



COSEL announces 1.2 kW high power density, low profile, onboard AC/DC power module for industrial and medical applications

Press Release

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- Low profile with baseplate 12.7 mm (0.5 inch)
- High power density 152 W/In³ - 9.3 W/cm³
- 36% smaller footprint than current 1kW industry standard
- Wide input voltage 85VAC to 305VAC
- Active current sharing and easy paralleling - up to 9 units
- CVCC with easy constant current mode for battery charger
- High reliability and 5-year warranty

COSEL Co, Ltd (6905: Tokyo) today announced the addition of a 1.2 kW, compact and low profile, onboard AC/DC power module. Designed for demanding worldwide applications, the TUNS1200 has an input voltage range of 85VAC to 305VAC and is certified to meet industrial and medical standards. Packaged in a sealed plastic case with aluminum baseplate the TUNS1200 has a height of just 12.7 mm (0.5") and weighs less than 280 grams. Compared to existing 1kW onboard AC/DC modules, the TUNS1200's footprint is 36% smaller while delivering 21% more power. The unit can be operated from -40C to +100C baseplate temperatures. TUNS1200 modules can be paralleled up to nine units (up to 9,750W), their output voltage can be adjusted down to zero volts, and is easily set to constant voltage or constant current operating modes.

Thanks to COSEL's high efficiency topology, the TUNS1200 delivers 21% more power in a 36% smaller footprint than existing AC/DC modules.

Packaged in sealed housing with an aluminum baseplate, the TUNS1200 is the latest member of COSEL's TUNS series, which includes a 50W ¼ brick, 100W ½ brick and 300, 500 and 700W full brick units. Designed with the latest technology, the TUNS1200 delivers its full power up to +85 degrees centigrade baseplate temperature, and is able to operate safely at up to +100 degrees centigrade with a derating.



Designed for worldwide applications, TUNS1200 power supplies have an input voltage range of 85VAC to 305VAC single phase, and conform to the safety standards input voltage range of 100-277 VAC (50/60Hz).

The TUNS1200 series embraces three output voltages versions: TUNS1200F12 (12V / 84A), TUNS1200F28 (28V / 43A) and the TUNS1200F48 (48V / 25A). Output voltage can be adjusted +/- 20% (-20% /+10% for the 48V) using the trimming pin, though the TUNS1200 series include an active Voltage Trimming input (VTRM) making it possible to adjust the output voltage down to zero by applying an external voltage source. Using the latest technology, the TUNS1200 has a power efficiency of 92% typical and a power factor of 0.98 at 100V.

For applications such as battery chargers requiring constant current (CC), the TUNS1200 includes a dedicated pin (ITRM) and by applying a DC voltage or connecting a resistor to the -S terminal it is possible to set the constant current from just above zero to the desired current.

In applications where more power is required and physical height is an issue it is possible to connect up to nine TUNS1200s in parallel, delivering up to 9,750W in conduction cooling mode. When connected units in parallel and utilizing the Current Balance (CB) pin, the COSEL active current sharing ensures that each module delivers the correct amount of current to the load.

Optimized for conduction cooling, the TUNS1200 series can be operated within a temperature range of -40 to +100C baseplate, 20 - 95%RH (Non condensing). Depending on cooling and assembly method, a power derating may apply.

Housed in a sealed plastic case with aluminum baseplate, the TUNS1200 measures 117.3 x 86.8 x 12.7 mm (4.62 x 3.42 x 0.5 inch). The unit includes four mounting holes for fixing the unit to a cold plate or an additional heatsink. The standard unit comes with M3 threaded mounting holes, and a 3.4 millimeter non-threaded mounting insert option is available (option T).

The units have a 3,000VAC input to output isolation voltage (2MOOP), 2,000VAC input to ground (1MOOP) and 500VAC output to ground. Overcurrent, overvoltage and thermal protection are included as standard.

Suitable for industrial and medical applications, the TUNS1200 complies with the safety agency approvals: UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), and complies with IEC60601-1-2



4th. The TUNS1200 includes an active filter, complying with the harmonic attenuation IEC61000-3-2 (Class A).

Benefiting from a design optimized for conduction cooling, the TUNS1200 is suitable for applications requiring a silent power solution such as in a surgery room. Equally, it is suitable for industrial applications when forced air ventilation is impossible due to environmental constraints. Attached to a chassis or cold plate, the TUNS1200 can deliver impressive power with a high level of reliability.

The power supply complies with the RoHS directive and is CE marked in accordance with the Low Voltage Directive.



COSEL TUNS1200 series - 1.2 kW high power density, low profile, onboard AC/DC power module for industrial and medical applications

Related URL:

<https://en.cosel.co.jp/product/powersupply/TUNS/>



About COSEL:

Established in Japan 1969, COSEL is one of the world's leading designers and manufacturers of high performance AC-DC Power Supplies, DC-DC Converters and EMI Filters. With quality, reliability & flexibility as our main focus, we pride ourselves on developing some of the highest quality and most reliable products seen anywhere in the world today. The Cosel Group is a \$253m global company employing some 810 staff with sales offices throughout Japan, Asia, Europe and North America. Our product range is aimed mostly at demanding applications within the Industrial, Factory Automation, Medical, Telecoms, Lighting, Audio/Broadcast & Renewable Energy sectors. A flexible approach with full in-house design means we deliver products using the very latest technology meeting the growing demands of our customers.

Note to the Editors:

The Cosel Group includes the European power specialist Powerbox International AB, which has been acquired June 25, 2018 by COSEL.

For more information contact:

Press and media relations

Patrick Le Fèvre
Phone: +46 (0) 158 703 00

Sales and technical requests

COSEL U.S.A. INC.

1546 Montague Expressway San Jose, CA 95131 USA
<https://www.coselusa.com/>
TEL: +1-408-980-5144
FREE: +1-800-888-3526
FAX: 1-408-980-9754
E-mail: sales@coselusa.com

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