





# Healthcare

Power Supplies



# The Heart of your medical Application

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.

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. In addition, with our unique range of activities from research and development through to manufacturing, sales and service, our customers appreciate our experience, know-how and our passion for always wishing to find the best solution for our customers.

TDK-Lambda is one of the oldest and most trusted manufacturers of high quality healthcare power supply solutions used in critical medical and laboratory applications.

This brochure will provide you with our medically certified power supplies and service and shows why leading manufacturers and OEM clients for medical applications rely on TDK-Lambda solutions.





# Healthcare Power Supply Solutions worldwide

Medical applications require high reliability and high quality solutions. TDK-Lambda, as a world-leading supplier of high quality healthcare power supplies, serves this demand with extensive experience, multiple certifications and medical power supplies tested and approved to the highest safety standards. Backed by industry leading warranties, our motivation is complete customer satisfaction.

# Wide choice of highly reliable medical power supply solutions

TDK-Lambda offers an extensive product line of healthcare power supplies with over 5.000 models of medical power supplies to choose from. The range of highly reliable healthcare power supplies covers power levels from 3W to 2.000W.

- AC-DC power supplies
- DC-DC converters
- EMC/EMI Filters
- Standard, modified Power+ Solutions and full custom designs

# Designed for highly reliability with excellent stability for long service life

Using high quality power supplies enables medical equipment to provide years of continuous, reliable operation. TDK-Lambda designs and manufactures products in ISO 13485 certified facilities to fully comply with the demands of the IEC 60601-1 safety standards. In addition, rigorous testing and careful attention to component temperatures ensures our products will offer trouble-free service and increase the reliability of customers' system.

- Products typically serves for B & BF rated equipment
- Class I & Class II products
- IEC60601-1 approvals as standard
- Altitudes up to 5.000 meters
- Industry leading warranties
- Leading compact sizes
- Very long peak power times
- Significant EMI margins
- Prolonged product lifetime



## Access our expertise

Our expertise is based on 30+ years of experience powering healthcare products for major medical OEMs. Customers can receive assistance and advice for medical power supply selection, application support, medical safety compliance and custom solutions.

- Approved supplier to most top global medical device companies
- Global multi-site design, manufacture and technical support centres.

# Medical safety approvals

TDK-Lambda is certified and approved to design and manufacture power supplies for medical applications using its own testing facilities to generate UL and CB safety reports and test data. The medical power supplies from TDK-Lambda are approved to the latest medical safety standards and meet with Edition 4 EMC compliance requirements.

- ISO13485 designed and manufactured products
- IEC, UL, CSA, ANSI/AAMI ES 60601-1 safety compliance
- EN60601-1-2:2015 (Edition4) EMC compliance
- In-house testing facilities to generate UL and CB safety reports and test data



# Applications

TDK-Lambda's medical power supply portfolio is used in a broad range of applications by most of the world's major OEMs. Our low noise outputs enable large complex imaging equipment to produce higher resolution scans. Smaller products charge batteries for surgical tools or power medical chairs and beds. Multiple output, modular supplies are used in analysers, lab equipment and even robotic surgery. Medical lasers rely on the stable output voltages our products provide for precise surgical and cosmetic procedures.

#### Clinical

- Dialysis equipment
- Opthalmology devices
- Patient monitoring & therapy
- Surgical & ablation systems
- Medical beds
- Surgical lasers
- Neonatal care
- Electrocardiographs
- Anesthesia devices
- Endoscopes
- Radiotherapy
- Infusion pumps
- FCG
- Robotics
- Ventilators
- Cosmetic lasers
- Powered tools
- Operating theatre lighting

#### **Dental**

- CAD/CAM systems
- Oral Care equipment
- X-Ray machines
- Gamma imaging systems
- Digital radiography









# Laboratory

- Microbiology
- Electron microscopes
- Chemical analysis equipment
- Lab process automation
- Immunoassay systems
- Mass analysers
- In-Vitro diagnostics
- Sterilization
- Clinical chemistry
- Centrifuges
- PCRs
- Osmometers
- Blood analysers
- DNA testers
- VHP systems
- Bioreactors
- Mixing systems

## **Imaging**

- X-Ray machines
- Ultrasound scanners
- Single photon emission computed tomography (SPECT)
- Positron emission tomography (PET)
- Computed tomography (CT) scan
- Magnetic resonance imaging (MRI)

## **Homecare**

- Oxygen therapy
- Nebulizers
- Portable dialysis
- Telehealth
- Respirators



# **Surgical Robots**

- General surgery
- Catheter & endoscope navigation
- Robotics positioning of surgical tools
- Robotics system for intra operative camera

# **Cosmetic surgery**

- Medical laser treatments:
  - Hair removal
  - Skin treatments
  - Cellulite treatment
  - Tattoo removal
- Surgical treatments:
  - ENT
  - Liposuction
  - Skin tightening
  - Varicose veins



# Our newest Highlights

# MU6 Series COMING SOON

# for medical, industrial and test & measurement applications

- Quiet by design, extremely low audible noise, up to up to 1500W in 1U footprint
- Ultra-compact, multi output, configurable MU6 Series eliminates the need for additional power supplies and the extremely low audible noise enhances both patient and user experience

# First choice for system designers

- 1U height, for reducing the required system space and enabling low profile design
- With **patented intelligent fan control**, fan rotation speed is reduced, producing extremely low levels of audible noise
- Modular design, offering known leakage current and certified EMC performance
- Full MOPP isolation for simplifying medical systems design
- Ideal for medical, industrial and test and measurement applications



Model	Output power	Number of outputs*	Output voltage	Input voltage	Warranty	Cooling	Standby supply
MU6	1200-1500W	1-13	3.3-105.6Vdc	85-264Vac	7 years	€	optional 5V or 12V

\* including auxiliary outputs









# for medical & industrial applications

- Up to 1000W of quiet power in a compact package
- Ultra-compact single output CUS1000M power supplies offer best-in-class power density, low audible noise and extraordinary standout features.

# First choice for system designers

- Ultra compact  $3.3 \times 6.7 \times 1.67$ " package
- Impressive market leading power density (27W/in³)
- Thermo-controlled fan for low audible noise (typ. <42dBA at full load)</li>
- High efficiency minimises running costs and environmental impact
- High available power at low input voltage and high temperature
- Class B conducted and radiated emissions and earth leakage <250µA
- Ideal for medical, industrial, laboratory and many other applications

Model	Output power	Output voltage	Input voltage	Size	Cooling	Standby supply
CUS1000M	800-1000W	12, 24, 36, 48Vdc	85-264Vac	3.3 x 6.7"	€	5V



m product website





product video







# Medical Power Supplies

TDK-Lambda power supplies meet the highest criteria for quality and reliability.

# **MU Series**

# Configurable AC-DC power supplies

- Extremely low audible noise as low as 36dBA\*\*-Intelligent Fan Control (IFC)
- Safety certifications IEC/EN/UL60601-1, 62368-1
- Full MOPP, input & output to earth and primary to secondary
- Typically serves for B and BF rated equipment
- Output flexibility continuous output voltage 3.3-105.6Vdc
- PMBus<sup>™</sup> communication option with individual output control and diagnostics
- 1U height











Model	Output power	Number of outputs**	Output voltage	Input voltage	Warranty	Cooling	Standby supply
MU4	600-800W	1-5	3.3-104Vdc	85-264Vac	7 years	€	optional 5V
MU6 *	1200-1500W	1-9	3.3-105.6Vdc	85-264Vac	7 years	₿	optional 5V or 12V

<sup>\*</sup> coming soon

# **QM** Series

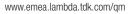
# Configurable AC-DC power supplies

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Typically serves for B and BF rated equipment (MOPP)
- Protection class I
- Flexible with many output combinations
- Low speed, low audible noise fan
- Very low earth leakage current versions available
- Dual or single fusing
- PMBus™ communication option











Model	Output power	Number of outputs*	Output voltage	Input voltage	Warranty	Cooling	Standby supply
QM4	550-650W	1-10	2.8-105.6Vdc	90-264Vac	7 years	<b>S  (3)</b>	optional 5V or 12V
QM5	700-800W	1-12	2.8-105.6Vdc	90-264Vac	7 years	<b>S</b> €	optional 5V or 12V
QM5H	700-1200W	1-12	2.8-105.6Vdc	90-264Vac	7 years	<b>S</b> €	optional 5V or 12V
QM7	1200-1500W	1-16	2.8-105.6Vdc	90-264Vac	7 years	<b>○</b> 🛞	optional 5V or 12V
QM8	1200-1500W	1-18	2.8-105.6Vdc	90-264Vac	7 years	<b>○</b> 🛞	optional 5V or 12V
QM8B	1200-2000W	1-18	2.8-105.6Vdc	90-264Vac	7 years	<b>S</b> €	optional 5V or 12V

<sup>\*</sup>including auxiliary outputs



# Vega Series

# Configurable AC-DC power supplies

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Protection class I
- Industry leading flexibility
- Screw, Fast-on or IEC connection
- Output current-1A-120A
- Cooling system-air/end fan/reverse fan
- Signal options-mains fail, global inhibit, output good, output inhibit









Model	Output power	Number of outputs*	Output voltage	Input voltage	Warranty	Cooling	Standby supply
Vega-Lite 550	550W	1-11	1.8-56Vdc	90-264Vac	3 years	<b>S</b> €	Optional 5V
Vega-Lite 750	750-900W	1-11	1.8-56Vdc	90-264Vac	3 years	<b>S</b> €	Optional 5V
Vega 450	450W	1-11	0.25-62Vdc	90-264Vac	3 years	<b>S</b> €	Optional 5V or 12V
Vega 650	650W	1-11	0.25-62Vdc	90-264Vac	3 years	<b>S</b> €	Optional 5V or 12V
Vega 900	650-900W	1-11	0.25-62Vdc	90-264Vac	3 years	<b>○</b> 🛞	Optional 5V or 12V

<sup>\*</sup>including auxiliary outputs

# **QS** Series

# Single output AC-DC power supplies

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Typically serves for B and BF rated equipment (MOOP)
- Protection class I
- Low speed, low audible noise fan
- Dual or single fusing
- PMBus<sup>™</sup> communication option











Model	Output power	Number of outputs*	Output voltage	Input voltage	Warranty	Cooling	Standby supply
QS4	600W	3	12, 24, 48Vdc	90-264Vac	7 years	€	optional 5V or 12V
QS5	600W	3	12, 24, 48Vdc	90-264Vac	7 years	₿	optional 5V or 12V
QS5H / QS7	1080-1200W	3	12, 24, 48Vdc	90-264Vac	7 years	8	optional 5V or 12V

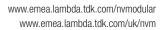
<sup>\*</sup>including auxiliary outputs

# **NV Series**

# Configurable AC-DC power supplies

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Models typically serves for B and BF rated equipment (MOPP)
- Protection class I
- High efficiency
- High power density
- No minimum load
- Fits 1U applications
- Up to 8 configurable outputs









Model	Output power	Number of outputs*	Output voltage	Input voltage	Warranty	Cooling	Standby supply
NV175	175W	1-5	0.9-28Vdc	90-264Vac	3 years	<b>S</b> €	Optional 5V or 12V
NV175M	175W	1-3	3.3-28Vdc	90-264Vac	3 years	<b>S</b> €3	N/A
NVM175	180W	1-2	5, 12, 24Vdc	90-264Vac	3 years	•	Optional 5V or 12V
NV350	350W	1-6	3.2-64Vdc	90-264Vac	3 years	<b>S</b> €3	Optional 5V or 12V
NV700	700W	1-8	3.2-64Vdc	90-264Vac	3 years	<b>S</b> €3	Optional 5V or 12V

<sup>\*</sup>including auxiliary outputs

# **CUT Series**

# **General AC-DC power supplies**

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Protection class I
- Triple (useable as dual) output supply
- Compact 35W in 2x4"; 75W in 3x5"
- Low profile
- High efficiency 85%
- Output 1 isolated from outputs 2 & 3
- Cover & baseplate options
- No minimum load
- Cover option (/A)









Model	Output power	Number of outputs	Output voltage	Input voltage	Warranty	Cooling
CUT35	35W	2-3	5/±12, 5/±15, 5/24, 5/30Vdc	85-265Vac	3 years	<b>O</b>
CUT75	75W	2-3	5/±12, 5/±15, 5/24, 5/30Vdc	85-265Vac	3 years	•



# **CUS-M Series**

# Single output AC-DC power supplies from 30W to 1500W

- Safety certifications EN62368-1 and EN60601-1
- Typically serves for B and BF rated equipment (2 x MOPP)
- Class B conducted and radiated EMI
- High efficiency up to 96%
- Models for Class I and Class II installations
- Peak power ratings up to 30 minutes (CUS400M), up to 1000W (CUS350MP-1000)
- Baseplate for conduction cooling (CUS100ME, CUS150M, CUS250M, CUS400M)
- Several mechanical options







13

#### www.emea.lambda.tdk.com/cus\_m

Model	Output power	Output voltage	Input voltage	Size	Mechanical format	Warranty	Cooling
CUS30M	30W	12, 15, 18, 24, 36, 48Vdc	85-265Vac	2x3"	Open frame, enclosed	3 years	•
CUS60M	60W	5, 12, 15, 18, 24, 48Vdc	85-265Vac	2x3"	Open frame, enclosed	3 years	•
CUS100ME	100W	12, 15, 18, 24, 28, 36, 48Vdc	85-264Vac	2x4"	Open frame, U-channel, baseplate, enclosed	5 years	<b>◇ ② @</b>
CUS150M	150W	12, 15, 18, 24, 28, 36, 48Vdc	85-264Vac	2x4"	Open frame, U-channel, baseplate, enclosed, enclosed with top fan	5 years	<b>♥</b> ₩
CUS200M	200-250W	12, 18, 24, 36, 48Vdc	85-265Vac	3x5"	Open frame, L bracket, enclosed	3 years	<b>⋄</b>
CUS250M	250W	12, 15, 18, 24, 28, 36, 48Vdc	85-264Vac	2x4"	Open frame with baseplate, U-channel, enclosed, enclosed with top fan	5 years	<b>&gt;</b> ♥ ७ @
CUS350MP	350-1000W	24, 30, 36, 48Vdc	85-265Vac	3.46x7.2"	Open frame, enclosed	5 years	<b>⋄</b>
CUS400M	250-400W	12, 15, 19, 24, 28, 36, 48Vdc	85-264Vac	3x5"	Open frame with baseplate, U-channel, enclosed, enclosed with top fan	5 years	<b>&gt;</b> ♥ ७ @
CUS500M1	300-500W	12, 19, 24, 28, 32, 36, 48Vdc	85-264Vac	3x5"	Open frame, enclosed with end fan	5 years	<b>◇ ② ②</b>
CUS600M	400-600W	12, 19, 24, 28, 32, 36, 48Vdc	85-265Vac	3x5"	Open frame, enclosed with end fan	5 years	<b>◇ ② ②</b>
CUS800M	680-800W	12, 24, 36, 48Vdc	85-265Vac	3.3x6.7"	Enclosed with end fan	5 years	₿
CUS1000M	800-1000W	12, 24, 36, 48Vdc	85-265Vac	3.3x6.7"	Enclosed with end fan	5 years	₿
CUS1200M *	1200W	24, 36, 48Vdc	85-265Vac	3.3x7.6"	Enclosed with end fan	5 years	₿
CUS1500M	1500W	12, 18, 24, 36, 48Vdc	85-265Vac	5x10.3"	Enclosed with end fan	7 years	₿

<sup>\*</sup> coming soon

NEW NEW

# XMS500A Series

## Configurable AC-DC power supplies

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Typically serves for B and BF rated equipment (MOPP)
- Protection class I or II options
- Flexible with many case and signal options
- Suitable for 1U profile
- Low airflow requirement
- EN55011/22 Class B (conducted and radiated)





www.emea.lambda.tdk.com/xms500a



Model	Output power	Output voltage	Input voltage	Warranty	Cooling	Standby supply
XMS500A	500W	12, 24, 36, 48Vdc	85-264Vac	5 years	<b>◇</b> 🕄	5V or 12V

# **GXE600 Series**

# High reliability CVCC AC-DC power supply

- Safety certifications IEC/EN/UL 60601-1, 62368-1
- Typically serves for B and BF rated equipment (MOPP)
- Protection class I
- Ultra high efficiency up to 95%
- CV, CC mode
- Programmable by Modbus RTU/RS-485
- Intelligent monitoring-E-Caplife forecast accumulated operating time, internal temperature, failure analysis
- 5V 1A standby
- Ruggedisation & pcb coating option (/HD)







Model	Output power	Output voltage	Input voltage	Warranty	Cooling	Standby supply
GXE600	600W	24V & 48Vdc	85-265Vac	7 years	<b>♥</b>	5V



# WMM30 Series

## Wall plug-in power supplies

- Safety certifications 60601-1 and 60601-1-11
- Typically serves for B and BF rated equipment
- Protection class II
- ErP Tier 2 and DOE Level VI compliant models
- Wide range AC input







Model	Output power	Output voltage	Warranty	Average efficiency	No load power
WMM30	25-30W	5, 9, 12, 15, 18, 24Vdc	3 years	85-87.7%	<0.075W

# **DTM Series**

## **Desktop power supplies**

- Safety certifications 60601-1, 60601-1-11 and 62368-1 (model dependent)
- Typically serves for B and BF rated equipment
- Protection class I or II
- ErP Tier 2 and DOE Level VI compliant models
- AC 100-240V wide range input
- Latching output connector (except DTM36-C8)









15

Model	Output power	Output voltage	Warranty	Average efficiency	No load power	Protection class
DTM36-C8	25-36W	5, 9, 12, 13.5, 15, 18, 24, 36, 48Vdc	3 years	85-88%	<0.075W	II
DTM65-D	40-65W	5, 12, 15, 19, 24, 28, 36, 48Vdc	3 years	>89%	<0.15W	I
DTM65-C8	40-65W	5, 12, 15, 19, 24, 28, 48Vdc	3 years	>88%	<0.21W	II
DTM70	70W	12, 15, 18, 24, 36, 48Vdc	3 years	88.5-91.6%	<0.15W	I
DTM70-C8	70W	12, 15, 18, 24, 36, 48Vdc	3 years	8.5-91.6%	<0.15W	II
DTM110-C8	105-110W	12, 15, 19, 24, 28, 36, 48Vdc	3 years	>89%	<0.15W	II
DTM160	150-160W	12, 24, 36, 48Vdc	3 years	89.8-92.6%	<0.15W	I
DTM160-C8	150-160W	12, 24, 36, 48Vdc	3 years	89.8-92.6%	<0.15W	II
DTM250	250W	12, 19, 24, 28, 36, 48, 54Vdc	3 years	>89%	<0.15W	I
DTM300-D1	300W	12, 15, 19, 24, 28, 48, 54Vdc	3 years	>88%	<0.5W	I
DTM300-D2	300W	12, 15, 19, 24, 28, 48, 54Vdc	3 years	>88%	<0.5W	II

# **KMS-A Series**

# **PCB** mount power supplies

- Safety certifications 60601-1 and 62368-1
- Typically serves for B and BF rated equipment
- Protection class II
- I/O isolation 4KVAC, 2 x MOPP
- Low off-load power draw







Model	Output power	Output voltage	Warranty	Average efficiency	No load power
KMS15A	15W	5, 9, 12, 15, 24Vdc	3 years	79-85%	<0.1W
KMS30A	30W	5, 9, 12, 15, 24Vdc	3 years	84-86%	<0.15W
KMS60A	60W	5.1, 9, 12, 15, 24Vdc	3 years	86-87%	<0.3W

# **PX-M Series**

## Isolated enclosed PCB mount DC-DC converter

- Safety certifications IEC 60601-1 and IEC 62368-1
- 2 x MOPP isolation
- Wide 4:1 input range
- Compact industry packages
- Low no load power consumption









Model	Output power	Output voltage	Dimensions / Format	Warranty	Cooling
PXC-M03 (S)	3W	3.3, 5, 12, 15, 24Vdc	DIP-24 Package	5 years	•
PXC-M03 (D)	3W	$\pm 5$ , $\pm 12$ , $\pm 15$ , 10, 24, 30Vdc	DIP-24 Package	5 years	<b>(</b>
PXC-M06 (S)	6W	3.3, 5, 12, 15, 24Vdc	DIP-24 Package	5 years	•
PXC-M06 (D)	6W	±5, ±12, ±15, 10, 24, 30Vdc	DIP-24 Package	5 years	•
PXC-M10 (S)	10W	3.3, 5, 12, 15, 24Vdc	DIP-24 Package	5 years	<b>(</b>
PXC-M10 (D)	10W	$\pm 5$ , $\pm 12$ , $\pm 15$ , 10, 24, 30Vdc	DIP-24 Package	5 years	<b>(</b>
PXG-M15 (S)	15W	5, 12, 15, 24Vdc	1.6x1"	5 years	•
PXG-M15 (D)	15W	±5, ±12, ±15, 10, 24, 30Vdc	1.6x1"	5 years	•
PXG-M20 (S)	20W	5, 12, 15, 24Vdc	1.6x1"	5 years	•
PXG-M20 (D)	20W	±5, ±12, ±15, 10, 24, 30Vdc	1.6x1"	5 years	•
PXD-M30 (S)	30W	5, 12, 15, 24Vdc	2x1"	5 years	•
PXD-M30 (D)	30W	±5, ±12, ±15, 10, 24, 30Vdc	2x1"	5 years	•



# **RS Series**

# **EMI Filters**

- Extensive range of product
- Single phase input
- RoHS compliant
- Conforms to ENEC, UL and cUL certifications
- Low leakage current





www.emea.lambda.tdk.com/rs



Model (xx/L)	Description	Input voltage	Rated current	Leakage current@250Vac, 60 Hz
RSAL-20xx/L	Chassis mount	250Vac	0.5-6A	10μΑ
RSEL-20xx/L	Chassis mount	250Vac	0.5-6A	10μΑ
RSAN-20xx/L	Chassis mount, DIN rail optional	250Vac	3-30A	10μΑ
RSEN-20xx/L	Chassis mount, DIN rail optional	250Vac	3-30A	10μΑ
RSHN-20xx/L	Chassis mount, DIN rail optional	250Vac	3-30A	10μΑ
RSMN-20xx/L	Chassis mount, DIN rail optional	250Vac	3-30A	10μΑ

# **IEC Series**

# **EMI Filters**

- Conforms to ENEC, UL and cUL certifications
- Easy to install
- Compact size
- Optional modular fuse holder and switch
- Available from 1A to 20 A at 250Vdc/ac





www.emea.lambda.tdk.com/iec



17

Model (xxM)	Description	Input voltage	Rated current	Leakage current@250Vac, 60 Hz
B84771 /M	IEC-Filter	250Vac	1-20A	2μΑ
B84773 /M	IEC-Filter with fuse	250Vac	1-10A	2μΑ
B84776 /M	IEC-Filter with fuse and switch	250Vac	1-10A	2μΑ

# Power+ Solutions

What if a standard power supply does not meet your specifications? You need a different cable, or a special housing?

What if you need this "custom solution" not just once, but for high volume production?

That's exactly the reason TDK-Lambda has developed the Power+ Solutions programme.

This programme can be adjusted to meet your needs perfectly with additional services in a modular way, up to the full package. Many successful strategic partnerships with our customers are based on the reliability of this concept.

# Value of using TDK-Lambda Power+ Solutions:

- Leading range of customizable standard products
- Full back-up of engineering, logistics and manufacturing services
- Optimum flexibility of local and oversea manufacturers
- Prolonged product lifetime and quality
- Highly experienced local teams
- One dedicated contact takes care of all your demands



## **Programme:**

# Modified standard

- A slight modification (electrical and physical)
   to a standard TDK-Lambda product
- Customized mechanical housing (chassis)
- Filter solutions for input and output
- Additional function and communication/signals
- Non standard voltages
- Cable looms and connectors
- Ruggedisation for shock, vibration, high g and outdoor environments
- Brick on board
- Custom designs utilizing our broad range of AC-DC and DC-DC power modules. Benefits include low NRE and fast time to market.

## Full custom design to customer specification

A power supply designed to meet the customer's unique set of requirements







# Healthcare

# Product Overview

AC-DC Single o	utput					
Product series	Description	Output power [W]	Outputs	Output voltage [Vdc]	Protection class	Cooling
KMS15A	Enclosed - PCB mount	15	1	5, 9, 12, 15, 24	Class II	•
KMS30A	Enclosed - PCB mount	25-30	1	5, 12, 15, 24	Class II	•
KMS60A	Enclosed - PCB mount	51-60	1	5.1, 9, 12, 15, 24	Class II	•
CUS30M	Open frame, enclosed	30	1	12, 15, 18, 24, 36, 48	Class I & Class II	•
CUS60M	Open frame, enclosed	60	1	5, 12, 15, 18, 24, 48	Class I & Class II	•
CUS100ME	Open frame, U-channel, baseplate, enclosed	100	1	12, 15, 18, 24, 28, 36, 48	Class I & Class II	<b>◇ ② @</b>
CUS150M	Open frame, U-channel, baseplate, enclosed, enclosed with top fan	120-150	1	12, 15, 18, 24, 28, 36, 48	Class I & Class II	<b>◇ ② ② ②</b>
CUS200M	Open frame, L-bracket, enclosed	200-250	1	12, 18, 24, 36, 48	Class I	<b>◇ ②</b>
CUS250M	Open frame with baseplate, U-channel, enclosed, enclosed with top fan	250	1	12, 15, 18, 24, 28, 36, 48	Class I & Class II	<b>◇</b> ♥ ⊕ @
CUS350MP	Open frame, enclosed	350-1000	1	24, 30, 36, 48	Class I	<b>⋄</b> •
CUS400M	Open frame, U-channel, baseplate, enclosed, enclosed with top fan	250-400	1	12, 15, 19, 24, 28, 36, 48	Class I & Class II	<b>◇ ② ② ②</b>
CUS500M1	Open frame, enclosed with end fan	300-500	1	12, 19, 24, 28, 32, 36, 48	Class I & Class II	<b>◇ ② ②</b>
CUS600M	Open frame, enclosed with end fan	400-600	1	12, 19, 24, 28, 32, 36, 48	Class I & Class II	<b>◇ ② ②</b>
CUS800M	Enclosed with end fan	680-800	1	12, 24, 36, 48	Class I	₿
CUS1000M	Enclosed with end fan	800-1000	1	12, 24, 36, 48	Class I	₿
CUS1200M *	Enclosed with end fan	1200	1	24, 36, 48	Class I	₿
CUS1500M	Enclosed with end fan	1500	1	12, 15, 24, 36, 48	Class I	₿
XMS500A	Open frame, U-channel, baseplate, enclosed, enclosed with top fan	500	1	12, 24, 36, 48	Class I or Class II	<b>◇</b> ②
GXE600	U-channel, enclosed	600	1	24, 48	Class I	<b>⋄</b>
QS4 - QS7	Enclosed with end fan	600-1200	1	12, 24, 48	Class I	8

AC-DC Multi ou	tput					
Product series	Description	Output power [W]	Outputs	Output voltage [Vdc]	Protection class	Cooling
CUT35	Open frame, baseplate, enclosed	35	2, 3	5/±12, 5/±15, 5/24, 5/30	Class I	<b>•</b>
CUT75	Open frame, baseplate, enclosed	75	2, 3	5/±12, 5/±15, 5/24, 5/30	Class I	•
NV175	Open frame, U-channel, enclosed, enclosed with end fan	175-180	1-5	0.9-28	Class I	<b>◇ ②</b>
NV175M	Open frame, U-channel, enclosed, enclosed with end fan	180	1-3	3.3-28	Class I	<b>⊗</b> ⊗
NVM175	Open frame, U-channel, enclosed	180	1-2	5, 12, 24	Class I	•
NV350	Enclosed with end fan or customer air	350-660	1-6	3.2-64	Class I	<b>○</b> €
NV700	Enclosed with end fan or customer air	700-1150	1-8	3.2-64	Class I	<b>S</b> €
MU4	Enclosed with end fan	600-800	1-5	3.3-104	Class I	€
MU6 *	Enclosed with end fan	1200-1500	1-13	3.3-105.6	Class I	₿
QM4	Enclosed with end fan or customer air	550-650	1-10	2.8-105.6	Class I	<b>S</b> €
QM5	Enclosed with end fan or customer air	700-1200	1-12	2.8-105.6	Class I	<b>S</b> €
QM7	Enclosed with end fan or customer air	1200-1500	1-16	2.8-105.6	Class I	<b>○</b> €
QM8	Enclosed with end fan or customer air	1200-1500	1-18	2.8-105.6	Class I	<b>S</b> €
QM8B	Enclosed with end fan or customer air	1200-2000	1-18	2.8-105.6	Class I	<b>S</b> €
Vega	Enclosed with end fan or customer air	450-900	1-10	0.25-62 (0.25-60)	Class I	<b>S</b> €
Vega-Lite	Enclosed with end fan or customer air	550-900	1-11	1.8-56	Class I	<b>S</b> €

<sup>\*</sup> coming soon





21

Product series	Description	Output power [W]	Outputs	Output voltage [Vdc]	Dimensions WxLxH [mm]	Protection class	Cooling
DTM36-C8	External adapter	25-30	1	5, 9, 12, 13.5, 15, 18, 24, 36, 48	100 x 45 x 22.5	Class II	•
DTM65-D	External adapter	40-65	1	5, 12, 15, 19, 24, 28, 36, 48	132 x 69 x 40	Class I	•
DTM65-C8	External adapter	40-65	1	5, 12, 15, 19, 24, 28, 48	132 x 69 x 40	Class II	•
DTM70	External adapter	70	1	12, 15, 18, 24, 36, 48	120 x 52 x 31	Class I	•
DTM70-C8	External adapter	70	1	12, 15, 18, 24, 36, 48	120 x 52 x 31	Class II	•
DTM110-C8	External adapter	105-110	1	12, 15, 19, 24, 28, 36, 48	140 x 63 x 33	Class II	•
DTM160	External adapter	150-160	1	12, 24, 36, 48	150 x 70 x 38	Class I	•
DTM160-C8	External adapter	150-160	1	12, 24, 36, 48	150 x 70 x 38	Class II	•
DTM250	External adapter	250	1	12, 19, 24, 28, 36, 48, 54	200 x 90 x 45	Class I	•
DTM300-D1	External adapter	300	1	12, 15, 19, 24, 28, 48, 54	222 x 112 x 45	Class I	•
DTM300-D2	External adapter	300	1	12, 15, 19, 24, 28, 48, 54	222 x 112 x 45	Class II	•
WMM30	Wall plug-in	25-30	1	5, 9, 12, 15, 18, 24	96.7 x 58 x 43.3	Class II	•

Description	Output power [W]	Outputs	Output voltage [Vdc]	Dimensions WxLxH [inches]	Cooling
Isolated PCB mount	3	1	3.3, 5, 12, 15, 24	1.25 x 0.8 x 0.4	•
Isolated PCB mount	3	2	±5, ±12, ±15, 10, 24, 30	1.25 x 0.8 x 0.4	•
Isolated PCB mount	6	1	3.3, 5, 12, 15, 24	1.25 x 0.8 x 0.4	•
Isolated PCB mount	6	2	±5, ±12, ±15, 10, 24, 30	1.25 x 0.8 x 0.4	•
Isolated PCB mount	10	1	3.3, 5, 12, 15, 24	1.25 x 0.8 x 0.4	•
Isolated PCB mount	10	2	±5, ±12, ±15, 10, 24, 30	1.25 x 0.8 x 0.4	•
Isolated PCB mount	15	1	5, 12, 15, 24	1.6 x 1 x 0.4	•
Isolated PCB mount	15	2	±5, ±12, ±15, 10, 24, 30	1.6 x 1 x 0.4	•
Isolated PCB mount	20	1	5, 12, 15, 24	1.6 x 1 x 0.4	•
Isolated PCB mount	20	2	±5, ±12, ±15, 10, 24, 30	1.6 x 1 x 0.4	•
Isolated PCB mount	30	1	5, 12, 15, 24	2 x 1 x 0.4	•
Isolated PCB mount	30	2	±5, ±12, ±15, 10, 24, 30	2 x 1 x 0.4	•
	Isolated PCB mount	Isolated PCB mount 3 Isolated PCB mount 3 Isolated PCB mount 6 Isolated PCB mount 6 Isolated PCB mount 10 Isolated PCB mount 10 Isolated PCB mount 15 Isolated PCB mount 15 Isolated PCB mount 20 Isolated PCB mount 20 Isolated PCB mount 20 Isolated PCB mount 30	Solated PCB mount   3	Isolated PCB mount   3	Isolated PCB mount         WxLxH [inches]           Isolated PCB mount         3         1         3.3, 5, 12, 15, 24         1.25 x 0.8 x 0.4           Isolated PCB mount         6         1         3.3, 5, 12, 15, 24         1.25 x 0.8 x 0.4           Isolated PCB mount         6         2         ±5, ±12, ±15, 10, 24, 30         1.25 x 0.8 x 0.4           Isolated PCB mount         10         1         3.3, 5, 12, 15, 24         1.25 x 0.8 x 0.4           Isolated PCB mount         10         2         ±5, ±12, ±15, 10, 24, 30         1.25 x 0.8 x 0.4           Isolated PCB mount         15         1         5, 12, 15, 24         1.6 x 1 x 0.4           Isolated PCB mount         15         2         ±5, ±12, ±15, 10, 24, 30         1.6 x 1 x 0.4           Isolated PCB mount         20         1         5, 12, 15, 24         1.6 x 1 x 0.4           Isolated PCB mount         20         2         ±5, ±12, ±15, 10, 24, 30         1.6 x 1 x 0.4           Isolated PCB mount         30         1         5, 12, 15, 24         2 x 1 x 0.4

Filters for medical applications								
Product series	Medical product code (_xx)	Description	Input voltage [Vac]	Rated current [A]	Cooling			
RSAL-20xx	/L	Chassis mount	250	0.5-6	•			
RSEL-20xx	/L	Chassis mount	250	0.5-6	•			
RSAN-20xx	/L	Chassis mount, Din rail optional	250	3-30	•			
RSEN-20xx	/L	Chassis mount, Din rail optional	250	3-30	•			
RSHN-20xx	/L	Chassis mount, Din rail optional	250	3-30	•			
RSMN-20xx	/L	Chassis mount, Din rail optional	250	3-30	•			
B84771	M	IEC-Filter	250	1-20	•			
B84773	M	IEC-Filter with fuse	250	1-10	•			
B84776	M	IEC-Filter with fuse and switch	250	1-10	•			

# Medical Products Isolation Table

Product series	Operator-/ Patien	t-Protection		Isolation	
	input to output	input to ground	output to ground	input to output	input to ground
AC-DC Single output					
KMS-A	2 x MOPP	Class II	Class II	4kVac	Class II
CUS30M/ 60M/ 100ME/ 150M/ 400M	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
CUS250M	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
CUS200M/ 350MP-1000	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	2kVac
CUS500M1/600M	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	2kVac
CUS800M/1000M/1200M	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	2kVac
CUS1500M	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	2kVac
XMS500A	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
GXE600	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	2kVac
QS4, QS5, QS5H, QS7	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
AC-DC Multi output					
CUT35/ 75	2 x MOOP	1 x MOOP	1 x MOOP	3kVac	2kVac
NV175	2 x M00P	1 x MOOP	functional isolation	3kVac	1.5kVac
NV175M	2 x MOPP	1 x MOPP	functional isolation	4kVac	1.5kVac
NVM175	2 x MOPP	1 x MOPP	1 x MOPP	4.5kVac	1.5kVac
NV350/ 700 - C type modules only	2 x MOPP	1 x MOOP	functional isolation	4kVac	1.5kVac
NV350/ 700 - CM type modules only	2 x MOPP	1 x MOOP	1 x MOPP	4kVac	1.5kVac
NV350/ 700 - all other models	2 x M00P	1 x MOOP	functional isolation	3kVac	1.5kVac
MU4, MU6	2x MOPP	1x MOPP	1x MOPP	4kVac	1.5kVac
QM4, QM5, QM5H, QM7, QM8,QM8B	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
Vega, Vega-Lite	2 x MOPP	1 x MOPP	functional isolation	4kVac	2.3kVdc
AC-DC External / Desktop					
DTM36-C8	2 x MOPP	Class II	Class II	4kVac	Class II
DTM65-D	2 x MOPP	1 x MOPP	ground connection or optional 1 x MOPP	4kVac	1.5kVac
DTM65-C8	2 x MOPP	Class II	Class II	4kVac	Class II
DTM70	2 x MOPP	1 x MOPP	1 x MOPP or optional ground connection	4.4kVac	1.8kVac
DTM70-C8	2 x MOPP	Class II	Class II	4.4kVac	Class II
DTM110-C8	2 x MOPP	Class II	Class II	4kVac	Class II
DTM160	2 x MOPP	1 x MOPP	1 x MOPP or optional ground connection	4.4kVac	1.8kVac
DTM160-C8	2 x MOPP	Class II	Class II	4.4kVac	Class II
DTM250	2 x MOPP	1 x MOPP	1 x MOPP or optional ground connection	4kVac	1.5kVac
DTM300-D1	2 x MOPP	1 x MOPP	1 x MOPP	4kVac	1.5kVac
DTM300-D2	2 x MOPP	Class II	Class II	4kVac	Class II
WMM30	2 x MOPP	Class II	Class II	4kVac	Class II
DC-DC					
PX-M	2 x MOPP	N/A	N/A	5kVac	N/A

<sup>\*</sup>Suitability should always be qualified in the end application Ready to use End equipment requirements

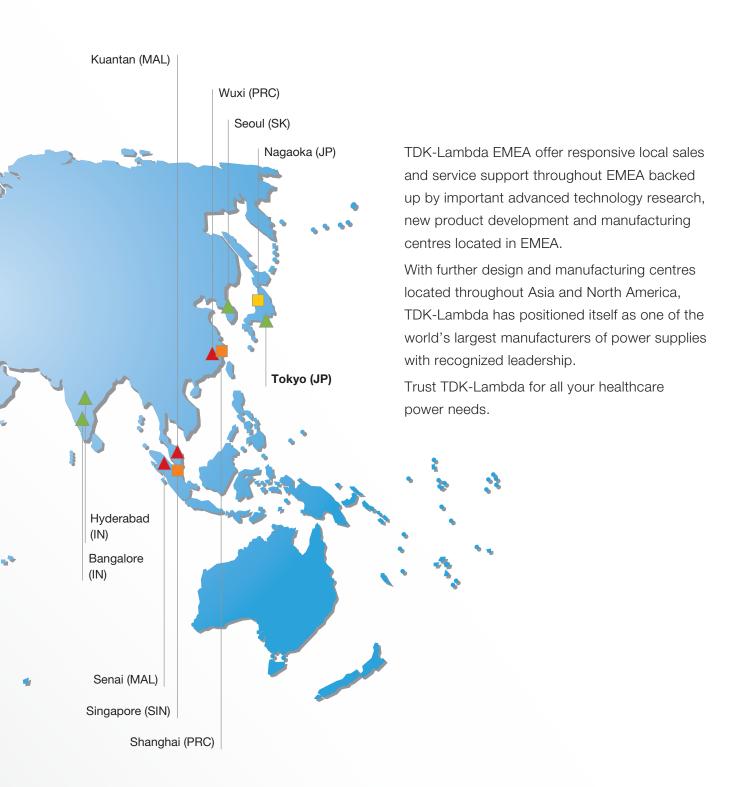


23

output to ground	Earth leakage current	Typically serves for B	B and BF rated equipment*	Working altitude up to medical	Protection class
output to ground			DI .	inculcul	
Class II	Class II			5000m	Class II
1.5kVac	<250µA			5000m	Class I & Class II
1.5kVac	<150μΑ			5000m	Class I & Class II
1.5kVac	<300μΑ			4000m	Class I
1.5kVac	<200µA			5000m	Class I & Class II
1.5kVac	<250μA			5000m	Class I
1.5kVac	<300μΑ			4000m	Class I
1.5kVac	<150µA			3000m	Class I or Class II
1.5kVac	<300μΑ			5000m	Class I
1.5kVac	<300μΑ			5000m	Class I
500Vac	<300µА			4000m	Class I
200Vdc	<300μΑ			3000m	Class I
200Vdc	<300μΑ			3000m	Class I
1.5kVac	<200µA			3000m	Class I
200Vdc	<300μΑ			5000m	Class I
500Vac	<300μΑ			5000m	Class I
200Vdc	<300μΑ			5000m	Class I
1.5kVac	<300μΑ			4000m	Class I
1.5kVac	<300μΑ			5000m	Class I
200Vdc	<300µА			5000m	Class I
Class II	Class II			5000m	Class II
ground connection or 1.5kVac	<300μΑ			5000m	Class I
Class II	Class II			3000m	Class II
1.8kVac	<300μΑ			5000m	Class I
Class II	Class II			5000m	Class II
Class II	Class II			5000m	Class II
1.8kVac	<300μΑ			5000m	Class I
Class II	Class II			5000m	Class II
1.5kVac (optional ground connection)	<300μΑ			5000m	Class I
1.5kVac	<300μΑ			5000m	Class I
Class II	Class II			5000m	Class II
Class II	Class II			5000m	Class II
N/A	N/A			5000m	N/A







# TDK-Lambda Value

TDK-Lambda Corporation, a group company of TDK Corporation, is a leading global power supply company providing highly reliable power supplies worldwide. Our comprehensive range of 1.5W to 60kW AC-DC power supplies, DC-DC converters, Programmable (Lab) DC power supplies and EMC/EMI noise filters suit many applications. With design and manufacturing facilities in EMEA, Asia and America, TDK-Lambda is a major supplier of power conversion products and a recognized leader in the industrial and medical market segment.

# TDK-Lambda offers customers a unique proposition for power supply solutions.

We offer you innovative reliable power supplies combined with design-in assistance, global logistics expertise and total life cycle support.

## **TDK-Lambda quality**

Quality can never be assured entirely by final inspection. Quality at TDK-Lambda means a continuous process beginning at the development of a power supply. Extensive R&D activities, field proven topologies, components and validation and test methologies coupled with the extraordinary process reliability and high production quality leads to TDK-Lambda quality.

# Strong global organization

As a member of TDK Group we are a global player based in five key areas covering Japan, EMEA, North America, China and SE Asia. All over the world we are confident of being a trusted partner and offer you innovative and reliable power products combined with dependable service.

# **Excellent sales and technical support**

We support you with everything from design-in assistance, EMC standards and safety certification through to mass production and long term back up. We offer responsive local sales and service support backed up by important Advanced Technology Research, new product development and manufacturing centres.

## Highly experienced global logistics capability

Uniquely we can provide the optimum manufacturing strategy for your needs in our own fully equipped plants from low volume to high volume manufacturing.



Similarly we have multiple strategically located warehouses, offering a full menu of logistic services including tailor-made solutions.

# Leaders in the development of advanced technologies

Our position as a highly experienced, leading global supplier means we can capitalise on our extensive Advanced Technology Research and over 700 patents to provide the next generation of innovative, leading edge power solutions. Highly motivated R&D teams, located in design facilities worldwide have knowledge of the key attributes of many different applications gained from many years experience.

## Lowest cost of ownership

Our key focus is not only ensuring the long term reliability of our products but also being reliable in all aspects of our business delivering high quality products and services. 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.

Choose TDK-Lambda for excellent service and all your power needs.





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



#### **TDK-Lambda France SAS**

Tel. +33 1 60 12 71 65 tlf.fr-powersolutions@tdk.com www.emea.lambda.tdk.com/fr



#### **TDK-Lambda Americas**

Tel. +1 800-LAMBDA-4 or 1-800-526-2324 tla.powersolutions@tdk.com www.us.lambda.tdk.com



#### Italy Sales Office

Tel. +39 02 61 29 38 63 tlf.it-powersolutions@tdk.com www.emea.lambda.tdk.com/it



#### **TDK Electronics do Brasil Ltda**

Tel. +55 11 3289-9599 sales.br@tdk-electronics.tdk.com www.tdk-electronics.tdk.com/en



#### Netherlands

tlf.nl-powersolutions@tdk.com www.emea.lambda.tdk.com/nl



#### TDK-Lambda Corporation

Tel. +81 3 6778 1113 www.jp.lambda.tdk.com



#### TDK-Lambda Europe GmbH

Tel. +49 7841 666 0 tlg.powersolutions@tdk.com www.emea.lambda.tdk.com/de



#### TDK-Lambda (China) Electronics Co. Ltd.

Tel. +86 21 6485 0777 tlc.powersolutions@tdk.com www.lambda.tdk.com.cn



#### Austria Sales Office

Tel. +43 2256 655 84 tlg.at-powersolutions@tdk.com www.emea.lambda.tdk.com/at



## TDK-Lambda Singapore Pte Ltd.

Tel. +65 6251 7211 tls.marketing@tdk.com www.sg.lambda.tdk.com



# Switzerland Sales Office

Tel. +41 44 850 53 53 tlg.ch-powersolutions@tdk.com www.emea.lambda.tdk.com/ch



#### TDK India Private Limited,

Power Supply Division Tel. +91 80 4039 0660 mathew.philip@tdk.com www.sg.lambda.tdk.com



## TDK-Lambda Europe GmbH

Tel. +45 3222 8086 tlg.dk-powersolutions@tdk.com www.emea.lambda.tdk.com/dk



#### TDK-Lambda UK Ltd.

Tel. +44 (0) 12 71 85 66 66 tlu.powersolutions@tdk.com www.emea.lambda.tdk.com/uk



#### TDK-Lambda Ltd.

Tel. +9 723 902 4333 tli.powersolutions@tdk.com www.emea.lambda.tdk.com/il-en





HY-LINE Technology GmbH

Tel. +49 89 614 503 10 Fax +49 89 614 503 50 sales@hy-line.de https://www.hy-line-group.com HY-LINE AG

Tel. +41 52 647 42 00 Fax +41 52 647 42 01 info@hy-line.ch https://www.hy-line-group.com