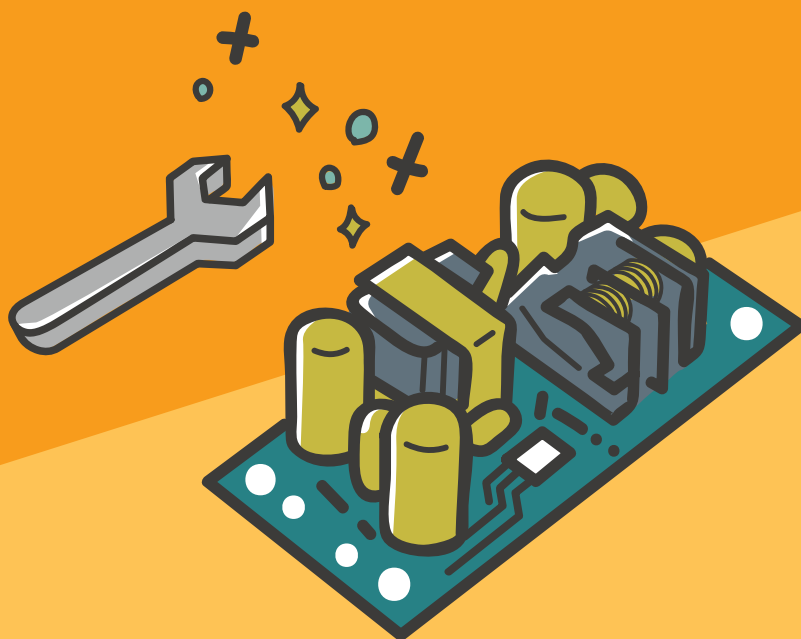




We solve problems  
with custom power supplies!



Minor Change

Full Custom

Luci Co., Ltd.

## Contents

- 1 Business introduction
- 2 Luci's power supply solutions business
- 6 Development case studies

# We solve problems with custom power supplies!

We Luci Co., Ltd., have been accumulating AC/DC and DC/DC technology in LED lighting for over 15 years. We have started our power supply business by using this technology as customised switching power supplies, specialising in customer applications. We offer a wide range of services, including power supplies for recharging, national standard PSE compliance based on our safety design, obtaining legal standards in various countries, and proposals with various EMI/EMC compliance and package sizes to meet customer requirements (our own technology development samples with minor modifications), as well as the creation of wiring harnesses. We offer proposals that comply with QCDS.

## About Luci

### Luci Co., Ltd.

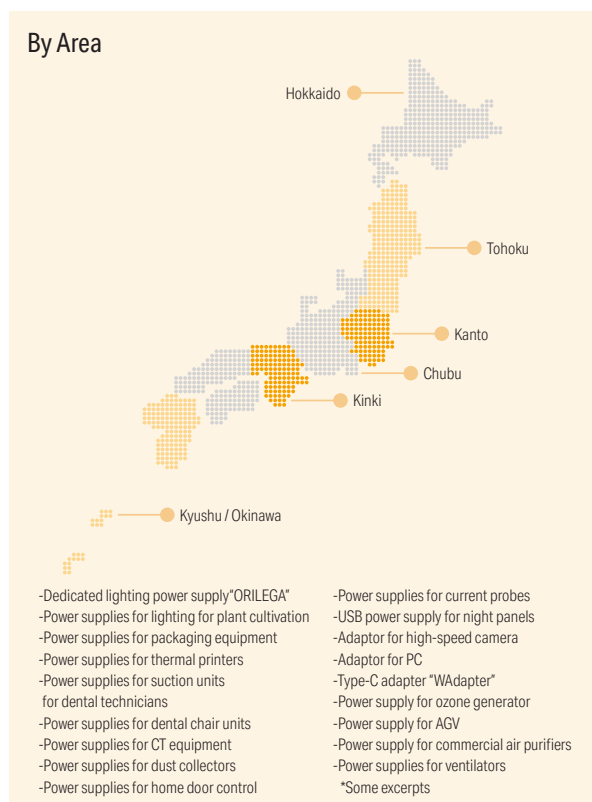
Net sales	1.56 billion yen
Employees	65
Offices	Tokyo (head office/power supply business sales headquarters), Osaka (branch office)
Group companies	Luci PTE. LTD (Singapore and Hong Kong)
Development case studies	LUCI (SHANGHAI) LIGHTING TECHNOLOGY CO., LTD (Shanghai and Beijing)

As of October 2022.

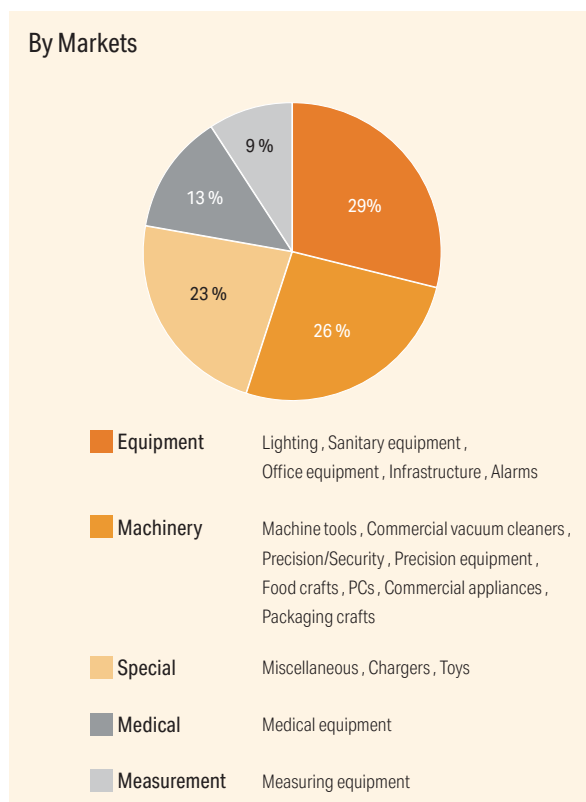
## Results (data)

Number of business enquiries: **100 cases / year**

### By Area



### By Markets



# Luci's power supply solutions business

## Design philosophy

### Three Efficient Articles

All the power supplies we supply are designed according to the 'Three Efficiency Principles', whether they are choicely modified or fully customised. We provide support from design to post-delivery and offer 'security and stability'.

#### 1 Operational Efficiency

##### Contributes to improved production efficiency!

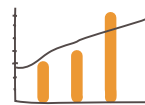
To facilitate the integration of the power supply, we can offer shapes and terminal block orientations to suit your requirements.



#### 2 Electrical Efficiency

##### Contributes to energy savings in products!

We can offer power supplies tailored to the load conditions of control boards, batteries and sensors.



#### 3 Procurement Efficiency

##### Contributes to a breakaway from general-purpose manufacturers' stock situation & stable production!

We work backwards from the customer's production schedule to establish a procurement schedule for parts, boards, batteries and sensors.



## PSE-compliant

Based on PSE compliance with our safety design at the core, we offer proposals in various EMI/EMC conformity and enclosure sizes to meet customer requirements and design for compliance with national standards.

## Service

### Flexible



You can order products tailored to your requirements in terms of capacity, size and various standards.

### Cost



The price is set at a level that makes it easy for customers to try it out, in response to the customer's comment that "customisation seems too expensive to develop...".

### Speed



We can respond from request to delivery of prototypes in as little as three months. Proposals from past prototypes are also possible.

## Minor Change

Our unique technology development samples can be "Chooi-Chooi-Changed" (Chooi-Chooi for short). Compared to development from scratch, this reduces the challenges of specification determination, cost, development speed and delivery time.

## Full custom

We design and develop from scratch what is not available in general-purpose products, whether board, unit or adaptor type. We design power supplies to suit the product, without the need to design the product to suit the power supply.

# This is the difference! Luci's power supply development

In response to customers who say that customisation seems to be too expensive, Luci has set a price that makes it easy for customers to try it out. We recommend the 'Minor Change' option for customers who want to reduce development costs.

	Other company	Luci
Product development costs	Approx. 6 million yen	From a minimum of 3 million yen
Development period (development to delivery)	Minimum 1 year	Minimum 6 months (*in case of introduction of choi change)
Annual purchase lot	1000-2000 units.	100 units
Annual transactions	Yes	No
Place of production	Japan / Overseas	Japan / China

## Issues And Solutions

Each customer faces different challenges, and we unravel them one by one to propose and design the optimum customised power supply.

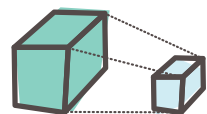
### Q Size

The size of the power supply is large, making it difficult to place when designing.



### A Appropriate size

Hearings are held on the space allowed for the power supply and how it should be arranged, and an appropriately sized power supply is proposed.



### Q Standard

I want a power supply that complies with medical standards! But there is none available on the market.

Many standards need to be acquired, as they are intended for sale abroad.

Due to foreign imports, the product is not PSE-rated.



### A From national to global standards

IEC60601/2xMOPP compliant. Other standards for household appliances (IEC60335-1/IEC61558/RoHS10).

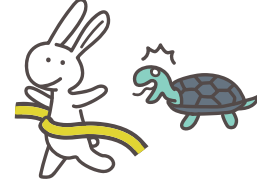
Has a proven track record of compliance with a wide range of international and national standards. (CE, UL, CCC, JIS, IEC, EMC/EMI)



## Luci's strengths

### Fastest response time of 'three months'

We have built a system capable of producing at least 20,000 units per month, and can respond quickly from request to delivery of prototypes in as little as "three months".



STEP 1

#### Enquiry

Please contact us by telephone (+813-6327-7409) or via the Custom Power Supply HP enquiry form. Please be prepared to provide your current issues, requirements, budget and delivery date.

STEP 2

#### Project Meetings

Our representative will contact you at the email address or telephone number you specify to schedule a meeting. We will then discuss your requirements with you.

STEP 3

#### Submission of draft specifications and quotations

We will present our standard products and specific proposals for the content of the specifications, together with costs and schedules. Please contact your contact person for payment terms and conditions.

Minimum  
'three months'

STEP 4

#### Prototype delivery

Samples can be made prior to mass production on request.

STEP 5

#### Mass production

The spec sheet or sample of the designed product is evaluated before proceeding to mass production and various standards.

STEP 6

#### Product delivery

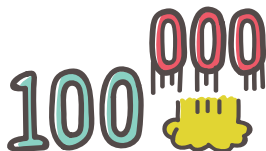
We will deliver the product to the location you specify.  
Please contact our representative for delivery times.

### Suitable for small lot production

To ensure that you can order just what you need, we also accept orders for as few as 100 units\* per year.

#### ● Procurement Control

It avoids the risk of discontinuation at the convenience of the manufacturer and allows production plans to be tailored to customer requirements.



### One-stop from design to mass production

We handle everything from specification discussions to design, prototyping and mass production.

#### ● Appropriate design proposals

A sales representative and a development representative will be present during the meeting.

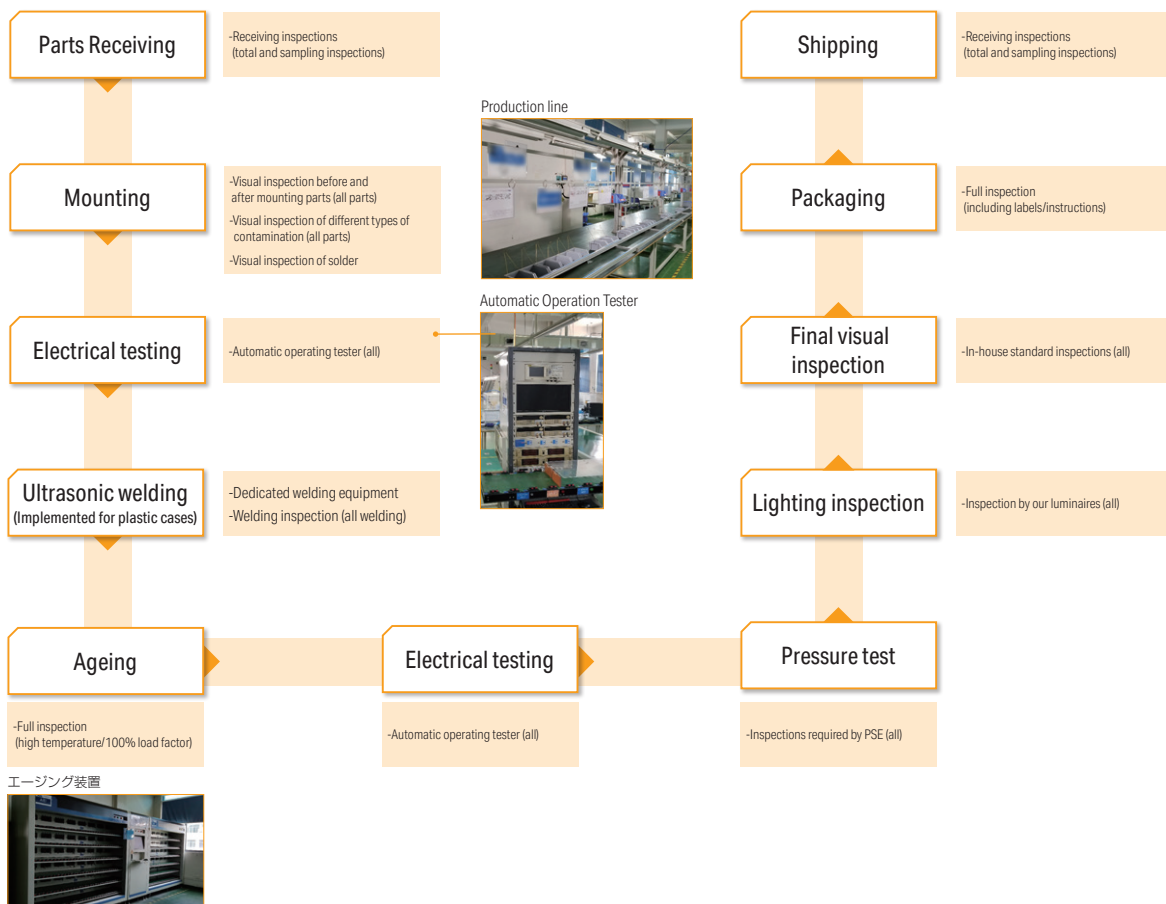


\*Some requests may not be met.

## Circuit Method

Power supply type	Types of switching regulators	Circuit method
AC/DC Converter	Non-isolated type	Step-down chopper method
	Isolated type	Flyback converter method
AC/DC Converter DC/DC Converter	Non-isolated type	Asynchronous rectification type
		Synchronous rectification type
	Isolated type	Flyback method
		Forward method
		Push-pull method
		Half bridge method
		Full bridge method

## Quality Control



## Development case studies

Here are some of the prototypes and products for sale that have been accumulated by Luci so far.

- 7 Power supply
- 14 Adapter
- 16 Original equipment





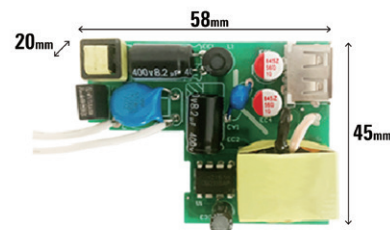
10W

## Power supplies for electronic equipment

### Designed to desired size

Design board layouts to suit the size of small electronic devices.

Specification	AC/DC
Input voltage range	100 - 240VAC
Output rated voltage	5V
Output rated current	2A
Output rated power	10W
Assumed certification	-



Size

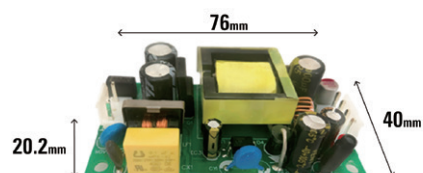
12W

## Power supplies for commercial washing machines

### Designed to specific standards

Standards for electrical/household appliances to encourage overseas expansion.

Specification	AC/DC
Input voltage range	100-264VAC
Output rated voltage	Main load (V1) 12 V / auxiliary load (V2) 5V
Output rated current	Main load (V1) 1A / Auxiliary load (V2) 2.4A
Output rated power	12W
Assumed certification	IEC60335, IEC61558



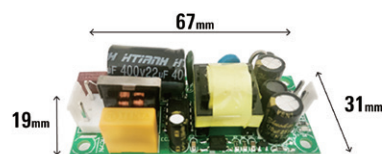
Certification

12W

## Power supplies for home inkjet printers

Demand for related products increased due to the Corona Disaster, which requested our company to meet the challenge of stable supply, following the discontinuation of existing products.

Specification	AC/DC
Input voltage range	100-264VAC
Output rated voltage	12V
Output rated current	1A
Output rated power	12W
Assumed certification	-



Certification



Size

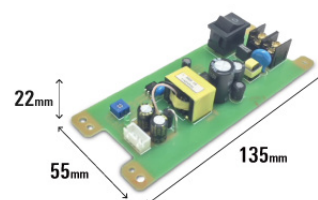
15W

## Power supply for monitoring equipment

### Doubles the current output capacity without changing the size!

Request for replacement due to the discontinuation of an existing manufacturer: the board size remains the same, but an ON/OFF switch and terminal block are installed for ease of use.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	12V
Output rated current	1.25A
Output rated power	15W
Assumed certification	<PS>E/ IEC 60950



Certification



Capacity

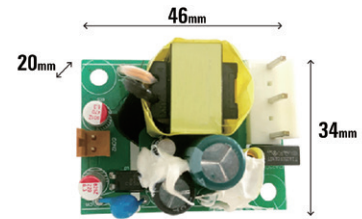
15W

## Power supplies for electronic equipment

### Designed to desired size

Design board layouts to suit the size of small electronic devices.

Specification	AC/DC
Input voltage range	100 - 240VAC
Output rated voltage	5V
Output rated current	3A
Output rated power	15W
Assumed certification	-



Size

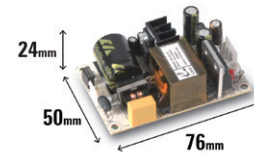
30W

## Steam humidifier power supplies for building equipment

### Proposed changes from obsolete products

Current products have been discontinued, but production has been increased due to COVID-19, and design and manufacturing guarantees for discontinued products are requested

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	12V
Output rated current	2.5A
Output rated power	30W
Assumed certification	<PS>E/ IEC 62368-1



Noise Reduction

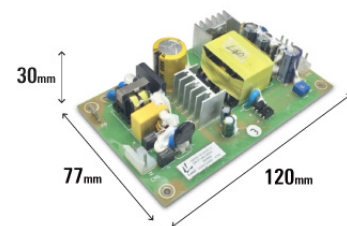
45W

## Power source for ventilators

### Proposed changes from obsolete products

Current products have been discontinued, but production has been increased due to COVID-19, and design and manufacturing guarantees for discontinued products are requested

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	12V
Output rated current	3.7A
Output rated power	44.4W
Assumed certification	IEC60601 / <PS>E



Certification



Noise Reduction

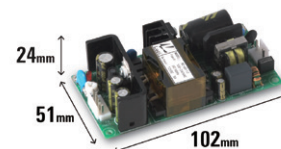
60W

## Power supply for current probes

### Doubles the current output capacity without changing the size!

Request for a custom power supply to increase the number of types that can be measured with the current probe Double the output capacity without changing the current size.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	12V
Output rated current	5A
Output rated power	60W
Assumed certification	EN60950-1 / FCC-B / VCCI-B / CISPR22



Certification



Capacity

63W

## Power supplies for potentiometers

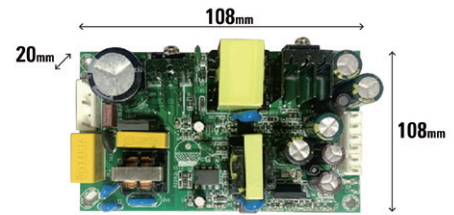


Multi-Type

### 2-channel output

Solves the problem of tight power supply placement space with a single 50 W and 10 W unit.

Specification	AC/DC
Input voltage range	100 -240VAC
Output rated voltage	15V / -15V
Output rated current	3.5A / 0.75 A
Output rated power	53W / 10W
Assumed certification	-



65W

## Power supplies for medical suction machines



Certification

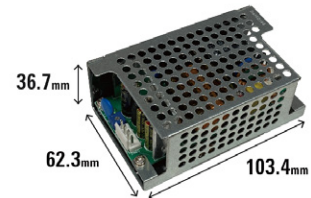


Size

### Compact design and standards acquisition

Designing products to suit the size of the equipment and acquiring IEC 60601 as well as IEC 62368 standards contributes to shortening the suction machine development period after delivery of the power supply.

Specification	AC/DC
Input voltage range	85-264VAC
Output rated voltage	12V
Output rated current	5.4A
Output rated power	65W
Assumed certification	IEC60601 / IEC62368



75W

## Power supplies for electric locks



Size

### Dealing with procurement difficulties power supply

Designed to fit the size of current equipment

Specification	AC/DC
Input voltage range	100-264VAC
Output rated voltage	24V~29V variable
Output rated current	3.2A
Output rated power	75W
Assumed certification	<PS>E / CISPR32 CLASS B



104W

## Power supplies for manufacturing equipment

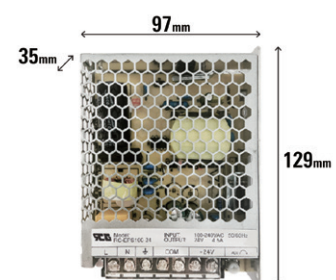


Size

### Suggestions from Discontinued Products

Designed to fit the size of the equipment, as the current product has been discontinued.

Specification	AC/DC
Input voltage range	100 -240VAC
Output rated voltage	24V
Output rated current	4.3 A
Output rated power	104W
Assumed certification	-



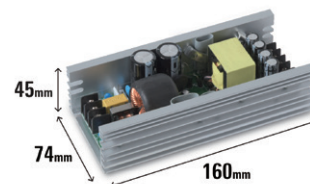
144W

## Power supplies for manufacturing equipment

### 3-channel multi-output

Request to reduce the cost of power supplies 3-channel multiple outputs proposed

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	12V / 24V / 36V
Output rated current	2.5A / 2.5A / 1.5A
Output rated power	144W
Assumed certification	-



Multi-Type

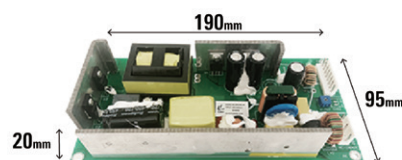
150W

## Power supplies for manufacturing equipment

### Suggestions from Discontinued Products.

Designed to fit the size of the equipment, as the current product has been discontinued.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	24V
Output rated current	6.3A
Output rated power	150W
Assumed certification	<PS>E



Size

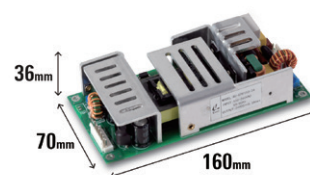
150W

## Power supply for train platform doors

### Designed to take the installation environment to the extreme

Request for a dedicated power supply for the platform doors installed across the country, designed for an ambient temperature of 60°C and a load factor of 75%.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	24V
Output rated current	6.3A
Output rated power	150W
Assumed certification	<PS>E / IEC62368-1



Temperature

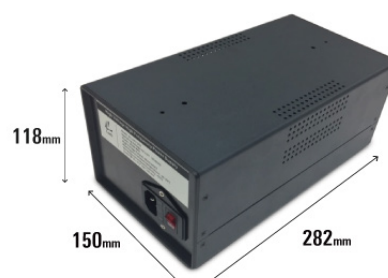
200W

## High Frequency Power Supply

### Achieves specific voltages and frequencies

Requests to use power supplies for specified voltages and frequencies as a project Output cables are available in 6.6 kV withstand voltage.

Specification	AC/AC
Input voltage range	100VAC
Output rated voltage	3000Vrms
Output rated current	66mA/AC
Output rated power	200W
Output frequency	9.9kHz



High frequency

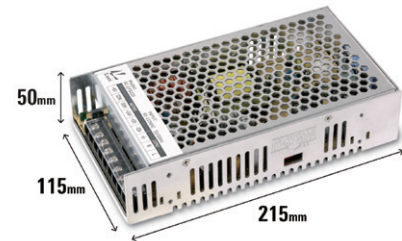
220W

## Power source for FA welding machines

### 4-channel multi-output

Requests for improved assembly and maintenance by securing power supply space 4-channel multi-outputs

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	+5V / +12V / -12V / +24V
Output rated current	+15A / +4A / -4A / +2A
Output rated power	220W



Multi-Type

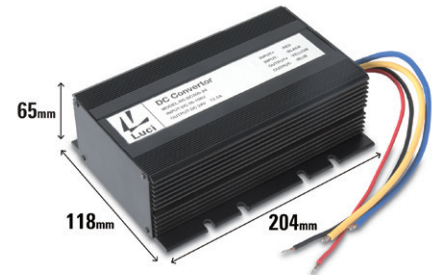
300W

## Power source for forklifts

By extending the range of the DC input voltage, the system no longer stops working.

Requests for an extended input range, as the current product has a narrow input voltage range and malfunctions to stop.

Specification	DC/DC
Input voltage range	44 -106V
Output rated voltage	24V
Output rated current	12.5A
Output rated power	300W
Assumed certification	IP55 / CISPR11 / EN12895 / UL60950-1



Voltage range

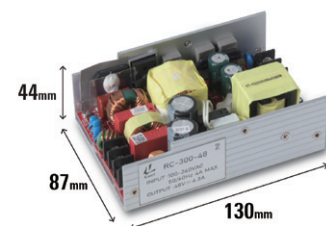
302W

## Power supplies for LED lighting

### Coil noise reduction and EMC measures

EMC measures when two power supplies are used in parallel input, and the request to eliminate coil noise due to load PWM 1.2 KHz.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	48V
Output rated current	6.3A
Output rated power	302W
Assumed certification	<PS>E / IEC62368-1



Certification



Noise Reduction

350W

## Power supplies for manufacturing equipment

### Focus on capacity and size

No general-purpose product has just the right capacity and size to be installed in a device, so we designed our own.

Specification	AC/DC
Input voltage range	200-240VAC
Output rated voltage	24V
Output rated current	14.6A
Output rated power	350.4W
Assumed certification	-



Size

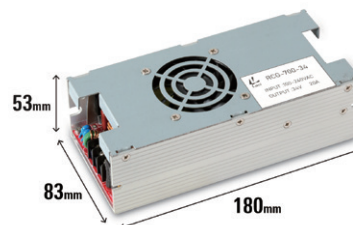
600W

## Power supplies for thermal printers

### Size suggestions to suit the product

Power supplies tailored to new product planning, designed from scratch to the desired size.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	24V
Output rated current	25A
Output rated power	600W
Assumed certification	-



Certification



Size

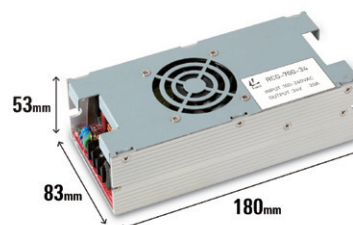
700W

## Power supplies for dental technology suction

### High-power power supply for brushless DC motors

The suction machine for dental work was requested to be changed from an AC motor to a DC motor, which is portable and therefore compact.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	34V
Output rated current	20A
Output rated power	700W
Assumed certification	IEC60601



Certification



Size

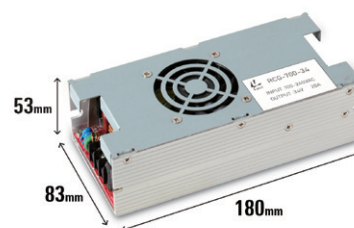
700W

## Power source for electric locks

### Two power supplies in one

Designed with a variable voltage specification of 24-29 V to connect what used to be two 300 W power supplies to a single battery.

Specification	AC/DC
Input voltage range	85-265V
Output rated voltage	24-28V
Output rated current	20A
Output rated power	700W
Assumed certification	-



Size

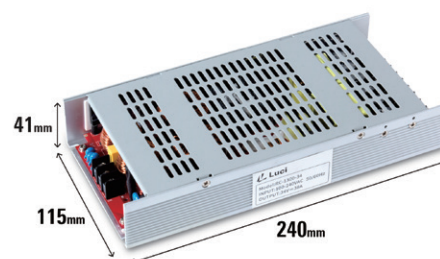
1300W

## Power supplies for dental chairs

### Consolidation of two units into one!

Requested to consolidate a power supply using two units into a single unit, with a large capacity of 1300 W but compact size, capable of acquiring not only domestic standards but also those required overseas.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	34V
Output rated current	38.2A
Output rated power	1300W
Assumed certification	IEC60601



Certification



Multi-Type



Power supply

Adapter

Original equipment

10W

**10W Type C adapter**

Ideal for charging mobile phones and electronic devices



Size

Specification	AC/DC
Input voltage range	100-240VAC
Output rated voltage	5V
Output rated current	2A
Output rated power	10W
Assumed certification	-



15W

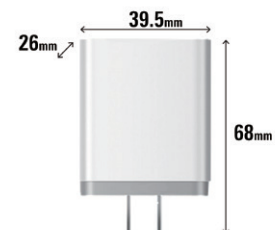
**15W Type C adapter**

Ideal for charging mobile phones and electronic devices



Size

Specification	AC/DC
Input voltage range	100-240VAC
Output rated voltage	5V
Output rated current	3A
Output rated power	15W
Assumed certification	-



36W

**AC adapter**

12 V and 24 V types available Recommended for cameras, electronics, lighting, etc.



Certification

Specification	AC/AC
Input voltage range	90-264VAC
Output rated voltage	12V / 24V
Output rated current	3A / 1.5A
Output rated power	36W / 36W
Assumed certification	-



60W

**AC adapter**

12 V and 24 V types available Recommended for cameras, electronics, lighting, etc.



Certification

Specification	AC/DC
Input voltage range	90-264VAC
Output rated voltage	12V / 24V
Output rated current	5A / 2.5A
Output rated power	60W / 60W
Assumed certification	-





84W / 96W

## AC adapter

12 V and 24 V types available Recommended for cameras, electronics, lighting, etc.



Certification

Specification	AC/DC
Input voltage range	90-264VAC / 127-370VDC
Output rated voltage	12V / 24V
Output rated current	7A / 4A
Output rated power	84W / 96W
Assumed certification	-



235W

## Power source for battery charging

Power supply design optimised for lithium-ion battery specifications

As there are few specifications for lithium-ion batteries in general-purpose products, we offer the best specifications on consignment.

Specification	AC/DC
Input voltage range	85-265VAC
Output rated voltage	29.4V
Output rated current	8A
Output rated power	235W
Assumed certification	<PS>E



Size

360W

## Power supply for high-speed cameras

Designed for specific output voltages and specific standards

Power supplies satisfying all size, weight and standard acquisition requirements can be manufactured for each input terminal of measurement equipment by customising the connector on the output side.

Specification	AC/DC
Input voltage range	85-265V
Output rated voltage	32VAC
Output rated current	11.25A
Output rated power	360W
Assumed certification	<PS>E / CCC / CE / UL / KC IEC60601



Noise Reduction

360W

## Power source for commercial floor vacuum cleaners

No power supply with optimum CCCV output, resulting in batteries being overcharged and having a short lifespan Designed to create a power supply that matches the charging characteristics of the battery to ensure proper charging.

Specification	AC/DC
Input voltage range	110-220VAC
Output rated voltage	29.4V
Output rated current	10A
Output rated power	360W
Assumed certification	-



Certification

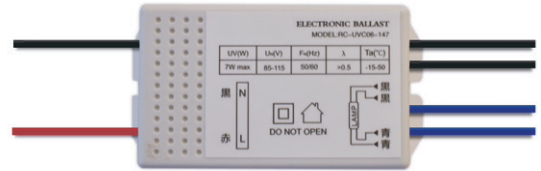


Noise Reduction

## Inverters for sterilising lights

### Features

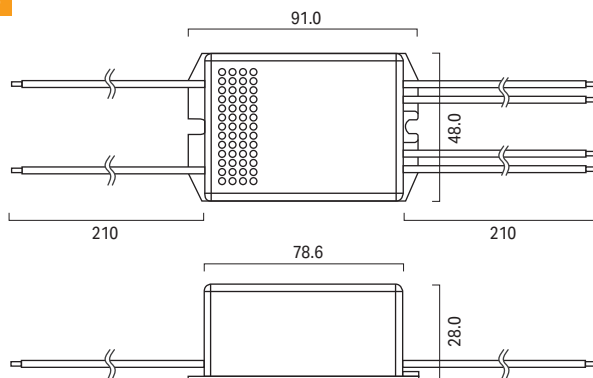
- Smaller/lightweight (more design freedom)
- Inventory reduction through dual use of mainstream sterilising lamps.



### Electrical characteristics

Model No.	GL6	GL10	GL15 / GL20
Input voltage	85V - 115V	85V - 115V	85V - 115V
Output voltage	35V	100V	100V
Output frequency	20KHz - 50KHz	20KHz - 50KHz	20KHz - 50KHz
Output current	147mA	330mA	330mA

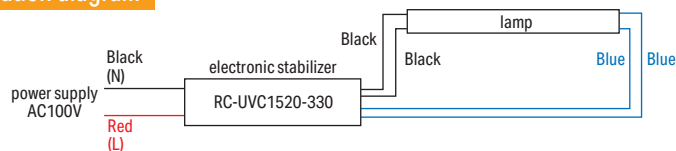
### External dimensions



Input side	Wiring colour
L	Red
N	Black

Output side	Wiring colour
VOUT1-1	Black
VOUT1-2	Black
VOUT2-1	Blue
VOUT2-2	Blue

### System configuration diagram



## Luci ORILEGA power supply for 24 V

### Features

- PSE acquisition range AC100V - 242V
- Meets JIS standard C 8115 noise requirements.
- Conforms to CISPR11 noise immunity standard for hospitals
- CE Mark conformity, RoHS and other environmental designations.

PSE

CE

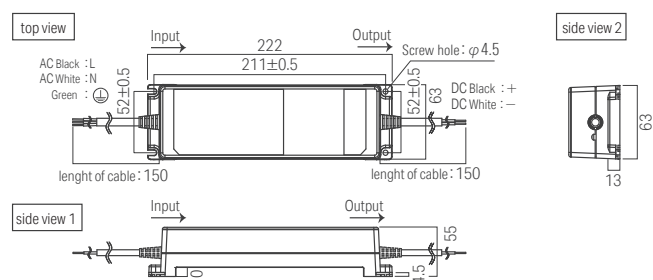
RoHS

### Electrical characteristics

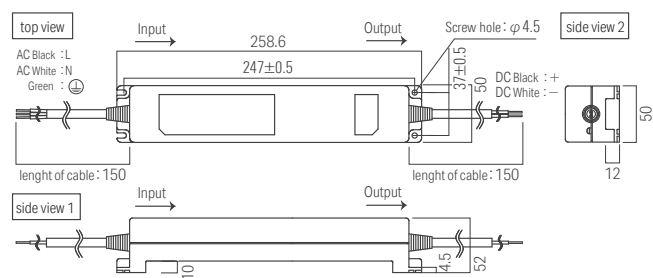
Model No.	LPSOL-030-24-ND-I	LPSOL-075-24-ND-I	LPSOL-145-24-ND-I
Input voltage	100V - 242V	100V - 242V	100V - 242V
Output voltage	30 W (30 W equivalent, up to 21 W)	75 W (75 W equivalent, up to 52.5 W)	146 W (equivalent to 145 W, up to 105 W)
Output current	1.25 A	3.125 A	6.1 A

### External dimensions

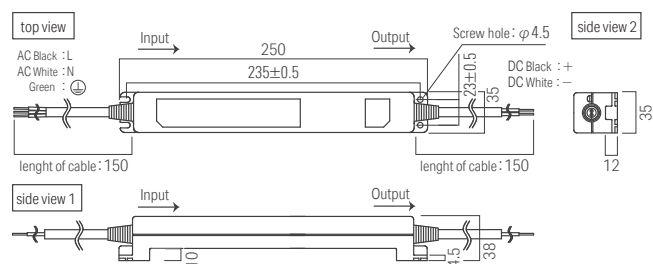
#### 145W



#### 75W



#### 30W





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