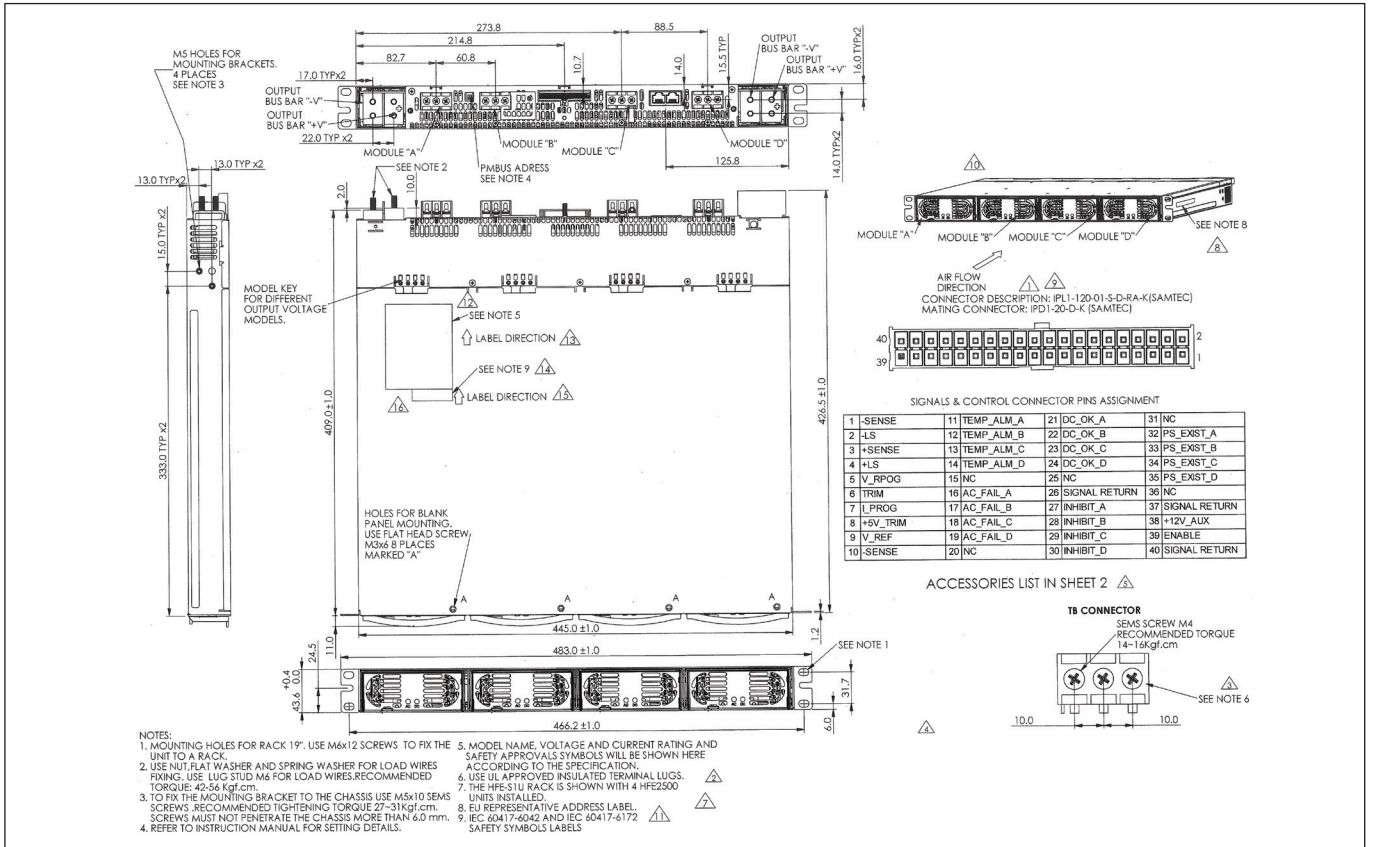
Outline Drawing HFE2500



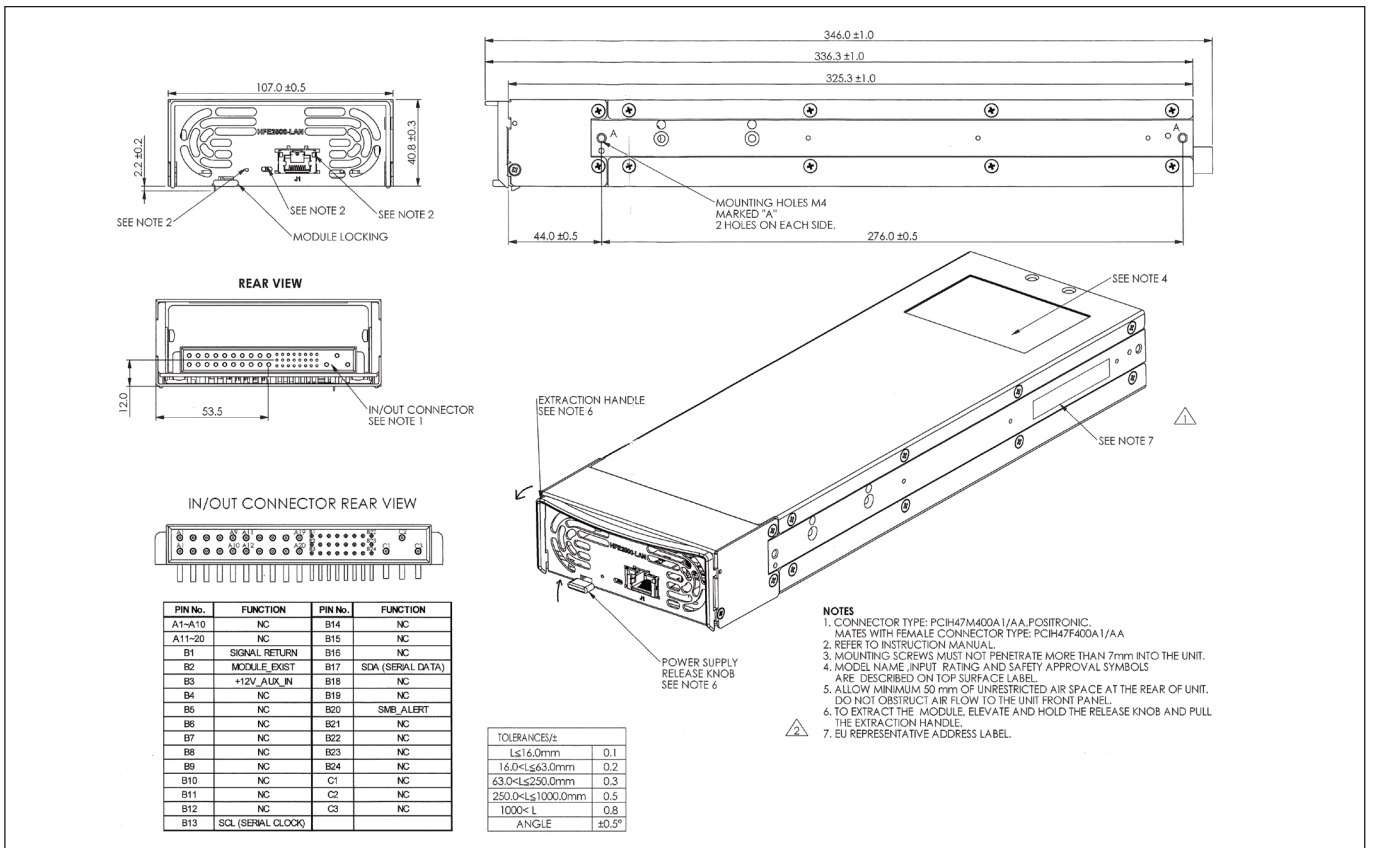
Outline Drawing HFE2500-S1U



Outline Drawing HFE2500-S1U-TB



Outline Drawing HFE2500-LAN





TDK-Lambda France SAS

Tel: +33 1 60 12 71 65
 ttf.fr.powersolutions@tdk.com
 www.emea.lambda.tdk.com/fr



Italy Sales Office

Tel: +39 02 61 29 38 63
 ttf.it.powersolutions@tdk.com
 www.emea.lambda.tdk.com/it



Netherlands

ttf.nl.powersolutions@tdk.com
 www.emea.lambda.tdk.com/nl



TDK-Lambda Germany GmbH

Tel: +49 7841 666 0
 tlg.powersolutions@tdk.com
 www.emea.lambda.tdk.com/de



Austria Sales Office

Tel: +43 2256 655 84
 tlg.at.powersolutions@tdk.com
 www.emea.lambda.tdk.com/at



Switzerland Sales Office

Tel: +41 44 850 53 53
 tlg.ch.powersolutions@tdk.com
 www.emea.lambda.tdk.com/ch



Nordic Sales Office

Tel: +45 8853 8086
 tlg.dk.powersolutions@tdk.com
 www.emea.lambda.tdk.com/dk



TDK-Lambda UK Ltd.

Tel: +44 (0) 12 71 85 66 66
 tlu.powersolutions@tdk.com
 www.emea.lambda.tdk.com/uk



TDK-Lambda Ltd.

Tel: +9 723 902 4333
 tli.powersolutions@tdk.com
 www.emea.lambda.tdk.com/il-en



TDK-Lambda Americas

Tel: +1 800-LAMBDA-4 or 1-800-526-2324
 tia.powersolutions@tdk.com
 www.us.lambda.tdk.com



TDK Electronics do Brasil Ltda

Tel: +55 11 3289-9599
 sales.br@tdk-electronics.tdk.com
 www.tdk-electronics.tdk.com/en



TDK-Lambda Corporation

Tel: +81-3-6778-1113
 www.jp.lambda.tdk.com



TDK-Lambda (China) Electronics Co. Ltd.

Tel: +86 21 6485-0777
 tlc.powersolutions@tdk.com
 www.lambda.tdk.com.cn



TDK-Lambda Singapore Pte Ltd.

Tel: +65 6251 7211
 tis.marketing@tdk.com
 www.sg.lambda.tdk.com



TDK India Private Limited, Power Supply Division

Tel: +91 80 4039-0660
 mathew.philip@tdk.com
 www.sg.lambda.tdk.com

