

TDK-Lambda

EMEA Region

Custom Power Solutions

Innovating Reliable Power

TDK-Lambda EMEA offer customers a unique proposition for custom power solutions

• Innovating •

Our position as a leading global supplier of standard and configurable power products for over 60 years means we can capitalise on our extensive Advanced Technology research and over 700 patents to provide innovative leading edge custom power solutions with high power density, high efficiency and digital control.

• Reliable Power •

Our key focus is not only ensuring the long term reliability of our products but also being reliable in all aspects of our business relationships with you. Our systems and processes are in accordance with ISO9001 and ISO14001 to ensure consistent, environmentally responsible, high quality products and services. TDK-Lambda custom products utilise field proven topologies, components and validation / test methodologies derived from the millions of TDK-Lambda products in use worldwide to give you a fast response, low risk solution.

• The best solution •

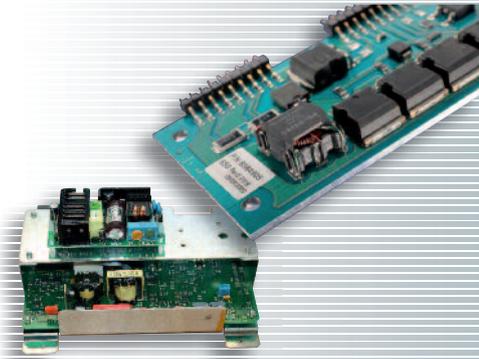
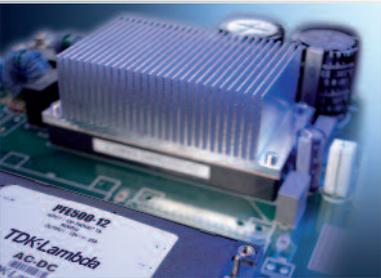
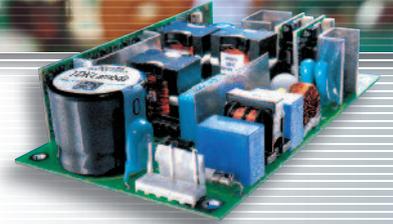
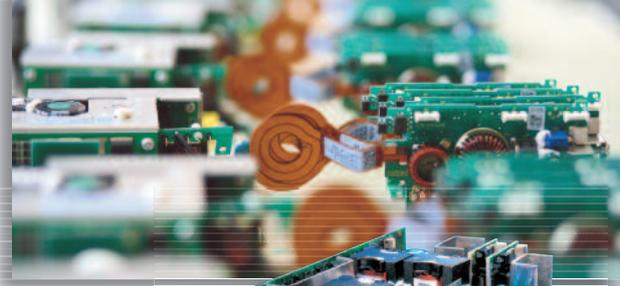
TDK-Lambda custom power solutions include full bespoke designs, modified standards and 'brick on board' products. Our expertise is vast, covering 0.6V to 50kV, 1W to 50kW ACDC and DCDC. As well as satisfying your technical requirements we will always offer you the best all round solution taking into account cost, time to market and reliability.

• Applications •

We recognise that each customer's application is unique in some way. TDK-Lambda's specialist knowledge of the key attributes of many different applications is gained from many years experience working with loyal customers for both custom and standard power supply requirements.

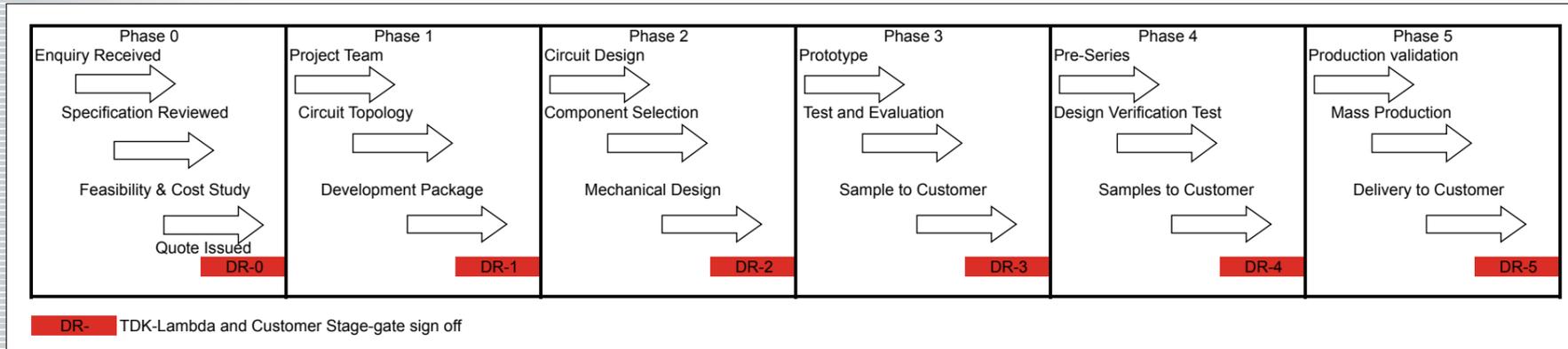
Key market segments covered include:

- Factory Automation
- Process Control
- Test and Measurement
- Medical and Laboratory
- Broadcast
- Communications
- LED Lighting and Signage
- Defence and Aerospace
- Computer and Office Automation
- Semiconductor Manufacture
- Point of Sale and Vending
- Renewable Energies

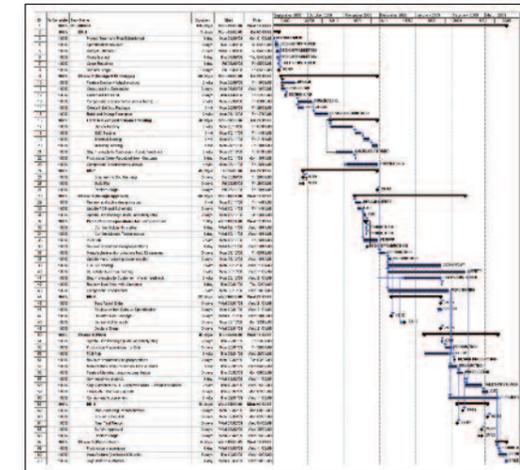


Project Management

Your initial enquiry will be handled by local TDK-Lambda commercial and engineering staff in collaboration with our specialist EMEA based custom design teams. TDK-Lambda use a proven stage-gate design review process to manage the development of your custom power solution with full customer involvement throughout



TDK-Lambda stage-gate design review process

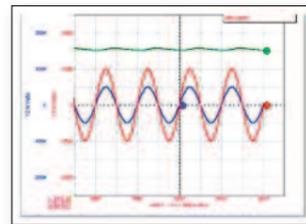


Detailed GANTT project plan

Product Design Process

• Technical Proposal •

- Detailed proposal based on Customer Specification
- Supported by Spice Circuit Simulation
- Mechanical concept in 3D CAD



Spice simulation

• Standard Field Proven Technologies •

- Fly-back, forward, boost
- Resonant and multi resonant
- Synchronous rectification
- Digital control and or monitoring
- High efficiency, low audible noise

• Component Selection •

- Cost optimisation by use of standard component set
- In-house component evaluation laboratory
- All components qualified to TDK-Lambda group standard
- Components selected to meet TDK-Lambda de-rating criteria
- RoHS validation laboratory



EDX Fluorescence Spectrometer for RoHS evaluation



X-Ray Inspection

• Design Verification Testing •

- Electrical performance across entire operating environment
- Thermal performance across entire operating environment
- EMC compliance, in-house conducted and 10M OATS
- Immunity – Surge, burst, ESD, ring-wave
- Mechanical – Sinusoidal vibration, shock
- HALT, high altitude simulation, TST, humidity
- Ingress protection (IP) testing

• Regulatory Approvals •

- In-house Approved Safety Test Laboratory
- IECCE SMT program under UL for IEC/EN60950-1, IEC/EN60601-1, IEC/EN61010-1 and CB
- CTDP for UL/CSA60950-1, UL/CSA60601-1, UL/CSA61010-1
- CE Certification
- Other approvals by request

Acronyms

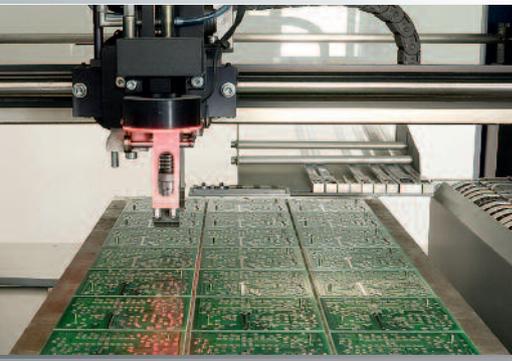
CAD: Computer aided design
OATS: Open area test site
ESD: Electrostatic discharge
HALT: Highly accelerated life test

TST: Thermal shock test
SMT: Supervised manufacturer's testing program
CTDP: Client test data program
IECCE: International Electrotechnical Commission for Electrical Equipment



Thermal Shock Test chamber



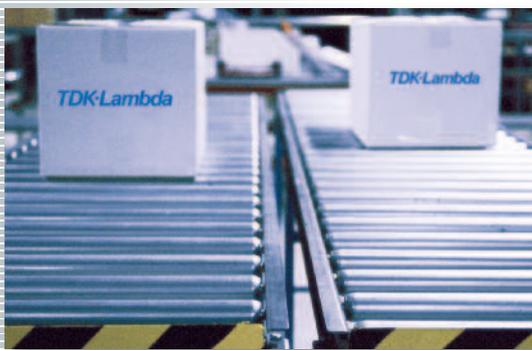


• **Manufacturing and Logistics** •

Uniquely, TDK-Lambda can provide the optimum manufacturing strategy for your needs from local manufacture in our own fully equipped Israel and UK plants for low volume, start - up or high mix/variability products through to high volume manufacturing in our own plants in China, Malaysia and Thailand.



Similarly we have warehouses in Germany, Israel, UK as well as Asia and we offer a full menu of logistics services including buffer stock programmes, kanban replenishment, Vendor managed inventory / consignment stock and multi - destination drop shipping.



• **Rely on TDK-Lambda** •

By choosing TDK-Lambda as your strategic custom power solution partner you minimise risk for the entire life of your product. Our objective is high reliability in both our products and our business processes.

• **Benefits of using TDK-Lambda** •

- Financially stable, a division of TDK Corporation
- Experienced local commercial, engineering, manufacturing, logistics and service
- Leaders in development of advanced technologies
- Extensive library of innovative field proven designs
- Comprehensive in house qualification and validation facilities down to component level
- Large global fully qualified component database giving economy of scale
- Multiple TDK-Lambda owned manufacturing locations
- Highly experienced global logistics capability
- Vendor reduction - custom and standard power supplies from one source



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