

## Power Supplies

# Compact industrial 3kW programmable power supplies offer constant voltage and constant current operation with single or three-phase inputs

Date: September 2024 (Updated October 2024 for seven year warranty)

TDK Corporation (TSE 6762) announces the introduction of the 3000 watt TDK-Lambda brand HWS3000 programmable AC-DC power supplies in a 270 x 150 x 61mm case size. The nominal output voltages (24V, 48V, 60V or 130V) and output currents are fully programmable (CV/CC) from zero up to their maximum rating. The HWS3000 series is available with an 85 - 265Vac single-phase or three-phase 170 - 265Vac input.

Output programming can be achieved using a serial RS485 interface (MODBus protocol) or analog 1 - 5V or 4 - 20mA signals. These very compact products also feature a variable speed fan with typically 45dB audible noise at <70% load, and a 25°C ambient temperature. The power supplies can be used in a wide range of applications, including test and measurement, semiconductor fabrication, RF amplifiers, laser machining, printing, and industrial equipment.

The HWS3000G can deliver 1500W with a low-line single-phase input voltage (85 to 132Vac) and 3000W at high-line (170 to 265Vac). The HWS3000GT provides 3000 watts from a three-phase input voltage of 170 - 265Vac. Four nominal output voltages, 24V, 48V, 60V and 130V, can be programmed to provide 0 - 28.8V, 0 - 52.8V, 0 - 66V, and 0 - 156V. Up to three units can be connected in series, or ten units in parallel. The output voltage slew rate can be digitally programmed and monitored, along with information regarding cumulative operating time, fault log, and product identification information. Digital programming can be performed without turning the power supply on.

A 5V 2A standby voltage, remote on/off, remote sense, fan fail and power good signals are fitted as standard. With efficiencies of up to 93%, internal heating is reduced, allowing reliable operation in the compact package size. The HWS3000 models can operate in -20°C (-40°C start-up) and up to +70°C ambient temperatures, derating linearly from 50°C to 50% load at +70°C. Both models have a seven-year warranty and conservatively rated electrolytic capacitor temperatures for long field life. The output terminals are user-configurable for horizontal or vertical connections.

The input to output isolation is 3000Vac, input to ground 2000Vac, and output to ground 1500Vac. The leakage current is <0.85mA and the maximum operating, transportation and storage altitude is 5000m (2000m for the IEC/EN62477-1 standard).

Safety certifications include IEC/EN/UL 62368-1 and IEC/EN62477-1 (OVC III) with CE/UKCA marking for the Low Voltage, EMC, and RoHS Directives. The units meet EN55032A, EN55011-A and FCC-A conducted and radiated emissions. The series also complies with the EN 61000-3-2 harmonics and IEC 61000-4 immunity standards.

Further information on the products can be found at <https://product.tdk.com/en/power/hws-g>

### Main applications

- Test and measurement, semiconductor fabrication, RF amplifiers, laser machining, printing, and industrial equipment

### Main features and benefits

- Digital or analog programming (CV/CC)
- Series and/or parallel operation
- Compact 270 x 150 x 61mm (10.6 x 5.9 x 2.4") footprint
- Single and three-phase input models
- **Seven-year warranty**

#### Key data

Model		HWS3000G	HWS3000GT
Input voltage range	Vac	Single phase 85 - 265	Three-phase 170 - 265
Output voltages	Vdc	0 - 28.8, 0 - 52.8, 0 - 66 and 0 - 156	
Maximum output power	W	85 - 132: 1500, 170 - 265: 3000	3000
Efficiency	%	Up to 93	
Safety certifications	-	IEC/EN/UL/CSA62368-1, IEC/EN62477-1 (OVC III)	
Size (LxWxH)	mm	270 x 150 x 61	
Programming	-	RS485 interface (MODBus) or analog 1-5V or 4-20mA signals	
Other features	-	5V 2A standby voltage, remote on/off and power good signaling	
Warranty	-	<b>Seven years</b>	

**Note:** The warranty period has been extended from 5 years to 7 years after reviewing the 20-year electrolytic capacitor life calculations.

#### 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 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 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/](http://www.jp.lambda.tdk.com/en/)

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