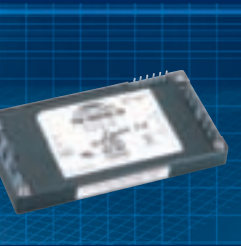


Power supplies and DC/DC converters



Power+. Theory equals reality.





Power alone is not enough which is why Lambda offers Power+

Power+ is our promise to deliver the lowest cost of ownership in the market through a combination of technical innovation driven by our customers needs, a wide range of power solutions, global application and logistics support, and also reliability in our products and everything we do.

Lambda Power+ turning the theory of lowest cost of ownership into reality.



Modular power supplies

NV Power 175/300 W

NV Power is based around a configurable planar transformer, and employs Multiple Efficiency Gain (MEG) technology to achieve its class leading efficiency for multiple output PSUs.

The Lambda approach is essentially a unique use of synchronous rectifiers in a resonant topology.

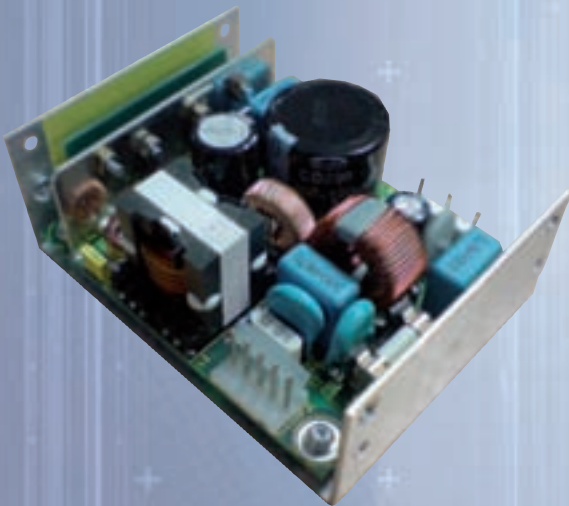
The NV-175 and the new NV-300 have both boast class leading power densities: 8.3 W/in³ for the NV-300 and 9.36 W/in³ for the NV-175.

With a total height of only 32 mm (open frame) or 40,6 mm (with cover) the units suit for 1 U applications.

The units are fully approved to EN60950, EN61010 and EN60601 and could be used in all areas of test, automation, and medical.

Both units are available as open frame units and with several case options, starting with a similar U-bracket up to a complete closed case with IEC-inlet and temperature controlled cooling fan.

A DC-input module is available for use with the NV-175 series. (Input: 36–72 V; Output: 220 V DC at 225 W)



series	NV Power 175 W	NV Power 300 W
power	175 / 200 W	300 W
number of outputs	1 – 5	1 – 5
output voltage	1.5 – 28 V	1.5 – 28 V
input voltage	90 – 264 VAC	90 – 264 VAC 120 – 350 V DC
format	open frame optional case	open frame optional case
warranty	3 years	3 years

NV Power 350/700 W

Using the same innovative technics as the NV-175 and NV-300, the NV-350 and NV-700 is the fully configurable modular design of NV-power. Three types of output modules with various output voltages offer a great variance on power supplies with up to 8 isolated output voltages and various signal options for primary and secondary. The 350 W units offer up to 6 outputs. The 700 W units offer up to 8 outputs. Additionally the NV-700 is able to deliver up to 960 W output power at input voltages bigger 150 V AC.

To configure a unit, just type in your voltage and current requirements in the NV-configurator on the Lambda website.

NV-350 and NV-700 are booth fully approved in accordance to EN60950, EN61010 and EN60601 for use in test-equipment factory automation and especially medical applications.

series	NV Power 350 W	NV Power 700 W
power	350 W	700 W (960 W)
number of outputs	1 – 6	1 – 8
output voltage	3.2 – 32 V	3.2 – 32 V
input voltage	90 – 264 VAC	90 – 264 VAC
format	open frame optional case	open frame optional case
warranty	3 years	3 years



NV-FEP

This model is specially designed for distributed power architectures. It provides a 12 V/29 A (350 W) main output with a additional 12 V auxiliary supply. The unit has a class leading efficiency of 91 %.

Compared with the NV-350 standard unit, the FEP has only a depth of 236 mm (46 mm shorter).

series	NV-FEP
power	350 W
number of outputs	2
output voltage	12 V / 29 A and 12 V / 2 A
input voltage	90 – 264 VAC
format	closed case
warranty	3 years





VEGA Lite **NEW**

VEGA Lite is the furious improvement of the existing VEGA range. The output power increased to 500 watts and 700 watts (up to 900 watts at highline-input) within the same case.

VEGA Lite offers up to 11 outputs in a range between 1.8 V and 56 V with industry leading power density.

Worldwide safety approvals and CB-reports for industrial and medical Safety standards enables this power supply to be used in a brought range of industrial and medical applications.



VEGA

The most diversified modular power supply manufactured by Lambda. Offering a wide range of modules, combined with innovative technology provides new applications to the user.

Providing output ratings of 450 W, 650 W and 900 W and a full range of output voltages between 1.8 V and 62 V the VEGA series' compact design makes it simpler for customers to install in their applications.

New wide range modules and programmable options fitted with an integrated microcontroller provide further applications in testing and laboratory environment.

Vega is available certified to UL2601/IEC60601 with reinforced insulation, so it can be used also for medical applications.

series NEW	VEGA Lite	VEGA
power	550, 750 W	450, 650, 900 W
power at highline input	700, 900 W	–
number of outputs	1 – 11	1 – 11
output voltage	1.8 – 56 V	1.8 – 62 V
input voltage	wide range 85 – 265 VAC	wide range 85 – 265 VAC
input voltage highline	170 – 265 VAC	36 – 75 VDC
format	closed case	closed case
warranty	3 years	3 years

Alpha

Alpha is a real “powerpack”, with our 1500 W model offering up to 16 different outputs, with voltage ranging from 1.8 V to 48 V. The 400 W, 600 W, 1000 W and 1500 W power ranges available cover a wide range of applications. Fast-On terminals ensure quick installation of Alpha into customers' applications.

series	Alpha
power	400, 600, 1000, 1500 W
number of outputs	1 – 16
output voltage	2 – 48 V
input voltage	wide range 85 – 265 VAC
format	closed case
warranty	3 years



Line filter

Lambda offers a complete range of line filters to provide optimum attenuation of conducted noise. Further series with higher current capability and designs for 48 VDC are available on request.

MC12 / MZ12 series 1-phase

New standard, complies with RoHS directive led by lead free. Meets every aspect of industrial requirement for EMC solution. High cost performance, terminal connection type Noise Filter. Available with low leakage and DIN-Rail Option.

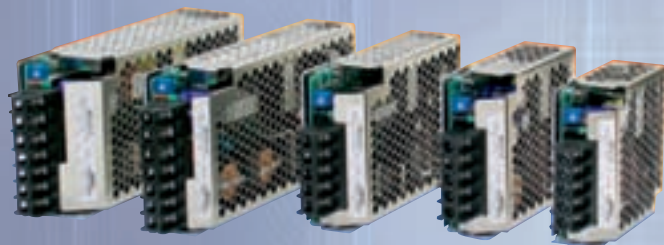
MC13 series 3-phase

Compact & clean. Small to mount on FA/Robot control panel. Environmentally friendly and lead free. Available for screw mounting and DIN-Rail mounting.



series	MC12	MZ12	MC13
rated voltage	250 V	250 V	500 VAC 3-phase 50/60 Hz
rated current	6 A – 30 A	6 A – 30 A	6 A – 30 A
test voltage	terminal-case: 2500 VAC (20 mA)	terminal-case: 2500 VAC (20 mA)	terminal-case: 2000 VAC (100 mA)
leakage current standard or low leakage type	1 mA max. at 250 VAC or 10 µA max. at 250 VAC	1 mA max. at 250 VAC or 10 µA max. at 250 VAC	5 mA max. at 500 VAC
dimensions (DIN-type)	97 (108) x 34.5 x 60 mm	97 (108) x 34.5 x 60 mm	145 (136) x 52 x 63 mm
weight	300 g	300 g	600 g





Power supplies for industrial applications

Power supplies, designed for high reliability and long product life. Main applications: industrial, telecoms, automation and test.

HWS series

Designed to comply with ROHS directive. 60 % smaller in volume than former product because of high efficiency design. Seven models from 15 W to 1500 W with common high (fits for 2 U applications) provide output voltages from 3.3 V to 48 V.

HWS/ME series

NEW

Medical version of the HWS series approved by UL60601 and EN60601 with reduced leakage current.

HWS/HD series

NEW

HWS for harsh environments. Guaranteed startup at -40°C , PCB coating and shock and vibration tests in accordance with MIL-standards enables the use of this power supply under heavy duty conditions.

RTW series

NEW

The RTW series of single output power supplies will all fit within a 1 U rack format and are designed for no fan or low airflow applications.

RKE series

NEW

Very compact high efficient 1500 W power supply.

LZSa-series

NEW

Power supply for harsh environment with high operating temperatures up to 71°C .

SWS series

An optimum solution in cost and quality. The SWS series provide now all output voltages from 3.3 V to 24 V (up to 48 V. For 300 W and 600 W unit) and offers a power range from 50 W up to 600 W with 6 models.

JWS-series

Industrial power supply from 50 up to 600 W with special models for peak load applications and triple-output.

series	HWS	RTW	RKE	LZSa	SWS	JWS / JWT
power	15 – 1500 W	50 – 300 W	1500 W	500 – 1500 W	50 – 600 W	50 – 600 W
number of outputs	1	1	1	1	1	1 / 3
output voltage setting range	3.3 – 48 V	3.3 – 48 V	24 – 48 V	12 V nom 10 – 15.75 V 24 V nom 18 – 29.4 V	3.3 – 24 V (50 – 150 W) 3.3 – 48 V (300 – 600 W)	2 – 48 V $\pm 20\%$
input voltage	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC
format	closed	closed	closed	closed	closed	open or closed
warranty	5 years	5 years	5 years	5 years	2 years	5 / 3 years

DIN rail products

Compact and robust, these products are designed for easy installation onto standard rails.

As these power supplies typically are mounted in cabinets or switchboards, their dimensions have to complement to switchboard components like contactors and automatic circuit breakers.

DSP series **NEW**

Flat DIN rail power supply with only 56 mm depth for mounting in wall cabinets. Four output voltages between 5 V and 24 V with output power from 10 W to 100 W are available.

DPP-15 to DPP-100 series

The most compact DIN rail power supply with 15 W to 100 W output power and various output voltages between 5 V and 48 V. The compact size enables this power supply to be used even in applications with very narrow space.

DLP series

The DLP range offers power supplies between 75 W and 240 W with 24 V output in a metal case. Low cost, high reliability and lead free design. Main applications: factory automation, industrial control and test and measurement applications.

DLP-PU

Parallel operation backup unit for DLP series. DLP-PU will provide you with not only backup function but also capacity addition by being used with DLP series of power supplies in parallel operation. Capability 21 – 28 V at 20 A.

DPP-120 to DPP-480 series **NEW**

The most powerful DIN rail supplies from Lambda. With single-phase and three-phase input, these units offer nom. 12 V, 24 V and 48 V output voltage with 120 W, 240 W and 480 W.

Additional models with 3-phase input and output power up to 1 kW under development. Please ask Technical Sales for actual status.



series	NEW DSP-10 to -100	DPP-15 to -100	DLP-75 to -240	NEW DPP-120 to -480
rating	15 – 100 W	15 – 100 W	75 – 240 W	120 – 480 W
output voltage	5 – 24 VDC	5 – 48 VDC	22 – 28 VDC	22.5 – 56 VDC
input voltage	1-phase 85 – 264 VAC	1-phase 85 – 264 VAC	1-phase 85 – 264 VAC	1-phase 85 – 264 VAC 3-phase 340 – 575 VAC
warranty	2 years	2 years	3 years	2 years





AC/DC modules

KPS series

The KPS series are PCB mounted power supplies with wide range input and output voltages from 5 V to 15 V. Three different models with 5 W, 10 W and 15 W output power are available. New PCB design KPSA with improved performance will be available soon.

series	KPS
rating	5 – 15 W
output voltage	3 – 24 V
input voltage	wide range 85 – 265 VAC
format	open frame with pinning
warranty	1 year



OEM power supplies

ZP series

**New generation of open frame power supplies.
High efficiency design in very compact format.**

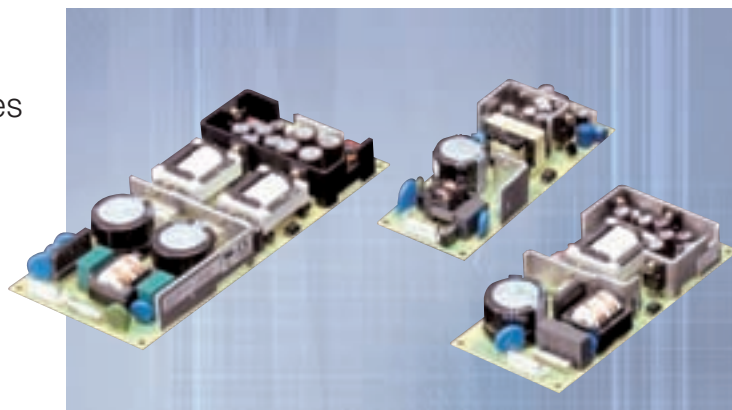
Only 2" x 3.5" for 20 watt units and 2" x 4" for 40 watt and 60 watt units, 3" x 5" for 100 watt units.

In the 40 watt range there are also models with double and triple output available. **NEW**
New PCB design ZPSA with improved performance will be available soon.

	NEW ZPS	NEW ZPD	NEW ZPT
series	ZPS	ZPD	ZPT
power	20 – 100 W	40 W	40 W
number of outputs	1	2	3
output voltage	3 – 48 V	5 V, 12 V 5 V, 24 V	5 V and 3.3 V main output 5 V, ± 12 V, ± 15 V, 24 V auxiliary outputs
input voltage	wide range 85 – 264 VAC	wide range 85 – 264 VAC	wide range 85 – 264 VAC
format	open frame	open frame	open frame
warranty	1 year	1 year	1 year

MTW series Triple Output Power Supplies

The MTW series of 15 to 60 W low profile triple output units fit within the 1 U rack format.



part No.	MTW15-51212	MTW30-51212	MTW60-51212
output voltage (V)	current (A)	current (A)	current (A)
$V_1 = +5.0$	2.0 (Peak 3.0)	3.0 (Peak 4.5)	5.0 (Peak 7.0)
$V_2 = +12.0$	0.3 (Peak 0.6)	1.2 (Peak 2.0)	2.5 (Peak 3.5)
$V_3 = -12.0$	0.2 (Peak 0.3)	0.3 (Peak 0.45)	5.0 (Peak 07)

ZW series

Open frame power supplies rating from 5 W up to 240 W with 1 to 4 output voltages. PAF models provide peak output performance for up to 10 seconds for high current motor applications. Covers and mounting bracket options available.

ZWS

Single output 5 W up to 240 W with output voltages from 3.3 V to 48 V.

ZWD

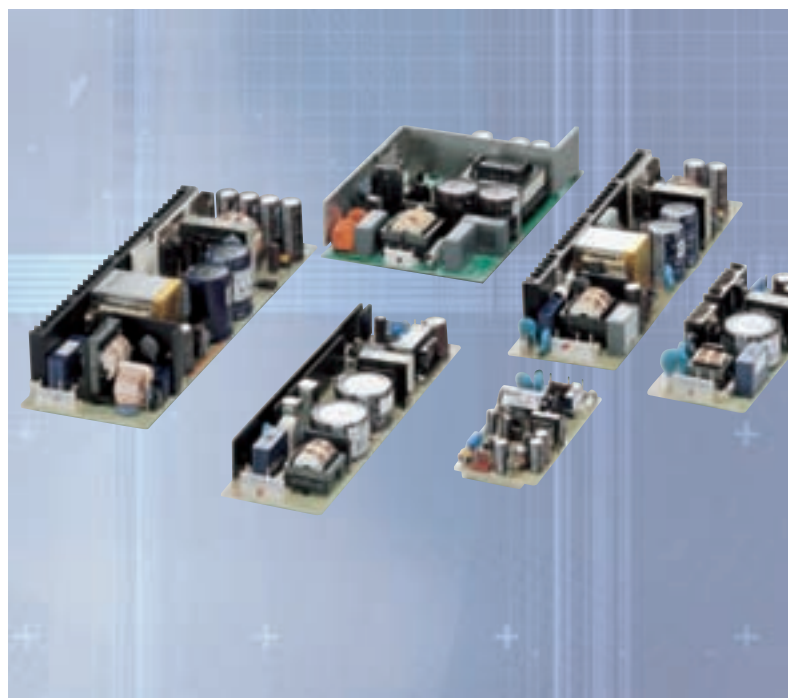
Dual output models 5 V/24 V without minimum load. Double output power for 10 sec. for start-up of DC-motors.

ZWQ

Quad output models with optional L-angle or case. 5 V main output with ± 12 V or ± 15 V and additional auxiliary output.

SWT

Triple output models from 30 W to 100 W. 5 V main output with ± 12 V or ± 15 V.



series	ZWS	ZWD	ZWQ	SWT
power	5 – 240 W	75 – 225 W	80 – 130 W	30 – 100 W
number of outputs	1	2	4	3
output voltage setting range	3.3 – 48 V ± 10 %	5/12 V 5/24 V	5 \pm 12 V and 3.3, 5, 12, 24 V	5, 12, 12 V 5, 15, 15 V
input voltage	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC
format	open frame, cover optional	open frame, cover optional	open frame, with mount- ing bracket, with cover	open frame
warranty	2 years	2 years	1 year	1 year



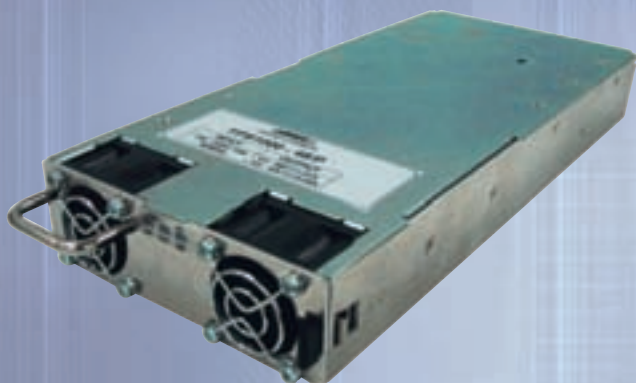


Front-end power supplies

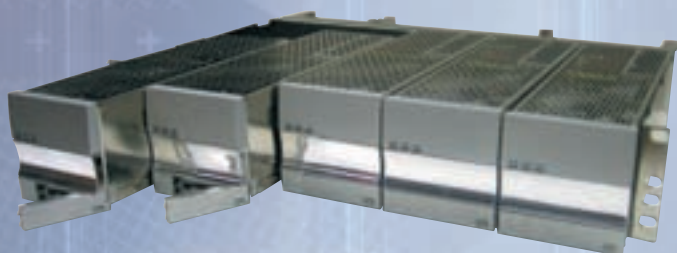
No.1 in the world in power density. AC/DC front-end power supply packaged in 1 U rack size. 1000 W max. with universal input.

FPS series

FPS series will contribute to space saving on rack mount requirement in telecommunication and data communication equipment. Low profile, 3000 W AC/DC front-end power supply in 1 U/19" rack (by driving 3 units).



model	FPS-1000-48	FPS-1000-32	FPS-1000-24	NEW FPS-1000-12
nominal output voltage	48 V	32 V	24 V	12 V
output voltage adj. Range	43 V ~ 58 V	28.8 V ~ 38.4 V	21.5 V ~ 29 V	11 V ~ 15 V
nominal output current	21 A	31 A	40 A	72 A
maximum output power	1008 W	992 W	960 W	864 W
input voltage	85 – 265 VAC, 47 ~ 63 Hz, single phase			
efficiency (typ)	85/88 % at 100/200 VAC, maximum output power, Ta = 25 °C			
protection	Over current protection, Over voltage protection, Over temperature protection			
front panel LED indicators	AC OK (green), DC OK (green), DC FAIL (red)			
operating ambient temp.	0 ~ 50 °C (by internal fans. Variable speed control.)			
dimensions (W x H x D)	127 x 41 x 290 mm, refer to outline drawing			
interface	I ² C Interface bus: optional model (/S)			
front IEC inlet	Front IEC Inlet: optional model (/P) Standard: rear connector			



TL-, TX-, TH series

TL-series: up to 12.5 kW in 2 U Rack

TX-series: up to 22.5 kW in 2 U Rack

TH-series: up to 8 kW in 1 U Rack

All models hot swappable.

Suitable for n+1 redundancy.

This table gives you only a short overview. For availability and detailed technical data, please contact Technical Sales.



series	TL	TX	TH
high	2 U	2 U	1 U
units / rack max.	5	3	4
output voltages (nom.)	12 V, 24 V, 48 V	24 V, 48 V	12 V, 24 V, 48 V
output current	10 A – 60 A	50 A – 150 A	25 A – 100 A
load sharing	± 10%	± 5%	± 5%
output power / unit	500 W – 2500 W	2.5 kW – 7.5 kW	1200 W – 2000 W
input voltage	90 (180) – 264 VAC	180 – 264 VAC	90 (180) – 264 VAC

Laboratory supplies

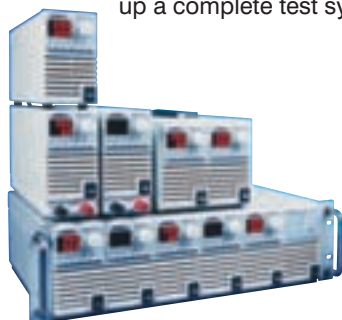
Programmable power supplies for test and laboratory. Control all functions of the power supply from a Windows PC. Software download on the Lambda homepage for free.

Genesys™ **NEW**

Rackmounted power of 1500 W, requires only 1 U. Fully equipped with RS232/485 interface, analogue programming and monitoring capability. Integrated GPIB interface optional. 750 W versions in half 19" rackmount dimensions (1/2 width) for building up dual units, requiring 1 U space in the 19" rack or to be stacked as tower model. All Genesys units can be integrated into racks without requiring additional interspace for cooling.

Zero Up

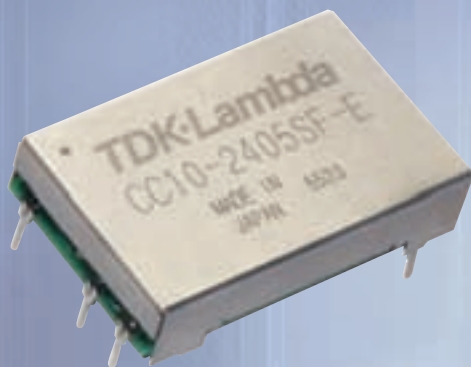
Programmable power supplies with integrated RS232/RS485 interface. Programming directly via test system. For GPIB system use the GP485 controller to control up to 31 ZUP units in a single GPIB address. Up to 6 single units can be integrated in a 3 U rack, building up a complete test system.



New generation Genesys 1 U power supplies with increased output power will be available soon. Please ask Technical Sales for current status.

series	GENH	NEW GEN	ZUP
rated output power	750 W	750 W to 15 kW	200, 400, 800 W
output voltage	0 – 6 to 0 – 600 VDC	0 – 6 to 0 – 600 VDC	0 – 6 to 0 – 120 VDC
output current	1.3 – 100 A	1.3 – 1000 A	1.8 – 132 A
programming	RS232/RS485 analogue 0 – 5 V or 0 – 10 V GPIB optional	RS232/RS485 analogue 0 – 5 V or 0 – 10 V GPIB optional Ethernet/LAN (LXI) optional	RS232/RS485 analogue 0 – 4 V external GPIB controller as accessory
resolution for digital programming	0.002 % of V_{out} max	0.002 % of V_{out} max	0.028 % of V_{out} max
input voltage	wide range 85 – 265 VAC	wide range 85 – 265 VAC	wide range 85 – 265 VAC
format	1/2 19" 1 U	19" 1 U (750, 1500 W) 19" 2 U (3300, 5000 W)	3 U rack available for 19" integration
warranty	5 years	5 years	3 years





Mini DC/DC converters

Small DC/DC converters for circuit board mounting to generate distributed voltages directly on the load's PCB.

New design CC-E series

New design of high efficient DC/DC converters from 1.5 W to 25 W with three different mounting types. Through hole, Single Inline and SMT are available. No additional cooling elements are required.

CE-1000 series

Non insulated DC/DC converters for SMT mounting with output power up to 1.2 W.

series	CC-E	CE-10__	PC / PCD	PV / PVD
power	1.5 – 25 W	1.5 – 30 W	1.5 – 6 W	1.5 – 3 W
number of outputs	1 and 2	1	1 and 2	1 and 2
output voltage	3.3 – ± 15 V	1.5 – 12.6 V	3.3 – ± 15 V	3.3 – ± 15 V
input voltage	5, 12, 24, 48 V	3 – 26.4 V	5, 12, 24, 48 V	5, 12, 24, 48 V
format	metal cover SMT ore through hole	metal cover SMT	metal housing	single inline
warranty	5 years	1 year	1 year	1 year



2" DC/DC converters

DC/DC converters with industry standard footprints up to 40 W and wide input voltage ranges.

PXC series

Industrie standard 24-Pin DIP package with 3 and 5 watt output power and single or dual output

PXD series

2" x 1" DC/DC converters with 10 to 20 watt output power and single or dual output.

PXE series

2" x 1.6" DC/DC converters with 20 or 30 watt output power and single or dual output.

PXF series

2" x 2" DC/DC converter with 40 watt output power and single, dual and triple output.

series	PXC	PXD	PXE	PXF
power	3, 5 W	10, 15, 20 W	20 and 30 W	40 W
number of outputs	1 and 2	1 and 2	1 and 2	1 and 2 and 3
output voltage	single dual triple	3, 5, 12, 15 V ± 5 , ± 12 , ± 15 V	3, 5, 12, 15 V ± 5 , ± 12 , ± 15 V 3V, ± 12 and 5V, ± 15 V	3, 5, 12, 15 V ± 12 , ± 15 V
input voltage	2:1 4:1	12, 24, 48 V 9 – 36 V, 18 – 75 V	12, 24, 48 V 9 – 36 V, 18 – 75 V	12, 24, 48 V
format	24 pin DIP or SMT	2" x 1"	2" x 1.6"	2" x 2"
warranty	1 year	1 year	1 year	1 year

Point of load converter

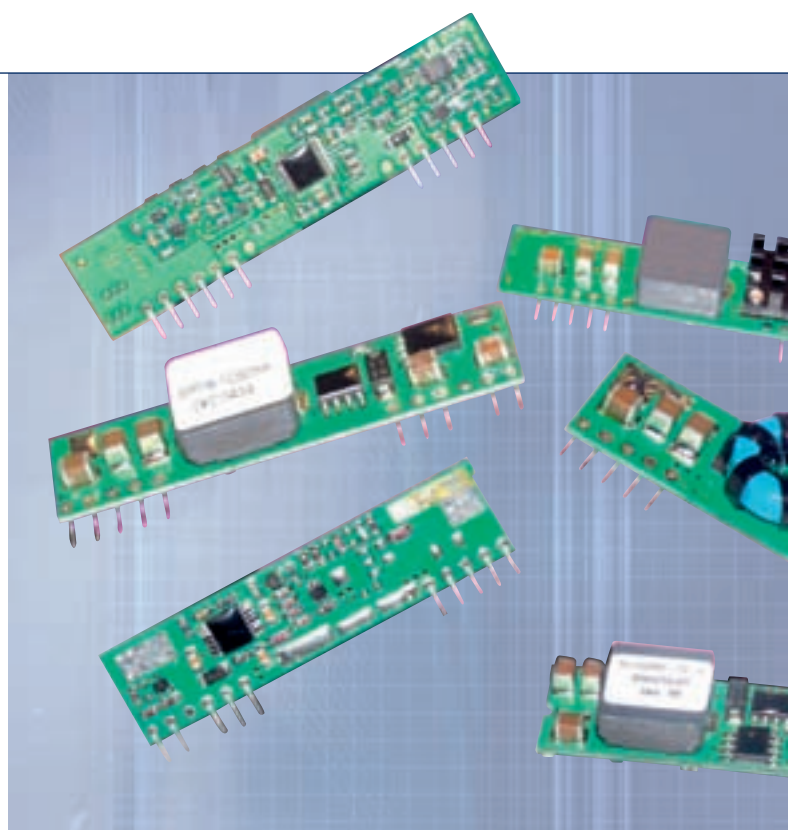
Non-isolated DC/DC converters mounted on the load's PCB directly.

PL series

All Lambda PL series are designed on the DOSA-standard. Single Inline models and SMT types are available over the complete power range from 5 A up to 20 A.

Low logic voltages with load transients frequently require point of load supply voltage. The PL series provide all logic voltages between 0.9 V and 5 V and is fed by a 5 V or 12 V bus. Moreover, by featuring sequencing and power segmentation for parallel connection, the converters perfectly suit for microcontroller and processor periphery.

All PL models now also available in SMT for easy handling in automatic assembly for high volume applications. RoHS compliant design for lead free soldering.

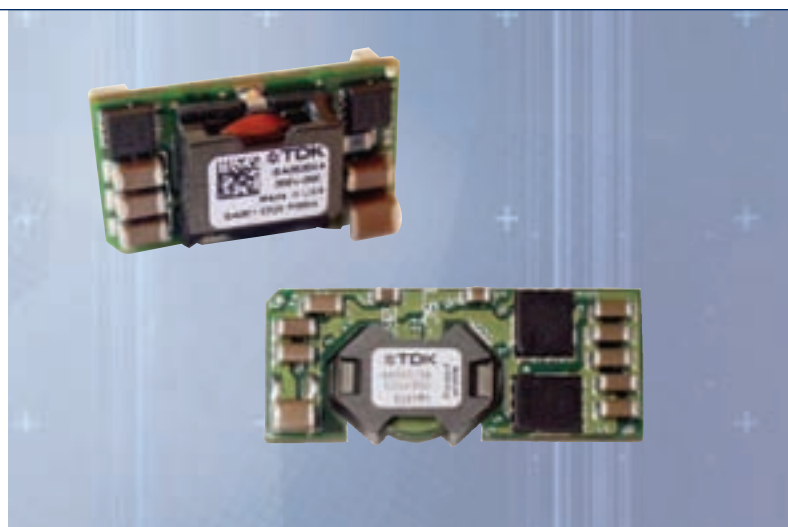


series	PL5S12	PL5S05	PL10S12	PL10S05	PL15S05	PL16S12	PL20SW12
output current	5 A	5 A	10 A	10 A	15 A	16 A	20 A
output voltage	0.75 – 5 V	0.75 – 3.3 V	0.9 – 5 V	0.9 – 3.3 V	0.9 – 3.3 V	0.75 – 5 V	0.75 – 5 V
input voltage	5 – 13 V	3 – 5.5 V	3 – 5.5 V	5 – 13 V	3 – 5.5 V	5 – 13 V	5 – 13 V
format	SIP, SMT	SIP, SMT	SIP, SMT	SIP, SMT	SIP, SMT	SIP, SMT	SIP, SMT
warranty	2 years	2 years	2 years	2 years	2 years	2 years	2 years

Point of Load and bus converter

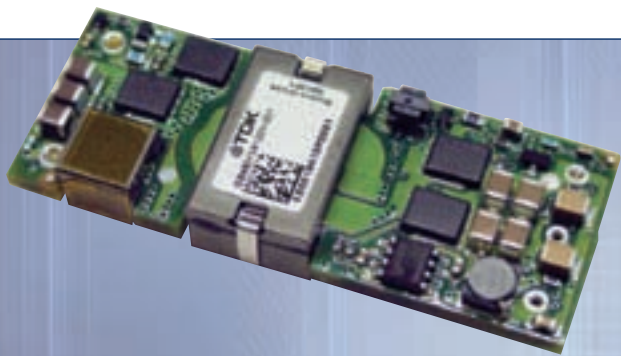
Surface mountable Point of Load converter up to 80 W output power.

High efficiency up to 95 % and wide input voltage range enable the use as 5 V bus converter for logic boards.



series	IBA05008A008V	IBC12007A008V	IAA05015A033V	IAA05015A025V	IAA05015A008V	IAC12016A008V
output current	8 A	7 A	15 A	15 A	15 A	16 A
output voltage	0.75 V – 3.63 V	0.8 V – 5.0 V	3.3 V	2.5 V	0.75 – 3.63 V	0.8 – 5.0 V
input voltage	3.0 – 5.5 V	6.0 – 14 V	4.5 – 5.5 V	3.0 – 5.5 V	3.0 – 5.5 V	6.0 – 14 V
format	SMT	SMT	SMT	SMT	SMT	SMT





DC/DC converters

Fixed Ratio Series

iEB Series – 150 W, 1/8B

- Low Profile, 8.5 mm (0.335")
- High efficiency – greater than 94 %
- Up to 150 W of power
- 4:1 Conversion Ratio resulting in 12 V nominal output
- Size: 58.42 x 22.86 x 8.5 mm

product	input voltage	output voltage	output current
iEB48013A120V	42 – 56 V	12 V	13.5 A



Fixed Ratio Series

iQD Series – 300 W, 1/4B

- Low Profile, 9.65 mm (0.38")
- High efficiency: 95 %
- Up to 300 W of power
- 4:1 Conversion Ratio resulting in 12 V nominal output
- Size: 57.91 x 36.83 x 9.65 mm

product	input voltage	output voltage	output current
iQD48025A120V	42 – 53 V	12 V	27 A



Pico Brick

iPB Series – Single Output 48 W

- Surface mountable
- Up to 48 W of output power in high ambient temperature, low airflow environments with minimal power derating
- Size: 30.5 x 29.3 x 8.1 mm

product family	iPB
output power	15 – 48 W
number of outputs	1
output voltage	1.5 – 15 V
output current	3 – 10 A
input voltage	48 V
format	SMT open frame

DC/DC converters in „brick“ format

The “brick”-format is a common standard and describes 5 sizes (1/16-brick to full-brick) for DC/DC converters with common pinout in a power range from 30 W to 700 W. Offering excellent efficiency and innovative design, these modules tolerate high operating temperatures and are suitable for applications with limited system ventilation. Wide baseplate temperature range from $-40\text{ }^{\circ}\text{C}$ up to $+100\text{ }^{\circ}\text{C}$ for the half- and full-brick modules enable the use in conducted cooled applications with very low height.

Sixteenth-brick

More usable power than many eight-bricks in a 44 % smaller footprint. The 1/16-brick is the smallest size in the brick-family. A high efficiency of up to 89 % enables the modules to run without additional heatsinks.

Eight-brick

The eight-brick modules offer the same power levels than the quarter-bricks in a 40 % smaller shape. Up to 100 W output power is available with all voltages between 1.2 and 28 V.



series	iSA	iEA	PAE
power	30 – 82.5 W	30 – 78 W	36 – 100 W
number of outputs	1	1	1
output voltage	1.2 – 12 V	1.2 – 28 V	1.8 – 3.3 V
output current	6.5 – 25 A	6.5 – 25 A	10 – 30 A
input voltage	48 VDC	48 VDC	48 VDC
format	1/16-brick	eight-brick	eight-brick
warranty	3 years	3 years	2 years





DC/DC converters in „brick“ format

Quarter-brick (open frame)

The quarter-brick modules offer the biggest variety on types. Several modules with one or two output voltages in a power range from 50 W up to 300 W are available. With a high efficiency up to 90 %, these modules can be operated without additional heatsink.

series	PAQ	PAQ-D	IQB	IQE	IQL
power	50 – 100 W	65 W	27 – 150 W	96 – 150 W	300 W
number of outputs	1	2	1	1	1
output voltage	1.2 – 5 V	1.8 – 5 V	1.2 – 12 V	3.3 – 15 V	12 V
output current	10 – 25 A	13 – 17 A	8 – 25 A	7 – 30 A	25 A
input voltage	48 VDC	48 VDC	24 VDC 48 VDC	24 VDC 48 VDC	48 VDC
format	quarter-brick	quarter-brick	quarter-brick	quarter-brick	quarter-brick
warranty	2 years	2 years	3 years	3 years	3 years



Quarter-brick (with baseplate)

With the same size and a comparable power range than the open frame quarter-bricks, these modules are designed for conductive cooling via the baseplate. In this case these modules can be used with even higher ambient temperature by use of additional heatsink to keep the baseplate within the specified temperature values.

series	IQA	IQN	IQM	IQP
power	96 – 120 W	196 – 210 W	72 – 204 W	120 – 300 W
number of outputs	2	1	1	1
output voltage	2x 1.5 – 5 V	17 – 35 V	1.2 – 12 V	1.2 – 12 V
output current	2x 15 A	6 – 7 A	17 – 60 A	25 – 100 A
input voltage	48 VDC	48 VDC	48 VDC	48 VDC
format	quarter-brick with baseplate	quarter-brick with baseplate	quarter-brick with baseplate	quarter-brick with baseplate
warranty	3 years	3 years	3 years	3 years

DC/DC converters in „brick“ format

Half-brick and Full-brick

Half-brick and full-brick power modules for conduction cooling via baseplate. Leading power density provides output power up to 450 watt in half-brick size and up to 700 watt in full-brick size. Wide baseplate temperature range from $-40\text{ }^{\circ}\text{C}$ up to $+100\text{ }^{\circ}\text{C}$ for all kind of application in information, telecommunication and FA equipment.

Half-brick modules and full-brick modules are available as a open PCB construction ore with a closed plastic cover. The open versions offer a benefit in cooling by forced air, the series with plastic case are protected against dust and other contaminants.

The half-brick modules offer a power range from 50 W to 450 W with input voltages of nominal 48 VDC and 24 VDC.

Full-brick modules are available in a power range from 400 W to 700 W with the same input ranges than the half-bricks and additional with a 280 VDC nominal input.



series	PAH	PAH-D	iHA	iFA	PAF
power	50 – 450 W	75 W	72 – 450 W	420 – 700 W	400 – 700 W
number of outputs	1	2	1	1	1
output voltage	1.8 – 48 V	1.8 – 5 V	1.2 – 28 V	12 – 30 V	3.3 – 48 V
output current	2.1 – 35 A	2x 15 A	11 – 60 A	18 – 50 A	25 – 58.5 A
input voltage	24, 48 VDC	48 VDC	24, 48 VDC	24, 48 VDC	24, 48, 280 VDC
format	half-brick	half-brick	full-brick	full-brick	full-brick
warranty	2 years	2 years	3 years	3 years	2 years



Front-end modules

PFE Series

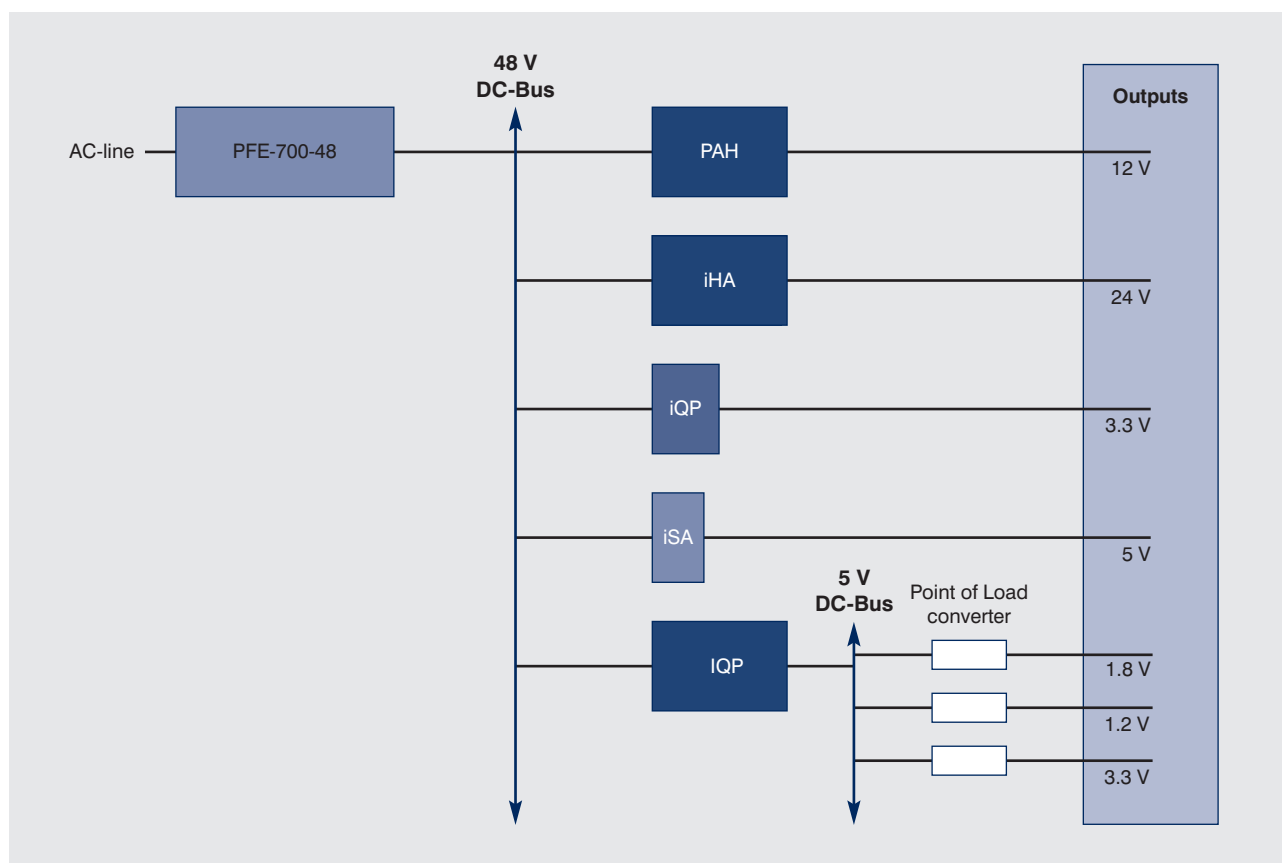
The "Full-Brick" AC/DC modules compliment the TDK range of brick modules, by providing an AC/DC front end, suitable for powering the DC/DC products to construct a complete Power Supply. Requiring only minimal additional components, these converters can be rapidly combined to create a full-custom design.

The PFE500 models provide a single DC output or can be combined with DC/DC converters for multiple output solutions.

The PFE700 module provides a nominal, semi-regulated DC output suitable for driving DC/DC converters in bus architecture.

product family	PFE-300			PFE-500			PFE-700-48
	-12	-28	-48	-12	-28	-48	
output power	300 W	302.4 W	302.4 W	396 W	504 W	504 W	714 W
number of outputs	1			1			1
output voltage	12 V	28 V	48 V	12 V	28 V	48 V	51 V (semi-regulated)
output current	25 A	10.8 A	6.3 A	33 A	18 A	10.5 A	14 A
input voltage V	85 – 265 VAC			85 – 265 VAC			85 – 265 VAC
format	full-brick with baseplate			full-brick with baseplate			full-brick with baseplate

Distributed Power Architecture with Lambda Power Modules



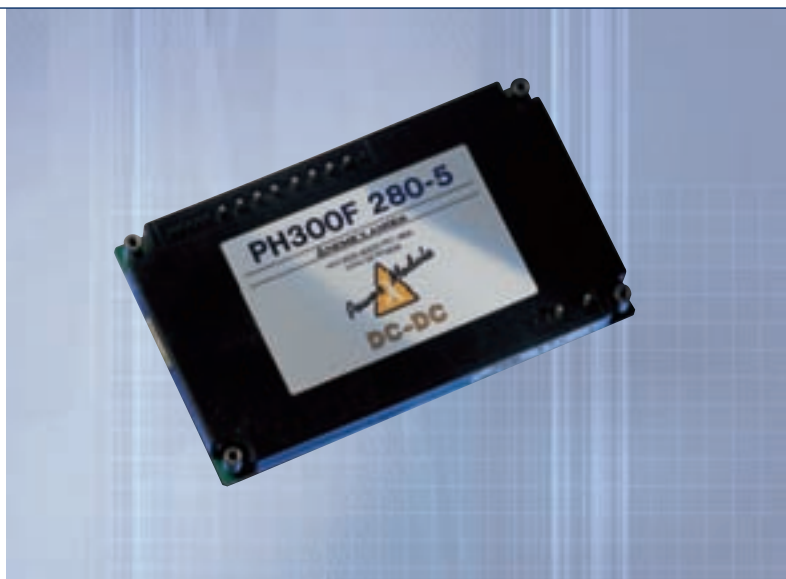
Power modules

These modules comprise the basic element for developing customized power supplies. The modules include all main functions for a fast and reliable design.

PH series

The broadest range of power modules for customized power supplies. 4 wide input voltage ranges from 18 – 400 VDC makes it simple to build a customized power supply based on standard modules for nearly every kind of application.

The PH series are offered as “full function modules” with signaling and parallel operation function with a very wide output voltage adjustment range from –60 % up to +20 % of the nominal output voltage. The “simple” function modules offer a output voltage adjustment range $\pm 20\%$ in a more compact format.



series	PH-(F)	PH (S)
rating	75 – 300 W	50 – 600 W
output voltage	2 V – 28 V	3.3 V – 48 V
input voltage	24, 48, 110, 280 VDC	24, 48, 110, 280 VDC
warranty	2 years	2 years

Power factor module

PF series

This modules offers a easy solution to connect the PH series with 280 VDC input to AC-mains with wide range input.

The modules achive a power factor of 0.95 and fit together with the PH modules.

The PF-500A-360 delivers 500 watt output power at wide range input and up to 750 watt output power at high line input.

The PF-1000A-360 offers 1000 watt output power at wide range input and 1500 watt at high line.



series	PF-500A-360	PF-1000A-360
rating	500 W (750 W)	1000 W (1500 W)
output voltage	360 VDC	360 VDC
input voltage	85 – 265 VAC	85 – 265 VAC
warranty	2 years	2 years



Value Added



Customized products based on power modules

580 W power supply with multiple outputs
for TV transmission systems

- Features:**
- AC/DC frontend 90 – 265 VAC (PD800A)
 - 4 separate outputs: 3 x 5 V (PH150F), 1 x 12 V (PH505)
 - AC OK, DC OK, FAN OK
 - EN55022B
 - EN61000-3-2
 - EN61000-4-2, 3, 4, 5
 - N+1 redundancy at 5 V "hot swap" possibility

Application: • digital recorder

550 W AC/DC power supply
with multiple outputs

- Features:**
- 88 – 265 VAC
 - 10 separate outputs
 - 2 x 5 V (PH,PP), 2 x 5.5 V (PP), 3 x 12 V (PH,PP)
 - 1 x 48 V (PD800A), 2 x 24 V (PH)
 - EN55022B
 - EN61000-3-2
 - EN61000-4-2, 3, 4, 5

Application: • base station for GSM networks

750 W rectifier power supply
compact design for telecommunication applications

- Features:**
- 88 – 265 VAC, nominal output 48 V
 - EN55022B
 - EN61000-3-2
 - EN61000-4-2, 3, 4, 5
 - N+1 redundancy, "hot plug" possibility

Applications: • BTS, BSC for GSM networks, PABX, ATM transmission systems, router, radio link systems

Customized solutions

Lambda offers you Total Power Solution.
We want to offer you the complete solution to power up your application.

Our customers, their specific needs and requirements, take centre stage of all our actions. Our wide range of products of high quality and reliability meet the first part of our customers' needs. Lambda is unique in the industry when offering the second, customized part.

Lambda means "engineering" – support and solutions for any technical problem, whether standard or specific.

50 W customized power supply

- Features:**
- AC input 85 – 265 VAC/50 Hz
 - 1 output 12 V or 24 V, cable junction
 - EN60950
 - EN55022

Application: • supply for computer peripherals

250 W power supply with multiple outputs

- Features:**
- AC input 85 – 265 VAC
 - 4 outputs 5 V, 24 V, +15 V, –15 V
 - with customized cable loop and top fan
 - EN60950
 - EN55022
 - EN61000-3-2
 - EN61000-4-2,3,5,6,8,11

Application: • industrial applications

Power supply in customized case

- Features:**
- AC input 85 – 265 VAC/50 Hz
 - 2 outputs 24 V and 12 V with ITT-high current contacts
 - EN60950
 - EN55022

Application: • process automation

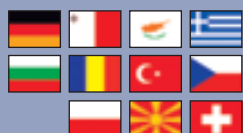
Completer 19" rack system

- Features:**
- AC-Input 3-phase
 - Customized 19" rack
 - 6 Laboratory power supplies
 - Genesys series

Application: • Medical equipment



Please contact your local sales office to find the best solution to your application.



Lambda GmbH
Karl-Bold-Strasse 40
D-77855 Achern
Tel. +49 / 7841 / 666 0
Fax: +49 / 7841 / 5000
info.germany@lambda-europe.com
www.lambda-germany.com



Lambda Scandinavia
Rallarvägen 41
SE-184 40 Åkersberga
Sweden
Tel. +46 8 540 84 990
Fax: +46 8 540 66 096



Lambda GmbH
Aredstrasse 22
A-2544 Leobersdorf
Tel. +43 / 2256 / 655 84
Fax: +43 / 2256 / 645 12
info.germany@lambda-europe.com
www.lambda-austria.com



Lambda SAS
ZAC des Delaches
BP 77-Gometz-le-Chatel
F-91940 LES ULIS Cedex France
Tel. +33 / 1 60 12 71 65
Fax: +33 / 1 60 12 71 66
lambda.france@lambda-europe.com
www.lambda-f.com



Lambda UK
Kingsley Avenue
Ilfracombe
Devon EX34 8ES
United Kingdom
Tel. +44 / 12 71 85 66 66
Fax: +44 / 12 71 86 48 94
www.lambda-gb.com



Lambda S.r.l.
Via dei Lavoratori 128/130
IT 20092 Cinisello Balsamo (MI)
Tel. +39 / 02 61 29 38 63
Fax: +39 / 02 61 29 09 00
info.italia@lambda-europe.com
www.lambda-italy.com