TDK In Everything, Better

Power+

Custom Solutions from TDK-Lambda

Edition 1D

TDK·Lambda

Company Overview

At TDK-Lambda, a "Power Supply" is more than just an electronic device. It is the "heart" of our customers´ systems and the core element of safety and reliability.

TDK-Lambda Corporation, a group company of TDK Corporation, is a leading global power supply company providing highly reliable power supplies worldwide.

TDK-Lambda Corporation meets the various needs of customers with our entire range of activities, from research and development through to manufacturing, sales, and service with bases in five key areas, covering Japan, EMEA, North America, China, and SE Asia.

Since 1948, as a leading global manufacturer, we have been developing and producing innovative and highly reliable power supplies for a wide spectrum of applications. TDK-Lambda is one of the oldest and most trusted manufacturers of high-quality power supply solutions used in critical applications.

https://www.us.lambda.tdk.com

Organization

- Founded in 1948; offering long term financial stability
- An independently recognized market leader
- Worldwide recognition for high reliability
- Outstanding customer support
- International organization with strong local presence
- Local design capability
- Experts in power supply solutions
- Local inventory / local buffer

Power+

What if a standard power supply does not meet your requirements?

Explore TDK-Lambda's **Power+** program to support your requirements.

As a leading global supplier of standard and configurable power products for over 60 years, TDK-Lambda can capitalize on our extensive Advanced Technology research and over 700 patents to provide innovative leading edge power solutions with high power density, high efficiency and digital control.

https://www.us.lambda.tdk.com/products/value-add/

Benefits of using TDK–Lambda

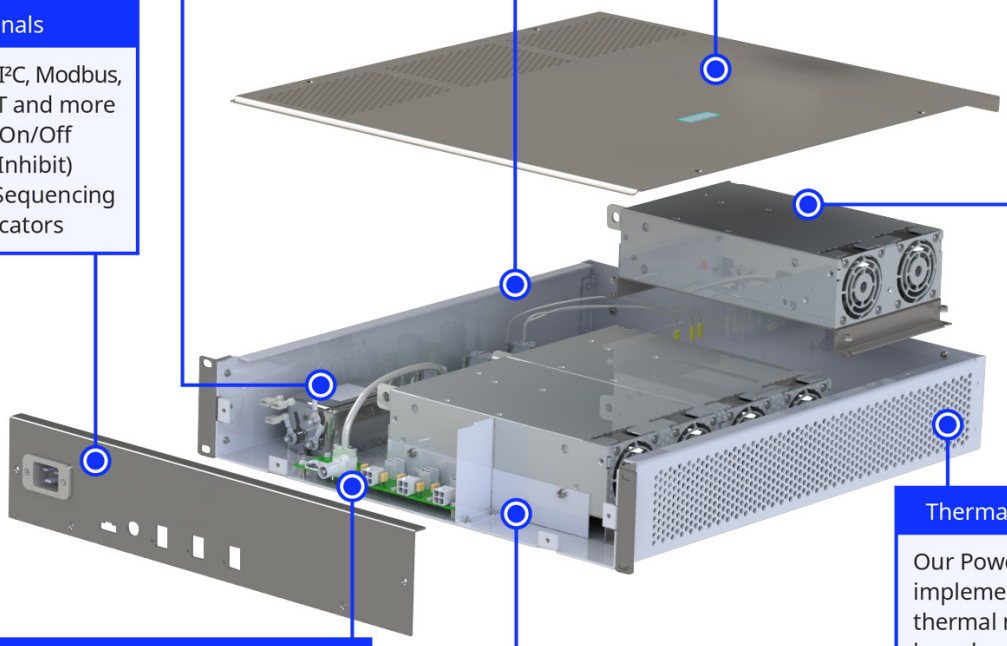
- TDK-Lambda becomes an extension of your engineering team
- Global design locations for local tech support
- Global manufacturing footprints for flexible logistics
- Over 6,000 fully qualified standard models and up to 100kW
- Robust line of EMC and EMI noise filters
- Low development risk with standard model building blocks
- Faster time to market compared to full customs
- Low total cost of ownership for long-term cost savings

Key Market Segments

- Medical and Life Science
- Industrial
- Factory/Building Automation
- Process Control
- Robotics
- Test and Measurement
- Transportation
- Renewable Energy
- LED Applications & Signage
- Avionics & Defense/COTS
- Semiconductor Fabrication & Test Equipment
- Information & Communications Technology

See what Power+ can do for you

(Innovation + Solutions + Support) x Reliability = Lowest Cost of Ownership



Custom Mechanical Housing

- Ruggedisation for harsh industrial and outdoor environments
- Ingress Protection (IP)
- Unique or standard mounting features
- Custom enclosures and more

Assembly

- Custom labeling
- Custom packaging

Standard Power Supply

We select the optimal power supplies from our extensive catalog of over 6000 models as the foundation for your application, enabling us to:

- Utilize field-proven technology (trusted and reliable)
- Accelerate the design

EMI Filter

- Filters
- Inrush current limit
- Electromagnetic Compatibility (EMC) measures

Signals

- PMBus / I²C, Modbus, EtherCAT and more
- Remote On/Off (Enable/Inhibit)
- Output Sequencing
- LED Indicators

Thermal Management

Our Power+ team will implement the optimum thermal management based on your system's requirements. We have broad experience in all types of cooling methods:

- Convection cooling
- Forced Air cooling
- Baseplate/Conduction cooling
- Liquid/Water cooling

Custom-defined Cabling / Connectors

- Cabling with custom plugs (ready-to-use)
- Retrofit: To accommodate field replacements
- Custom-built harnesses

PCB for Custom Electrical Interface & more

- Power Distribution
- Additional voltages
- Safety circuits
- Current limiting circuits and more

Power+

Even if a standard power supply can meet your requirements, Power+ is still important, but why?

Most power supplies are installed in a sub-assembly within your system that contains:

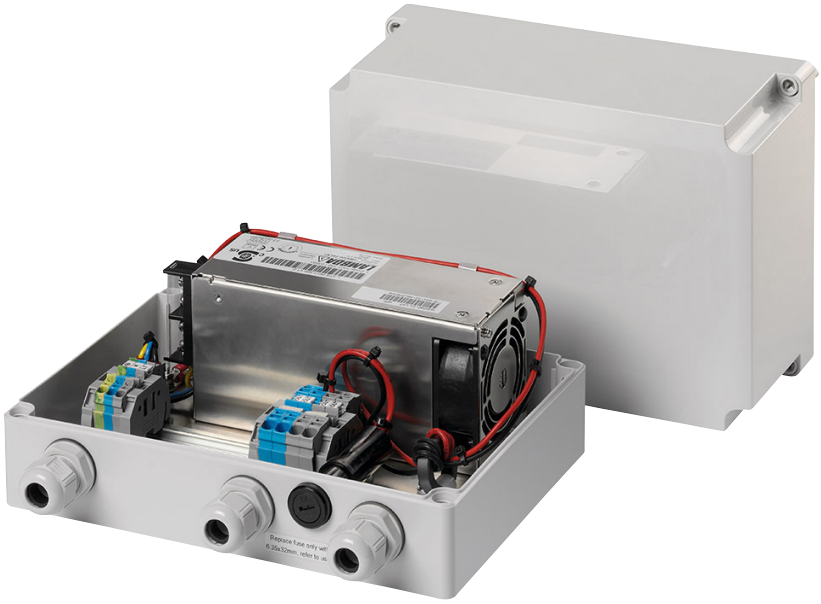
- Harnesses for the power supply's input, output and signals
- Customized mounting brackets or enclosures (with or without circuit breakers)
- EMC/EMI filter(s)

These sub-assemblies create additional overhead:

- Having more parts to manage in purchasing, part obsolescence and environmental compliance
- Additional time and labor needed to design and build the sub-assembly before integrating into end-system

Power+ enables TDK-Lambda to be your **Partner** in removing this additional overhead and **reducing the overall cost** of your system by manufacturing this sub-assembly for power and shipping a **turnkey** solution to **streamline** your production.

As an **extension** of your **Engineering team**, we can also help to **design** this sub-assembly based on your system's **unique requirements**.



This system needed an IP54 enclosure built around our power solution, the HWS300. This enclosure also protects the operating personnel and additionally matched specific functional requirements in a harsh environment with wide operating temperate range.

Project Management

Empowered with TDK-Lambda, the leader in developing Advanced Technologies.

Our engineering team is an extension of your engineering team.

Technical Proposal

- Detailed proposal to support your requirements
- SPICE circuit simulation

Design Verification Testing

- Electrical performance for all operating conditions
- Thermal characteristics for all operating conditions
- EMC compliance verified in-house
- Immunity – surge, burst, ESD, ring wave
- Mechanical stability with vibration, shock resistance
- Highly Accelerated Life Test (HALT)
- Ingress protection (IP) testing

Field–Proven Standard Technology

- Resonant and Multi-Resonant
- Synchronous Rectifier
- Digital Control and Monitoring
- High Efficiency and Low Audible Noise

Safety Approvals

- Certified in-house lab for safety testing
- IECEE SMT program under UL for IEC/EN62368-1, IEC/EN60601-1, IEC/EN61010-1 and CB
- CTDP (Client Test Data Program) for UL/CSA62368-1, UL/CSA60601-1, UL/CSA61010-1
- Other certifications on request

Component Selection

- Optimized cost with standard components
- In-house lab for component evaluation
- Rigid component Approved Vendor List (AVL) selection and management process
- RoHS/REACH certification labs

Special Requirements

- Production Part Approval Process (PPAP)
- Medical Part Approval Process (MPAP)
- Copy Exact
- Special Packaging
- Special Labeling/Barcoding
- First Article Inspection

EMC: Electromagnetic Compatibility
ESD: Electrostatic Discharge

SMT: Supervised Manufacturer's Testing
CTDP: Client Test Data Program
IECEE: International Electrotechnical Commission for Electrical Equipment

Power+

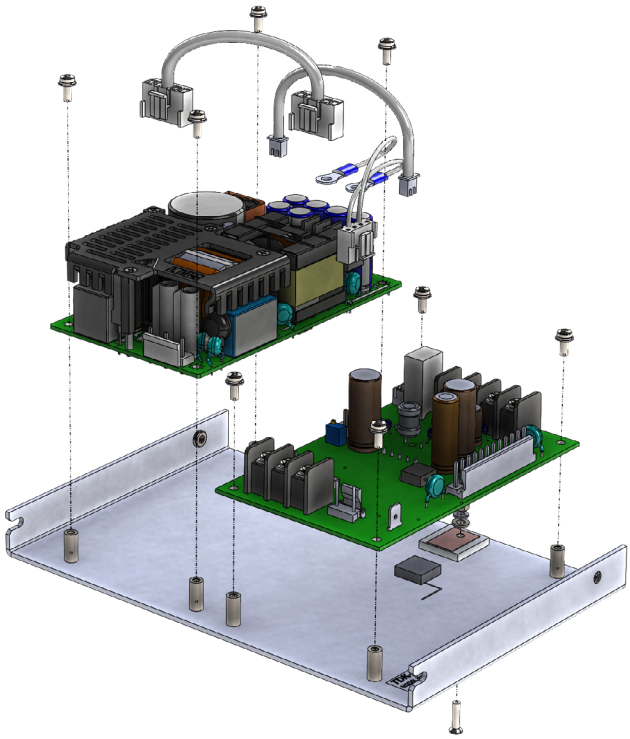
Healthcare

Power+ Features:

- 48VDC and 15VDC
- Supports field replacements
- Cost-effective with isolated Front-End and non-isolated DC-DC

Standard Building Blocks:

- CUS600M (AC-DC)
- i3A (DC-DC)



This system needed a low-cost dual output AC-DC solution that's certified to Medical safety (UL/IEC60601-1). With our Power+ program, we were able to use our CUS600 (Medical AC-DC, single output) in combination with our i3A (Non-Isolated DC-DC) for the additional output. Since our CUS600 already has the isolation needed for BF rated medical equipment, we were able to use our low-cost non-isolated DC-DC converter and still meet 60601-1.

Power+

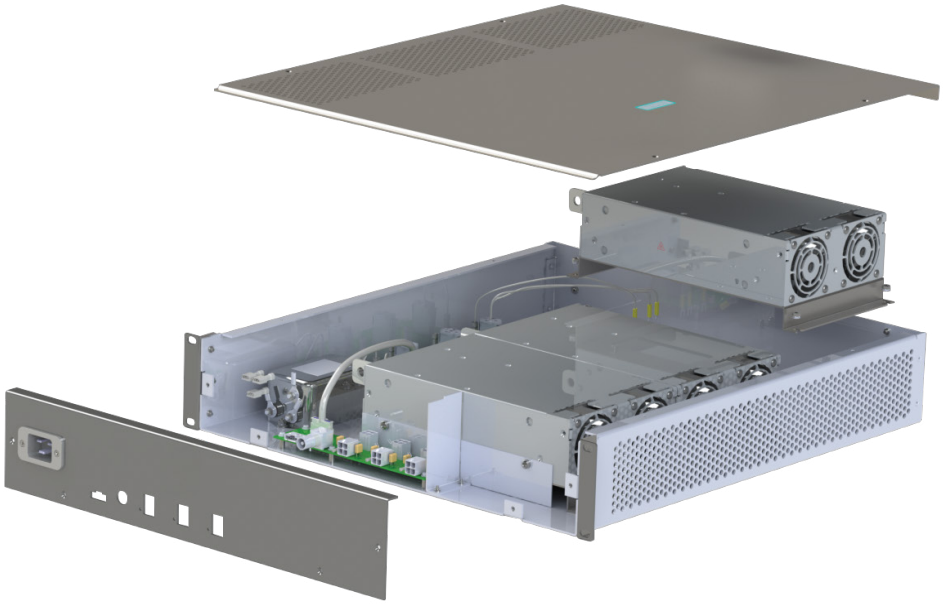
Industrial

Power+ Features:

- Built-in filter
- Custom enclosure, signals and connectors
- Parallel operation for up to 2700W

Standard Building Blocks:

- SWS1000L (AC-DC)
- RDEN (Filter)



This system couldn't use an off-the-shelf solution due to many unique requirements. From a custom enclosure to customized signals and connectors to additional noise filtering, we were able to utilize our Power+ program to tailor our standard solutions (SWS1000L and RDEN series) to meet their unique demand.

Power+

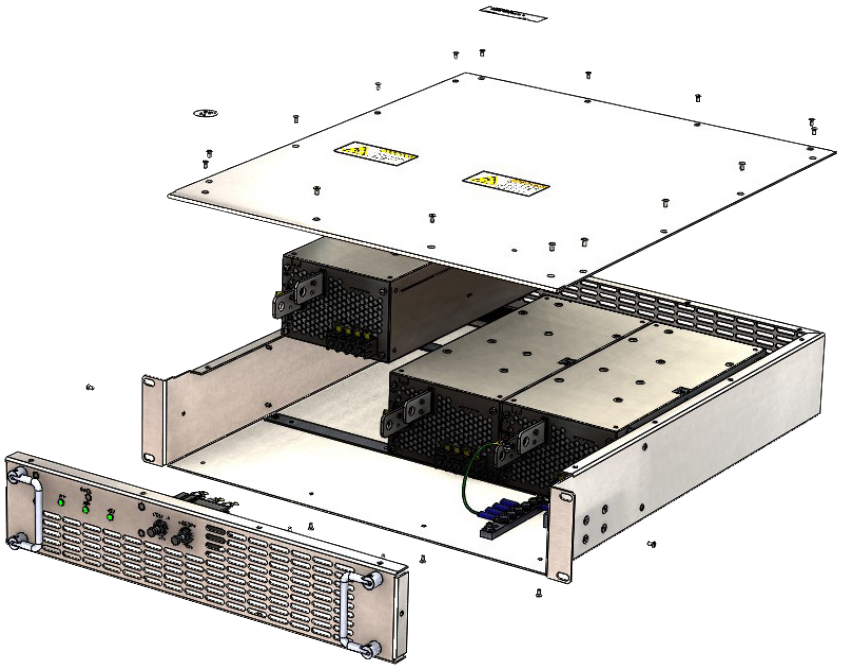
Semi Fab

Power+ Features:

– 3-Phase 208VAC
– ±32VDC and +24VDC
– Supports field replacements

Standard Building Blocks:

– HWS1800T (AC-DC)
– RTAN (Filter)



This system already had a power solution from a different supplier, but they were having quality issues. With our Power+ program, we were able to come up with a form, fit and function replacement, while leveraging the proven reliability of our standard building blocks.

Power+

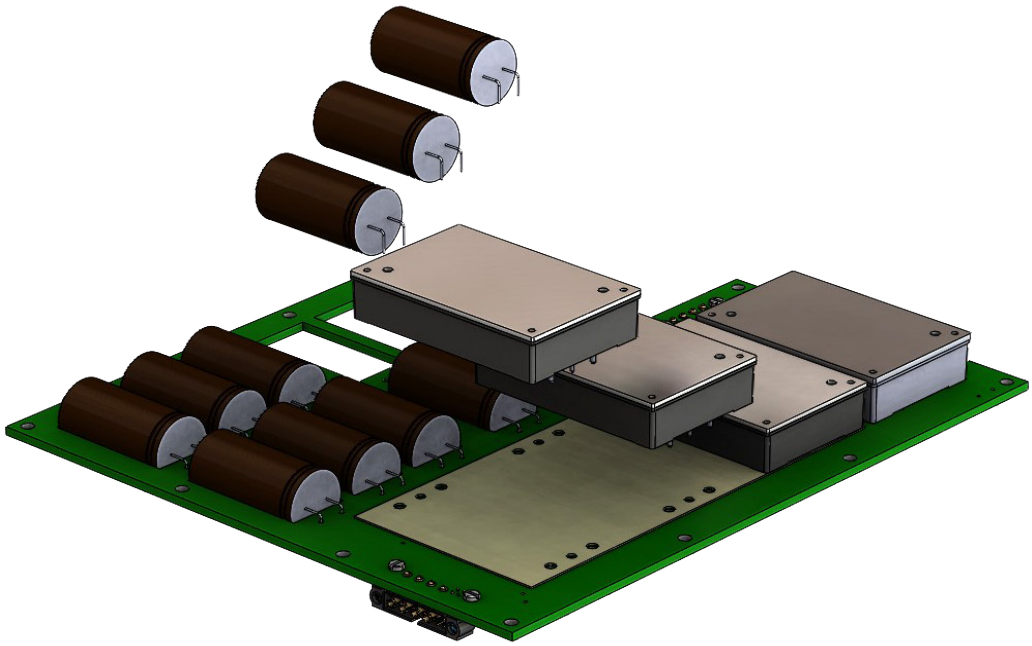
Defense

Power+ Features:

- 12VDC and 24VDC (175W)
- RTCA DO-160G compliant for airborne equipment
- MIL-STD-461 compliant

Standard Building Blocks:

- HQA (DC-DC)
- FQB (Filter)



Defense Communications systems require RTCA DO-160G compliance for increased hold-up times and MIL-STD-461 compliance for EMI. Along with leveraging the field-proven technologies of our standard solutions, our design expertise allowed us to provide a solution that meets all the Defense-related requirements.

Power+

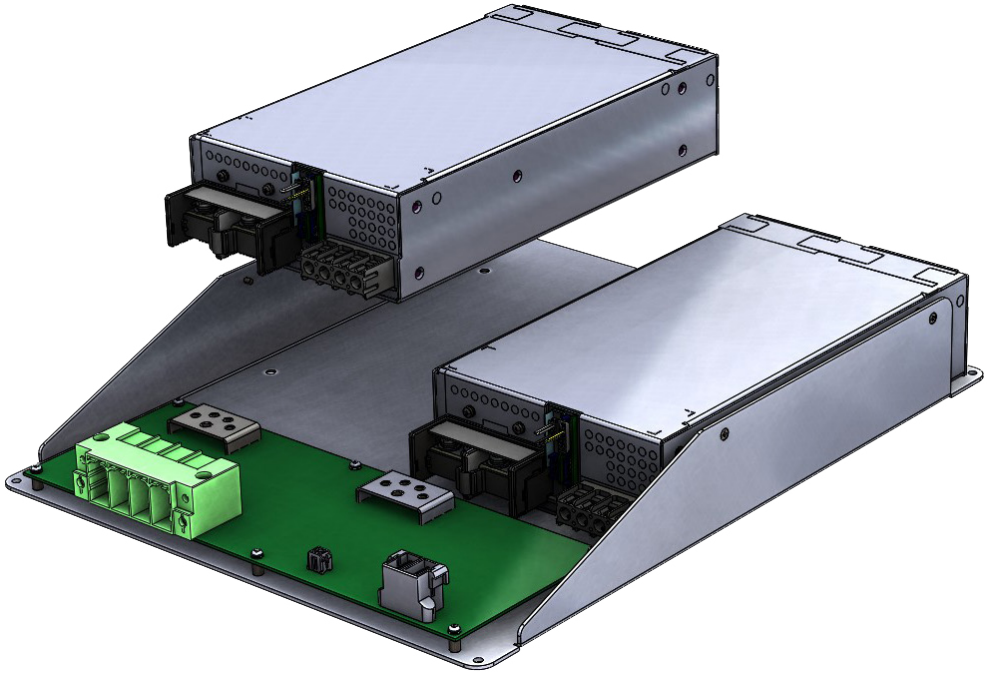
SATCOM

Power+ Features:

- Parallel operation for up to 5700W at 48VDC
- Custom input/output and signal connectors

Standard Building Blocks:

- HWS3000G (AC-DC)



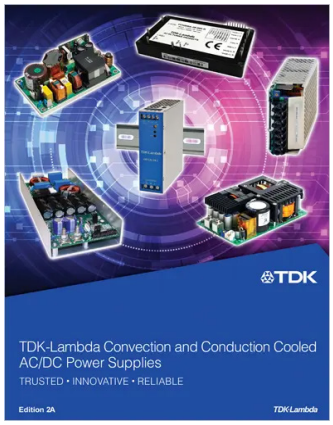
To meet the global input requirements for installation, this system required a versatile solution that can also be scaled up in power as needed. Our HWS3000 series has options for single-phase (85-265VAC) or 3-phase (170-265VAC) inputs, and they can be connected in parallel for higher power. With programmability down to 0VDC and 0A, the rich features of the HWS3000 combined with our Power+ capabilities enabled us to build a flexible solution to meet this versatile demand.

Design Tools / Product Collaterals

Written by Engineers, for Engineers. Find the part you need and get to market faster!
Download our Brochures at https://www.us.lambda.tdk.com/resources/catalogs/

Product Catalog

Healthcare Products



Convection/Conduction Cooled Products

EMI Filters

DIN Rail

Configurable

CUS-M Series

Board Mount

Building the Specification

Let TDK-Lambda help you specify your custom power supply requirements.

Attach your specifications to our Sales Support form at the link below or provide it to your local sales representative for TDK-Lambda. https://www.us.lambda.tdk.com/contact/#support

Request for Modified Standard

TDK-Lambda Model(s):

Modification Request: (Custom harnesses and connectors, output voltage adjustments, etc.)

Commercial

Est. Annual Usage:

Target Price:

Schedule

Prototypes Due:

Mass Prod. Date:

Additional Comments:

Request for Power+ Solutions

AC-DC or DC-DC:

Single-Phase or 3-Phase:

Electrical

# of Inputs:

Input Voltage(s):

# of Outputs:

Output Requirement(s): (DC Volts/Amps)	#1	#2	#3	#4	#5	#6

Total Output Power:

Conducted/Radiated EMI:

Immunity:

Safety Approvals

UL/CSA/IEC/EN60601-1:

UL/CSA/IEC/EN61010-1:

UL/CSA/IEC/EN62368-1:

CE Mark / UKCA Mark:

Other:

TDK-Lambda Model(s): (if applicable)

Mechanical

Dimensions:

Shock/Vibration:

Form Factor: (Enclosed, PCB Mount, Open-Frame, DIN Rail, Rack Mount)

Other (please specify):

Cooling: (Fan, Convection, Conduction, Liquid)

Other (please specify):

Commercial

Est. Annual Usage:

Target Price:

Schedule

Prototypes Due:

Mass Production Date:

Additional Comments:

Contact Us

Our team of experts will be happy to help you find the best power supply for your application.

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