Power Supplies

Class I & II medical and industrial 3 x 5” 400W power supplies deliver 250W convection/conduction cooled, with up to 400W peaks for 30 minutes

July 2020

TDK Corporation (TSE 6762) announces the introduction of the TDK-Lambda brand CUS400M AC-DC power supply series in the industry standard 3 x 5” footprint. Rated at 400W with forced air, the series can continuously deliver 250W, with peaks of up to 400W for 30 minutes. when convection or conduction cooled. This is considerably longer than many products on the market. These power supplies are ideal for applications with occasional peak demands, including hospital beds, dental chairs and other motor driven products.

The CUS400M meets curve B conducted and radiated EMI in either a Class I or Class II (double insulated) construction, without the need for external filtering of shielding. The CUS400M series accepts an 85 to 264Vac input and is available with 12V and 24V outputs initially, with 15V, 19V, 28V, 36V and 48V models following shortly. A 5V 2A or 12V 0.83A standby voltage, remote on/off, remote sense, DC Good and AC Fail signals can be specified as an option.

The power supplies are available with multiple mechanical configurations. Open frame, metal baseplate, U channel and enclosed models are in production now, with the top fan version later in the year. The open frame CUS400M measures 77.5mm x 128mm x 39.5mm (W x L x H). The operating ambient temperature is -20°C (-30°C start-up) to +70°C, derating linearly above 50°C to 50% load.

The CUS400M has an input to output isolation of 4,000Vac (2 x MoPP), an input to ground isolation of 1,500Vac (1 x MoPP) and an output to ground isolation of 1,500Vac (1 x MoPP) for suitability in B and BF rated medical equipment. The leakage current is <250µA and touch current is <100µA. The maximum operating, transportation and storage altitude is 5,000m.

Safety certifications include IEC/EN/ES 60601-1, IEC/EN/UL 62368-1 and IEC/EN/UL 60950-1 with CE marking for the Low Voltage, EMC and RoHS Directives. The units also comply with EN 55011-B and EN 55032-B conducted and radiated emissions (Class I and II), and meet the EN 61000-3-2 harmonics, IEC60601-1-2 Edition 4 and IEC 61000-4 immunity standards

More information on the full 30 to 1500W rated CUS-M series, including distributor inventory, can be obtained from the TDK-Lambda Americas website at www.us.lambda.tdk.com.

Main applications
Home healthcare, medical, dental, test and measurement, broadcast and industrial equipment

Main features and benefits

- 400W with forced air cooling
- 250W convection / conduction cooled with a 400W peak for extended time periods
- Medical certifications (2 x MoPP input to output)
- Class B conducted and radiated EMI
- Suitable for Class I and Class II installations
- Compact 3 x 5” footprint

Key data

Model		CUS400M
Input voltage range	Vac	85 - 264Vac
Output voltages	Vdc	12V, 15V, 24V, 28V, 36V and 48V
Output power	W	400W forced air, 250W (400W peak) convection/conduction cooled
Efficiency	%	Up to 94%
Optional features	-	5V / 12V standby, remote on/off, remote sense, AC fail and DC good signals
Safety Certifications	-	IEC/EN/ES 60601-1, IEC/EN/UL 62368-1, IEC/EN/UL 60950-1
Size (L x W x H)	mm	128 x 77.5 x 39.5mm (open frame models)
Warranty	-	Five years

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 2020, TDK posted total sales of USD 12.5 billion and employed about 107,000 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/

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