

Powerbox's extra wide input quarter-brick DC/DC converters shorten time to market for very demanding applications

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- 100W market leading power density, 12:1 input, quarter brick format.
- Two input ranges covering from 9 to 160VDC
- EN50155 input voltage range, from 24V up to 110V (including continuous operation in the 14.4V brownout condition and 154V transients)
- +105C maximum base plate temperature
- Seven output voltages including 53V for PoE and 28V for defense applications
- Meets thermal shock and vibration requirements of EN61373 and MIL-STD-810F

Powerbox, one of Europe's largest power supply companies, and for more than four decades a leading force in optimizing power solutions for demanding applications, announces the launch of three new series of extra-wide input voltage range, 40W to 100W board-mounted DC/DC converters for the railway, transportation and defense industries. With an extra wide input voltage range of 14V to 160V and 9V to 75V, the PQAE40U (40W), PQAE60U (60W) and PQAE100U (100W) have been developed to provide systems designers with a single part number that is able to power a large range of applications (e.g. railway, industrial automation and automotive, remote radio-control), thus reducing inventory, time to market and documentation.

Designed for use in harsh environments, the PQAE40/60/100U series meet thermal shock and vibration requirements as specified in EN61373 and MIL-STD-810F, and also meet the fire and smoke EN45545-2 standard.

The PQAE40/60/100U series can be operated from -40 up to +105 degrees Celsius case temperature, meeting the very demanding, ruggedized requirements such as found in construction vehicles, mining equipment and heavy machinery process control.

Industrial and railway power designers often face very demanding challenges to optimize board power solutions when designing standardized equipment for worldwide operation on a very large variety of system bus voltages. In the railway industry, designers are permanently seeking the best power architecture to operate within the overall EN50155 input voltage range, from 24V up to 110V, including continuous operation in the 14.4V brownout condition and 154V transients.

To guarantee board power designers the highest level of flexibility, the PQAE40/60/100U series has been developed to deliver full and stable power within an extended input voltage range from 14V up to 160V. For lower bus voltages, the 9V to 75V versions cover the main battery voltages, sustaining peak voltage and continuous operation up to 75V.

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The PQAE40/60/100U series is available in seven output voltages of 5, 12, 15, 24, 28, 48 and 53V, and exhibit an efficiency figure of up to 90%, which considering the extra-wide 12:1 input range, is an outstanding efficiency figure.

All models within the PQAE40/60/100U series feature full protection level sets including over voltage, short-circuit, over load protection, and thermal shutdown. All units operate at a fixed switching frequency and including PI type input filters.

The operating temperature range is from -40 to +105 degrees C baseplate, and storage is from -55 to +125 degrees C.

Designed for ruggedized environments, the PQAE40/60/100U series meet thermal shock and vibration requirements as specified in EN61373 and MIL-STD-810F. All products comply with IEC/UL/EN-60950, EN62368-1 and the railway standards EN50155 and EN45545-2.

The PQAE40/60/100U series are available in an industry standard quarter-brick (36.8 x 57.9 x 12.7mm – 1.45 x 2.28 x 0.50 inches).

All units are housed in a plastic case with an aluminum baseplate and are potted with a UL94-V0 silicon compound.

Four optional heatsinks with different height and airflow orientations are available on request.

The 9 to 75VDC modules feature an input to output basic insulation of 2,250VDC and the 14 to 160VDC modules a reinforced insulation of 3,000VAC.

PQAE40/60/100U series converters are RoHS compliant.

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Related links:

PQAE40U

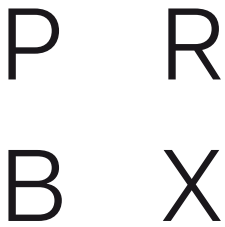
<https://www.prbx.com/product/pqae40u-series/>

PQAE60U

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PQAE100U

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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. Powerbox is a Cosel Group Company.

For more information

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Reference:

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