

## Power Supplies

# Essential DIN-Rail power supplies for cost-efficient automation designs

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TDK Corporation (TSE 6762) announces the introduction of the single-phase D1SE series to TDK-Lambda's extensive range of DIN-rail mount power supplies. This entry-range series comes with an AC and DC input and is optimised for essential functionality, without compromising on performance or quality. The products are rated for continuous operation at 120W, 240W or 480W with a 24V output. With efficiencies of up to 95.1%, energy consumption and internal losses are reduced, lowering internal component temperatures and enhancing long-term product reliability.

Equipped with push-in wire terminations, the cost-effective D1SE can be quickly and reliably mounted, reducing installation times or even enabling robotic automation. In addition to a conventional 100 to 240Vac nominal input, the D1SE is safety certified for operation from a 93 to 300Vdc supply. Responding to market demand, the DC input is addressing applications where the energy supply is coming from a common DC bus voltage or a battery. Its compact size and easy installation make the D1SE series an optimal choice for a variety of control cabinets, machinery, and production systems.

The 120W rated model can deliver a boost power of 156W for 80 seconds, the 240W rated model 312W for 10 seconds, and the 480W rated model 552W for an extended 200 seconds. The 24V output can be adjusted from 22.5V to 29V to allow compensation for cable drops, redundancy modules, or setting to non-standard output voltages. All three power supplies are available with or without a DC-OK contact. For applications in challenging environments, a printed circuit board coating option is available.

The units are housed in a rugged metal enclosure with a width of 38mm for the 120W models, 44mm for the 240W, and 60mm for the 480W. This narrow design saves space on the DIN-rail for other components, reducing cost. All models feature a high-quality electrolytic capacitor which extends lifetime, further reducing costs for users. The warranty is three years.

Input-to-output isolation is 5000Vdc, input-to-ground 3100Vdc, and output-to-ground is 750Vdc. The D1SE models are convection-cooled and rated for operation in -25 to +70°C ambient temperatures, with derating above 55°C.

The series is certified to IEC/EN/UL/CSA 61010-1, 61010-2-201, 62368-1 (Ed.3) and IS 13252-1 standards and is CE and UKCA marked to the Low Voltage, EMC and RoHS Directives. It meets EN 55011-B and CISPR11-B radiated and conducted emissions. The series also complies with EN 61000-3-2 (Class A) harmonic currents and IEC/EN 61000-6-2 immunity standards.

Further information on the products can be found at [D1SE120 – D1SE480 Series Datasheet \(tdk.com\)](#)

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### Main applications

- Conventional switch cabinets, stand-alone machinery and industrial systems, information and communications technology.

### Main features and benefits

- Boost power capability up to 130%
- Push-in wiring terminations
- High efficiency, up to 95.1%
- Narrow case widths
- Long E-capacitor and field life

### Key data

Model		D1SE120-24-Ax	D1SE240-24-Ax	D1SE480-24-Ax
Input voltage (nominal)	Vac	100 to 240		
Input voltage	Vdc	93 to 300		
Output voltage	Vdc	24		
Output power	W	120	240	480
Boost Power	W	156 for 80s	312 for 10s	552 for 200s
Efficiency	%	Up to 95.1		
Size (W x H x D)	mm	38 x 125 x 110	44 x 125 x 127	60 x 125 x 129
Safety Certifications		IEC/EN/UL/CSA 61010-1, 61010-2-201, 62368-1 (Ed.3), IS 13252-1		

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### 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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