

Powerbox's encapsulated power supply is ready for industrial system integration

Press Release
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Powerbox, one of Europe's largest power supply companies and a leading force for four decades in optimizing power solutions for demanding applications, has introduced a 100W encapsulated AC/DC power supply, ready for industrial systems integration. Aimed at compact industrial systems applications with limited space, the ENI100 has a narrow width of 31.7mm and a length of 140mm making it easy to fit in even the smallest of places. The unit's input voltage range is from 90 to 264VAC and the output delivers a fixed 24V at 4A. Based on Powerbox's flyback topology and proprietary 'Always On' regulation mode, the power supply intelligently 'self-controls' its output behavior to guarantee continuous operation and quick recovery in the case of a load or temperature fault. The ENI100 is CB certificated according to EN60950-1.

Industrial systems integrators often require small, compact power supplies able to operate in very specific environments such as high electrical fields with the threat of arcing, and that are simple to install, delivering a local safety voltage of 24VDC to the electronic equipment. In such conditions, no exposed metal parts are allowed, resulting in a plastic case with crimped terminals without a physical connection between the internal heatsink and the host equipment chassis. To optimize cooling the ENI100 includes an internal heatsink that distributes the heat to minimize hot spots, simultaneously maximizing the area of contact with the plastic case.

Powerbox's type ENI100-5138 power supply has a nominal input of 100 to 240VAC although it can be operated with a small derating between 90 and 264VAC. The output voltage is factory adjusted to 24VDC and delivers an output current of 4A. The output is protected against over-current and short-circuit damage by a current limitation operating in 'Always On' mode, guaranteeing that the unit will always return to full operation after the output fault is removed. Powerbox's 'Always On' technology also adjusts the available output power while taking cognizance of the unit's internal temperature in order to keep it in a safe operating zone.

"Industrial system integration often requires compact power supplies that are ready to use, with a footprint as small as possible." says Martin Fredmark, Powerbox's VP Product Management. "The ENI100 is mechanically designed to optimize space and to guarantee safe operation in high electrical field applications."

With safety in mind, the ENI100 has a leakage current less than 100 μ A, which for an industrial product is very low and complies with a level of isolation Class I (double isolation between the input and output). The ENI100 fulfills safety standards IEC 60950-1 and is designed to meet UL508.

The unit is CB certified according to IEC 60950-1 and complies with related EMC standards and class B. Within the range of applications, the ENI100 can be

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exposed to electrical arcs and is verified to comply with the ESD susceptibility IEC61000-4-2 +/-6kV contact discharge, and +/-8kV air discharge.

Able to be installed outdoors or exposed to a humid atmosphere (5 to 95% non-condensing) the ENI100 is designed to meet an ingress protection level of 54 (IP54). Input and output cables are fixed to the unit with crimped terminals for easy connection.

The footprint dimensions are 142mm x 31.70mm (5.60 x 1.25 inches) and the height is 54mm (2.12 inches). Exhibiting attention to detail, for rapid installation the base of the ENI100 has oblong mounting holes.

At 230VAC input voltage, an ambient temperature of 25 degrees C and 70% output load, the ENI100 has a predicted minimum lifetime of 80,000 hours. The power supply's typical efficiency at full load is 90% and at a low line voltage of 110VAC and with no load, the input power is just 300mW. A 12VDC / 8A output version is also available in standard, with other output voltages available on request. The product is RoHS II and REACH compliant.

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About Powerbox

Founded in 1974, with headquarters in Sweden and operations in 15 countries across four continents, Powerbox serves customers all around the globe. The company focuses on four major markets - industrial, medical, transportation/railway and defense - for which it designs and markets premium quality power conversion systems for demanding applications. Powerbox's mission is to use its expertise to increase customers' competitiveness by meeting all of their power needs. Every aspect of the company's business is focused on that goal, from the design of advanced components that go into products, through to high levels of customer service. Powerbox is recognized for technical innovations that reduce energy consumption and its ability to manage full product lifecycles while minimizing environmental impact.

For more information

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