

Power Supplies

Air cooled, 98% efficient, 45kW AC-DC modular power supply provides 385Vdc for distributed power and DC Microgrids

June 2021

TDK Corporation (TSE 6762) announces the introduction of the TDK-Lambda brand TPF45000-385 non-isolated modular AC-DC power supply. Developed for use in distributed power architectures (DPA) and DC Microgrids, the 98% highly efficient TPF45000 provides a regulated 385Vdc output with a current of up to 117A. Low internal losses enables the use of cooling by fans, avoiding the complexity of water cooling. This industrial grade product is suitable for use in semiconductor test and burn in systems, LED based horticultural lighting and DC Microgrids.

Comprising of up to ten 4.5kW modules, the series can deliver up to 45kW of output power in a less than 3U high package, and operates from a wide range Delta or Wye 360 - 528Vac three phase input. The unit can operate at full load in ambient temperatures from -10 to 50°C (-20°C start-up). The enclosure measures 450mm wide (excluding side rack mount flanges) 113mm high and has a depth of 533mm. The weight of the product is 30kg.

The TPF45000 is fully featured with DC Good, dropped phase, over temperature and fault alarm signals, remote on/off and a 13 to 15V 0.5A auxiliary output. PMBus™ and USB communications interfaces allows remote monitoring of the input voltage, output voltage, output current, internal temperature, status signals and fan. In addition, the remote on/off can be programmed by the PMBus™.

The power supply has 2kVac primary to ground isolation, is certified to IEC/EN/UL/CSA 62368-1 and carries the CE mark for the Low Voltage, EMC and RoHS Directives. The TPF45000 also complies with EN55032-A (conducted and radiated emissions), SEMI F47-0706 (line dips) and IEC 61000-4 (immunity).

More information can be obtained at the following TDK-Lambda Americas website <https://product.tdk.com/en/power/tpf>, or by calling 800-LAMBDA-4. Product availability for the TPF45000-385 power supply can be found via the link to TDK-Lambda's distributor network (see "Check Distributor Inventory") at <https://www.us.lambda.tdk.com>.

Main applications

Semiconductor fabrication, distributed power architectures, horticultural LED lighting and DC Microgrids

Main features and benefits

- Suitable for 400/440/480Vac 3-phase Delta and Wye inputs
- Up to 98% efficient
- PMBus™ and USB interfaces
- Less than 30kg weight
- -20°C (start-up) to +50°C operation

Key data

Model		TPF45000-385
Input voltage range	Vac	360 - 528VAC, Delta or Wye 3 phase
Output voltage	Vdc	385, non-isolated
Maximum output power	kW	4.5 to 45
Efficiency	%	Up to 98%
Communications	-	PMBus™ and USB interfaces
Safety Certifications	-	IEC / UL / CSA / EN 62368-1
Size (W x H x D)	mm	450 x 113 x 533mm (excluding side mount flanges)

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2021, TDK posted total sales of USD 13.3 billion and employed about 129,000 people worldwide.

About TDK-Lambda Corporation

TDK-Lambda Corporation is a trusted, innovative leader and global supplier of highly reliable power conversion products for industrial and medical equipment worldwide. TDK-Lambda Corporation is aligned for fast responses to any customer need with R&D, manufacturing, sales and service locations in five key geographic regions, namely Japan, EMEA, Americas, China and ASEAN.

For more details, please pay a visit to: www.jp.lambda.tdk.com/en/

Contacts for regional media

Region	Contact	Phone	Mail
Americas	Tom Tillman TDK-Lambda Americas	(619) 575 4400	tom.tillman@us.tdk-lambda.com