



Your optimal
power supply
solutions



Powernet Oy is established in 1992 and is a trusted supplier of high-efficient, high-reliability power supplies and converters in global markets. Powernet's success is based on extensive R&D combined with strong sourcing and manufacturing competence. Our factory for prototypes, manufacturing ramp-up, low and medium volume production is located in Äänekoski, Finland. Our partners in Europe and Asia are used for high volume production. Powernet's quality system is assessed and certified as meeting the requirements of ISO9001 and ISO14001 standards.



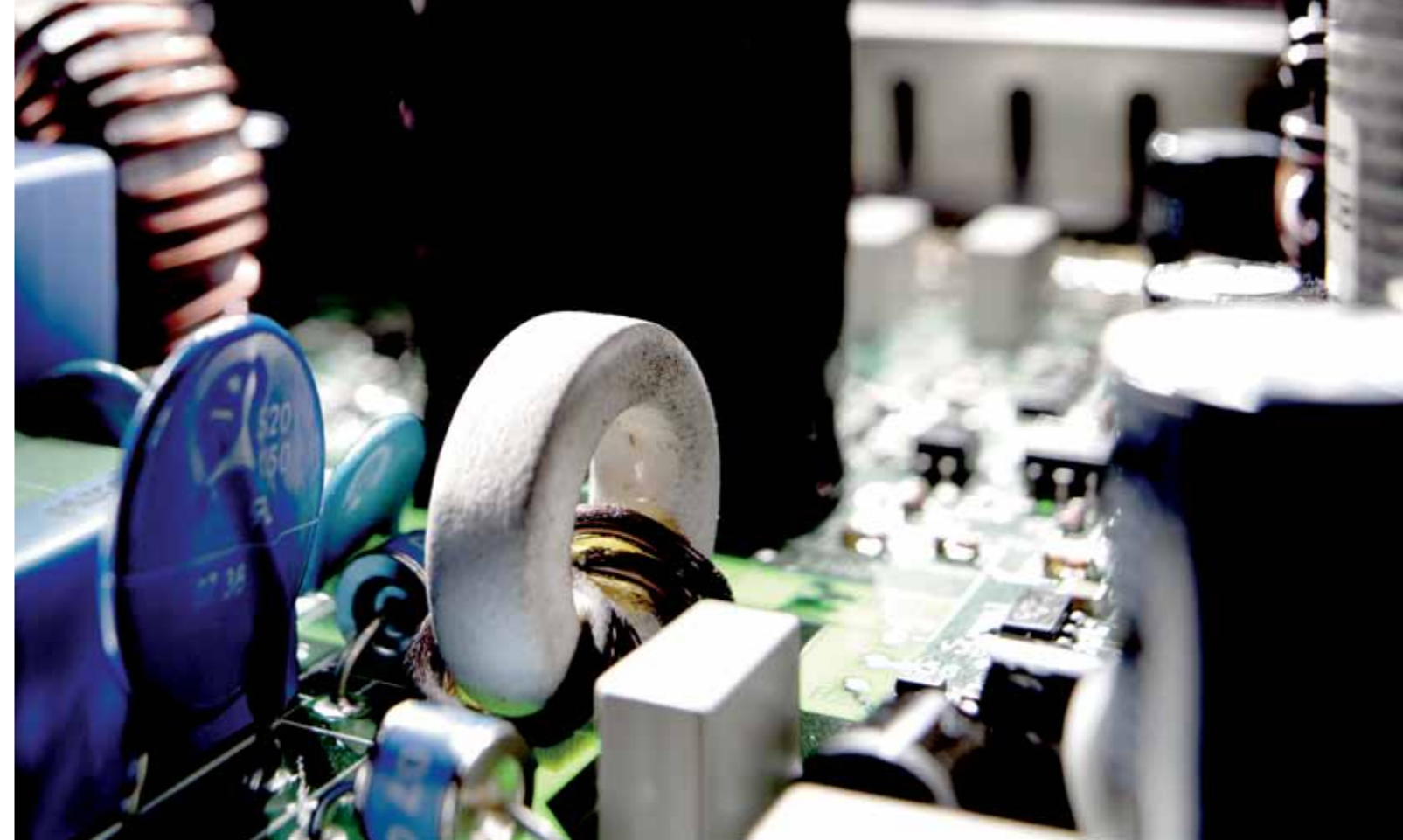
Your source of power

It is vital to be able to rely on the power source you choose for your solution - and for your customers alike. Do not settle for less than the optimal power source: a power supply designed and manufactured by Powernet.

With Powernet, high quality is a given. Our industry-leading power supplies are robust, reliable and designed for demanding applications and conditions. By choosing Powernet, you always receive the optimal solution that is tailored to your specific needs.

Our extensive experience of delivering to various industries and applications means we have an in-depth understanding of the environments your products operate in and of the challenges they face. Our constant investment in research guarantees we provide you with the latest technology and innovative product platforms. Utilise our application-specific know-how to gain full advantage of your own product development. With Powernet you can be rest assured your product's power supply will not let you down.

Our customers in various industries all share the same high demands for power supply reliability and overall lifecycle cost-efficiency. We mainly serve customers in industrial, renewable energy and transportation industries.



Your optimal power solutions made easy

When the standard is not enough for your product, turn to Powernet. We offer optimal solutions that are solid investments, tailored to your exact requirements. An optimal power supply is customised according to the specific needs of your application, yet built around an existing platform to reduce unnecessary design costs and to increase the reliability of your product. Our power supplies are always based on field-proven technologies.

Due to our exceptional life-cycle management service we can guarantee that our power supply will outlive your end product. Our solutions stand out in terms of reliability, efficiency, mechanics design and specific environmental requirements. In the past 20 years, we have produced hundreds of optimal designs for our customers.

the Powernet advantages

Continuous R&D

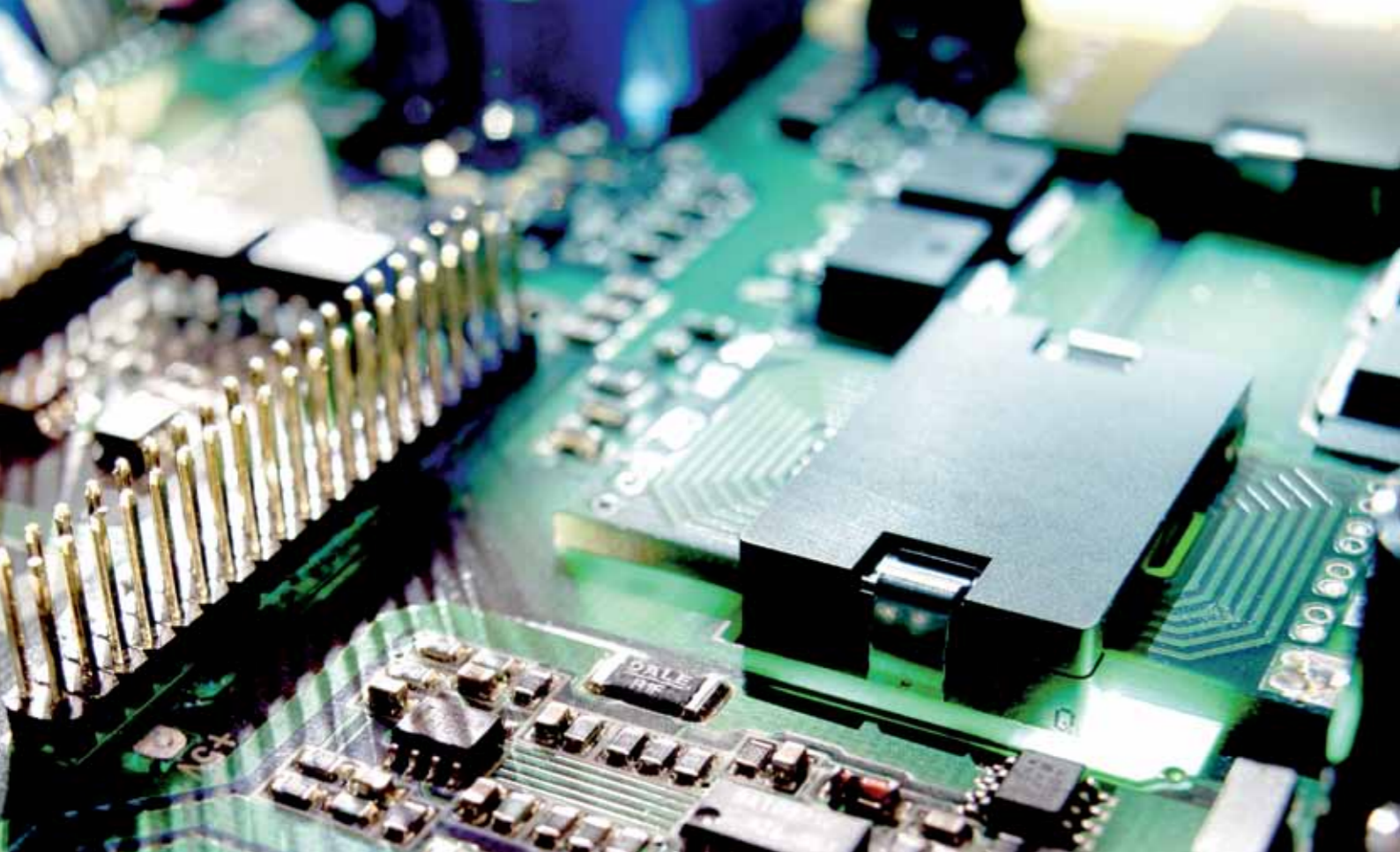
At Powernet, constant development means specialising in the latest component and design technology. We work hard to obtain our industry leadership in offering customers the latest technology and in understanding the various possibilities within our field. This means investing in the latest tools to ensure product quality, smooth and efficient projects and compliancy with customers' documentation and project management tools. For example, our latest research achievement is a state-of-the-art design platform that enables up to 96% power efficiency.

Efficient and Flexible Design Process

We offer our customers a fully transparent design process and the possibility to influence the design through review points. Our online project portal tools ensure reliable and up-to-date documentation of your project's progress. We base our custom designs on proven platforms to guarantee time schedules and risk-free completion of projects.

Lifecycle management

Powernet lifecycle management optimises the overall lifecycle cost of your end product. By actively seeking ways to improve your product performance, we provide you with design upgrades to meet the latest available technology, along with product service and maintenance. We can guarantee the supply of our services and improvements for products with lifetimes of over 20 years.



Powernet technology platforms:

Platform approach

The fact that we base our custom design solutions on existing platforms means overall efficiency for our customers. Field-proven technology platforms mean less risks with time schedules and performance. Powernet continuously invests in R&D with a special research focus on new design topologies and product platforms.

With our extensive portfolio of designed and manufactured, field-proven customised solutions, we can guarantee a solid, tested and functional product platform. Powernet platforms utilise our standard component libraries, ensuring minimum component lead times and high availability.

Our solutions can provide you with:

- Efficiency 96% (AC/DC, 24VDC with PFC)
- Statistical MTBF better than 3.000.000 hours
- Ambient temperatures -40°C ... +75°C
- Robust design available when needed



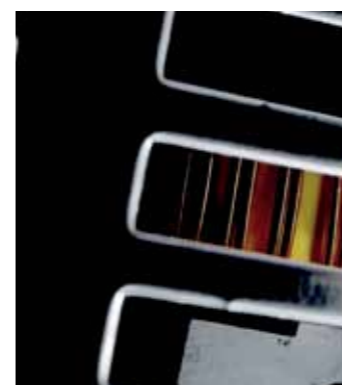
AC\DC

- Typical power ranges: 100W, 250W, 500W, 800W, 1600W and 3200W
- Input voltage ranges typically from 24 to 300VAC (1-phase) or up to 690VAC (3-phase)
- Microprocessor based digital control
- Self diagnostics and digital communication interfaces (CAN-bus)
- Output voltage ranges typically from 3 to 350VDC
- Efficiency up to 96%



DC\DC

- Typical power ranges: 100W, 250W, 500W, 800W, 1600W and 3200W
- DC/DC conversion for common back-up systems, from 12VDC up to 220VDC
- Special high voltage industrial/railway solutions
- DC/DC conversion for wind, fuel cell and solar applications
- power control feedback when input energy source limited
- Self diagnostics and communication interfaces (CAN-bus)



DC\AC

- Power range from 1KVA up to 90KVA 3-phase solutions (modular topology)
- Modular systems with n+1 redundancy, hot swappable modules
- Input voltage ranging from 24VDC up to 110VDC
- Back-up AC power for industrial, energy and telecom applications
- Design platform for grid connectable inverter in renewable energy applications
- Design platform for energy recovery and regeneration, braking energy solution



Industry applications

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Renewable energy

Our energy applications range from conventional power generation to renewable energy, including wind and solar panel applications. Extremely demanding operational conditions require power supplies with high MTBF values. Energy efficiency in all power conversion is our answer to today's clean-tech application needs.

Our solutions serve customer applications such as:

- Windturbine control and monitoring
- Energy recovery and feedback
- Redundant back-up in electrical distribution
- Smart grid monitoring systems
- Advanced Led light exposure

Transportation

We are experienced in developing custom-designed power supplies for railway, tram and metro applications. We are accustomed to working with strict design requirements and specific design standards required by the industry. We design secure and reliable power supplies that serve our customers over a long lifetime.

Our solutions serve customer applications such as:

- On-board high efficiency battery chargers
- Train communication and monitoring systems
- On-board power distribution
- Railway signalling and communication systems





Industrial and automation

Industrial and automation applications require high reliability from power supply design. We base our solutions for this demanding operational environment on our extensive experience of switch mode design topologies and on the industry's rules and regulations.

Our solutions serve customer applications such as:

- Automation systems for paper mills and power plants
- Security and alarm systems
- Broadband video and data communication systems
- Environmental instrumentation
- Advanced measuring and analysis equipment

Choose Powernet to:

- Receive the optimal solution for your needs
- Increase your solution's efficiency and reliability
- Benefit from our smooth and transparent process from design to delivery
- Discover a higher level of endurance in challenging conditions
- Maintain your peace of mind with guaranteed lifecycle management



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