

DC/DC converter AER03, compact power supply for the railway

The Autronic AER03 series is a new series of railway-approved and isolated 3W DC/DC converters in potted DIP24 package. The brick solutions have been designed specifically for railway applications. The compact power supplies can be used as a highly reliable solution in railway systems, battery-operated devices, gauges and many critical applications in harsh environments for power conversion at the point of load.

The high degree of efficiency of up to 85% facilitates the design-in of the power supply; the EMC according to EN 50121-3-2 is met with small externally designed components. The modules are designed for use in a temperature range of -40°C to 85°C and therefore meet the requirements for temperature class TX. Other features are high I/O isolation with 3000VAC and a reinforced insulation.

The AER03 has some integrated protection functions. As a standard equipment, the DC/DC converter is protected against overcurrent and overvoltage, in addition, the converters are short-circuit proof. EMI filters are compliant with EN 55032 & FCC Part 15 Class A.

The small bricks meet the environmental requirements of shock/vibration according to EN 61373 category 1 class B, dry and damp heat according to EN 60068-2-1, 2, 30 and the EMC standard EN 50121-3-2 for railway vehicles, as well as the railway standard EN 50155. Fire protection tests according to EN 45545-2 have been carried out.

There are 15 versions available for railway voltages of 12/24 (9 ... 36) VDC, 36/48 (18 ... 75) VDC or 72/110 (40 ... 160) VDC, all with accurate output voltage regulation. The single output versions are available with voltages of 5V, 12V and 15V. The AER03 family is complemented by dual-output versions with output voltages of $\pm 12V$ and $\pm 15V$.

December 2017

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