

 Press Information

Power Supplies

TDK introduces 3-phase input 4500 W AC-DC power supplies capable of providing single or dual outputs

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TDK Corporation (TSE:6762) introduces the TDK-Lambda TPS4500 single- or dual-output industrial power supplies with a 4500 W rating. The modules can be configured to share the loads in any proportion, up to the rated output specifications, and are designed to operate in series or in parallel to increase the output voltage or power.

Capable of operating from a high voltage three-phase input in a 360 – 528 Vac Delta or Wye configuration, the TPS4500 series can be used in multiple applications, including test and measurement equipment, semiconductor fabrication, additive manufacturing, printers, lasers, and RF power amplifiers. The high voltage, three-phase input avoids the requirement for costly step-down transformers and assists phase load current balancing.

The TPS4500 series is fully featured with isolated AC Fail, DC Good and dropped phase signals, remote on/off, remote sense, and a 12 V, 0.3 A standby supply. The PMBus™ communications interface enables comprehensive remote monitoring and control. It provides real-time visibility of key parameters such as output voltage, output current, internal temperature, status signals, and fan speed. Additionally, PMBus™ allows programming of critical settings, including output voltage, overcurrent limit, and remote on/off functionality. Nominal outputs of 92 V, 49 A and 184 V, 24.5 A are fully adjustable via PMBus™: 92 V can be set from 10 – 96.5 V, and 184 V from 20 – 193 V.

The TPS4500 models have a typical efficiency of 93 %. The power supply can start up in -40 °C temperatures and operate in ambient temperatures from -10 to +70 °C, derating linearly from 100 % to 80 % load from 50° to 60 °C, and from 80 % to 55 % at 70 °C. The TPS4500 series' enclosure measures 107 x 85 x 335 mm (W x H x D), making it suitable for 2U high racking systems.

Safety certifications include IEC/UL/CSA/EN62368-1 and carry the CE and UKCA marking for the Low Voltage, EMC and RoHS Directives. The units also comply with EN55032-A conducted and radiated emissions standards in the end system, meet IEC 61000-4 immunity standards, plus SEMI F47-0706 at 480Vac nominal (Criteria B). The power supply has 3k Vac input to output, 2k Vac input to ground, and 500 Vdc output to ground isolation.

The TPS4500 series is designed to meet MIL-STD-810H, Method 514.8, Proc I, Category 1, 10 (vibration), and MIL-STD-810H, Method 516.8, Procedure I, IV (Logistics) and VI (shock) standards, ensuring exceptional durability and reliability in harsh environments.

Main applications

- Test and measurement equipment, semiconductor fabrication, additive manufacturing, printers, lasers, and RF power amplifiers.

Main features and benefits

- 93 % efficiency (typical)
- 360 - 528, Delta or Wye 3-phase inputs
- PMBus™ communications interface for remote programming and monitoring
- Compliant to IEC 62477-1 (OVC III)

Type			TPS4500-92/184
Nominal input voltage	Vac	360 - 528, Delta or Wye 3-phase	
Output voltages	Vdc	92 or 184 / single or dual	
Output power	W	4500	
Efficiency	%	Up to 93	
Size (W x H x D)	mm	107 x 85 x 335	
Safety certifications		IEC/UL/CSA/EN62368-1, CE Mark and UKCA Mark	

About TDK Corporation

TDK Corporation (TSE:6762) is a global technology company and innovation leader in the electronics industry, based in Tokyo, Japan. With the tagline "In Everything, Better" TDK aims to realize a better future across all aspects of life, industry, and society. For over 90 years, TDK has shaped the world from within; from the pioneering ferrite cores to cassette tapes that defined an era, to powering the digital age with advanced components, sensors, and batteries, leading the way towards a more sustainable future. United by TDK Venture Spirit, a start-up mentality built on visions, courage and mutual trust, TDK's passionate team members around the globe pursue better—for ourselves, customers, partners, and the world. Today, the state-of-the-art technologies of TDK are in everything, from industrial applications, energy systems, electric vehicles, to smartphones and gaming, at the core of modern life. TDK's comprehensive, innovative-driven portfolio includes cutting-edge passive components, sensors and sensor systems, power supplies, lithium-ion and solid-state batteries, magnetic heads, AI and enterprise software solutions, and more—featuring numerous market-leading products. These are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics, TDK-Lambda, TDK SensEI, and ATL. Positioning the AI ecosystem as a key strategic area, TDK leverages its global network across the automotive, information and communication technology, and industrial equipment sectors to expand its business in a wide range of fields. In fiscal 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 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/

Further information on the products can be found under tps4500_e.pdf

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