

Nipron Wave

Vol.63



This is the highlight

1 New products

Introducing the latest PCB type single output power supplies, FZP-040 series, mFZP-075 series, UZP-400 series and so on.

2 Solar carport EV charging station

Development of a solar carport system with "decarbonization" and "resilience" features!

UDP Series

Small sized, space saving design model with small and high efficiency capability

DIN-rail power supply



UDP-240 Series



UDP-180 Series



UDP-120 Series

CAPACITOR Unit & BATTERY Unit

Available capacitor unit for backup instantaneous power failure, battery unit for backup of blackout.



DS01A-EC400/172F

Capacitor unit

Instantaneous power failures can be addressed by connecting a capacitor unit.



DS02A-L24/2.5L Under development

Lithium-ion battery unit

Blackout backup without instantaneous interruption can be achieved by connecting a battery unit.

UDP-240-A24

Continuous: **240W** Peak: **400W**
Output voltage: **24V** Max. efficiency: **94% typ**

UDP-180-A24

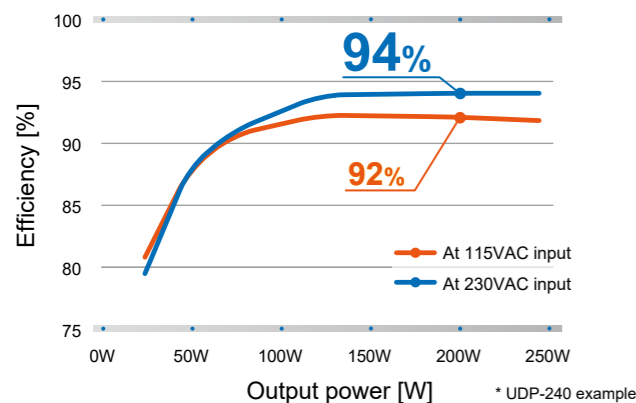
(100VAC/200VAC)
Continuous: **180W** Peak: **200W/300W**
Output voltage: **24V** Max. efficiency: **93.5% typ**

UDP-120-A24

(100VAC/200VAC)
Continuous: **120W** Peak: **200W/300W**
Output voltage: **24V** Max. efficiency: **92% typ**

Designed with high efficiency and long life

Adopted "Soft switching" design. Enabled compact slim size and high efficiency by controlling created heat with switching loss, which is better than "Hard switching" design.



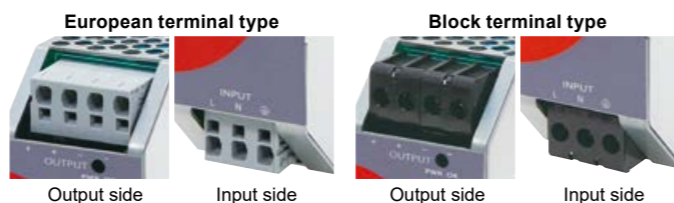
Specifications

Model	UDP-240-A24	UDP-180-A24	UDP-120-A24
Output voltage	+24V	+24V	+24V
Continuous power	240W	180W	120W
Peak power (10s) 100/200VAC	400.8W	201.6W/300W	201.6W/300W
Efficiency	115VAC	92%typ	91.5%typ
	230VAC	94%typ	93.5%typ
Power factor	115VAC	99%typ	99%typ
	230VAC	91%typ	93%typ
Input voltage	85-264VAC (with PFC, worldwide range)		
Safety standard*	UL (cUL) 62368-1, UL508 approved, CE marking PSE (ordinance item2) compliant		

* UDP-180 and UDP-120 will be compliant.

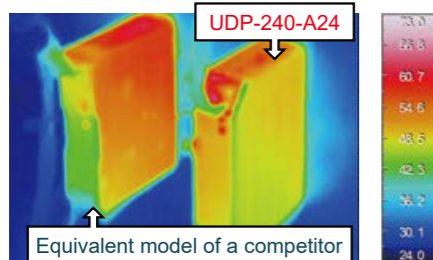
Other features

- Wide operating temperature range from -20°C to 70°C (derating required)
Under higher temperature inside of control panel, it makes it possible to design higher level free mechanism design.
- Available to start-up at -40°C environment
- Coating PCB as standard.
- Equipped with a variable resistor to adjust output voltage.
- Life time alarm (under development)
Alarm the deterioration of electrolytic capacitor by H/L signal and LED.
- Capable to support SEMI F47
- EN62477-1 OVCIII compliant design
- Available for European terminal or Block terminal as I/O terminals.



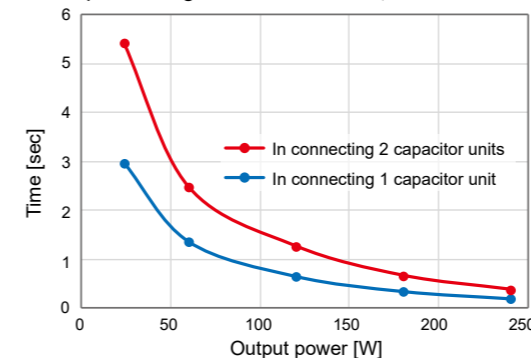
Miniaturization & service life extension by keeping the temperature rise in check

A significant reduction in the heating due to switching loss has been achieved by an enhancement of efficiency, enabling a reduction in the manhour and cost involved in the action against heating of control panel.



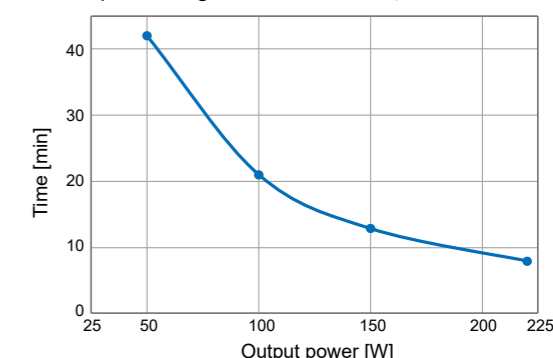
Measures against instantaneous power failure

Backup discharge characteristics (UDP-240-A24-EB0 at 100VAC)

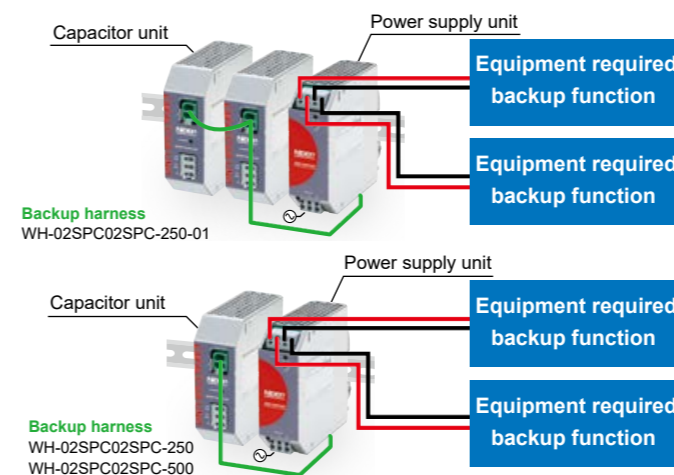


Measures against blackouts

Backup discharge characteristics (UDP-240-A24-00 at 100VAC)

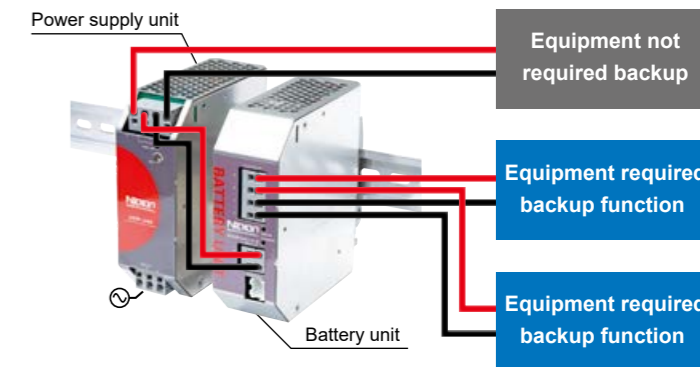


Connection concept



* The power supply to which the capacitor unit can be connected is UDP-***-A24-B*

Connection concept



* Since DS02A-L24/2.5L are under development, the specifications and appearance shown here may change without notice.

Slim and low-heat-generation design enables a space-saving control panel. <http://www.nipron.com>

Rely on Nipron for solutions to blackouts and instantaneous power failures. <http://www.nipron.com>

FZP

A New Series of PCB Type Single Output Power Supply

High-end small capacity switching-mode power supplies with low heat generation and peak support

FZP-040 Series

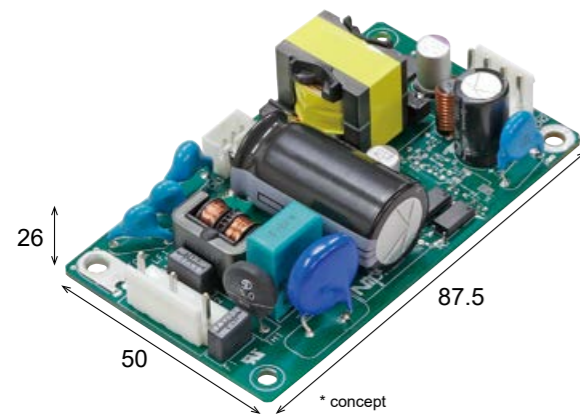
NEW

Small size and high efficiency
PCB type single output power supply

Medical standard approved model will be lined up

Continuous: 30-40W Peak: 40-60W

Output voltage: 5/12/15/24V

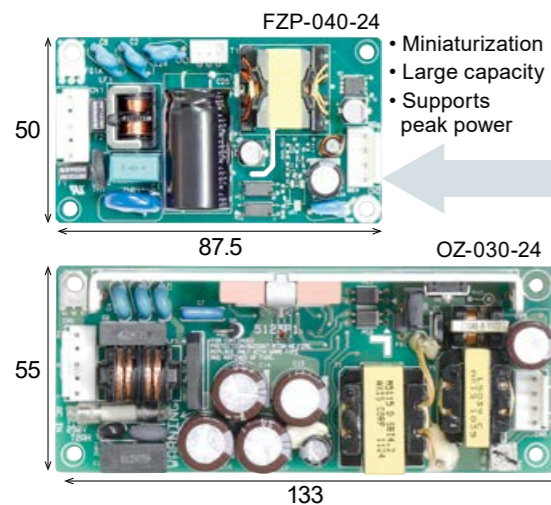


Specifications

FZP-040-	05	12	15	24
Output voltage	+5V	+12V	+15V	+24V
Continuous current	6A	3.3A	2.6A	1.6A
Continuous power	30W	40W	40W	40W
Peak current (within 5 s)	8A	5A	4A	2.5A
Peak power (within 5 s)	40W	60W	60W	60W
Input voltage	85-264VAC (worldwide range)			
Safety standards	IEC/EN62368-1(2nd), (CE marking) UL/c-UL62368-1(2nd) expected to be approved			

Achieved miniaturization and large capacity

Compared to Nipron's conventional model OZ-030-24, it has approximately 1.3 times larger capacity and 44% smaller size.

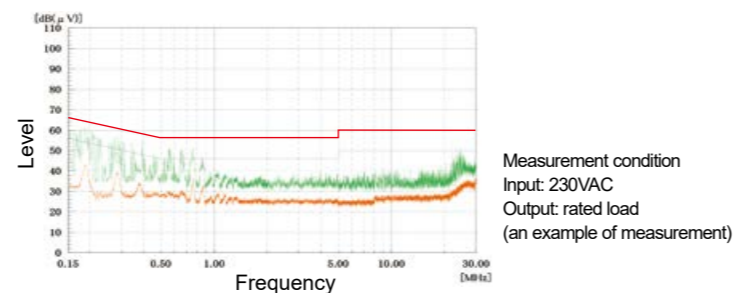


Support the peak load

Peak power is available for 5s. Optimum for equipment that requires inrush current such as motors.

Clears VCCI Class B for the conducted emission

The power supply unit clears VCCI Class B for the conducted emission. Because there is no need to install an external noise filter, it facilitates reductions in the cost and man-hour.



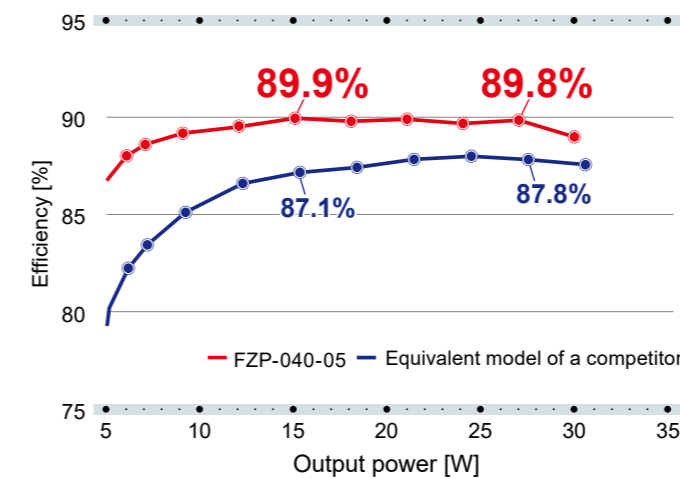
* Since the product is under development, the specifications and appearance shown here may change without notice.

The peak power 1.5 times higher than the continuous power is supported! <http://www.nipron.com>

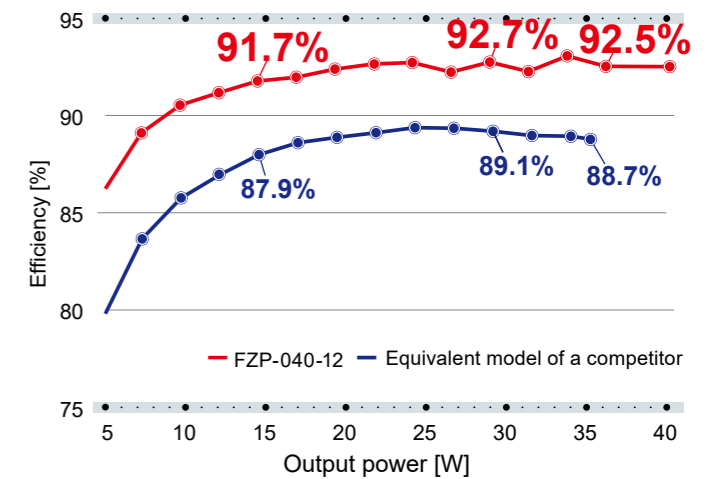
Achieved high efficiency and low-heat-generation

A significant reduction in the heating due to switching loss has been achieved by an enhancement of efficiency, enabling a reduction in the manhour and cost involved in the action against heating of installed equipment.

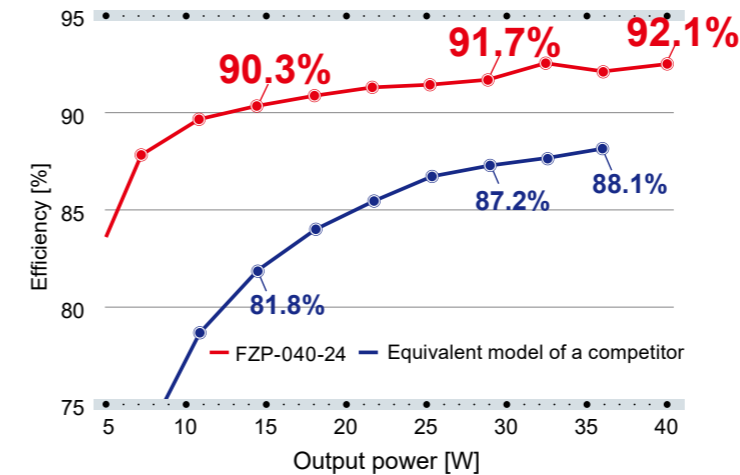
FZP-040-05 comparison of efficiency graph
[Measurement condition: at 230VAC input] (an example of measurement)



FZP-040-12 comparison of efficiency graph
[Measurement condition: at 230VAC input] (an example of measurement)

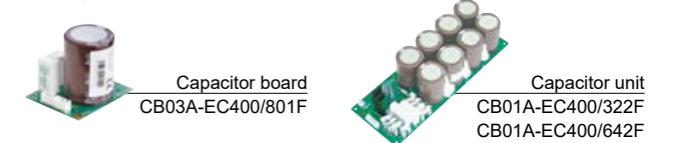


FZP-040-24 comparison of efficiency graph
[Measurement condition: at 230VAC input] (an example of measurement)



Possible to backup for instantaneous power failure (optional)

Instantaneous power failures can be addressed by connecting a capacitor unit or capacitor board.

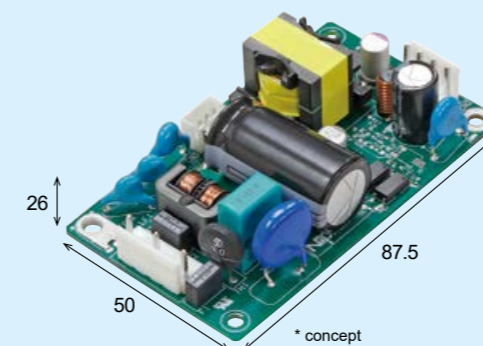


Other features

- Double-sided through-hole printed circuit board adopted
- A variable resistor for adjusting output voltage can be supported (optional)

mFZP-040 Series

Medical standard approved model will be lined up



- Achieved high efficiency and low-heat-generation
- It clears VCCI Class B for the conducted emission
- Backup for instantaneous power failure
- A variable resistor for adjusting output voltage provided

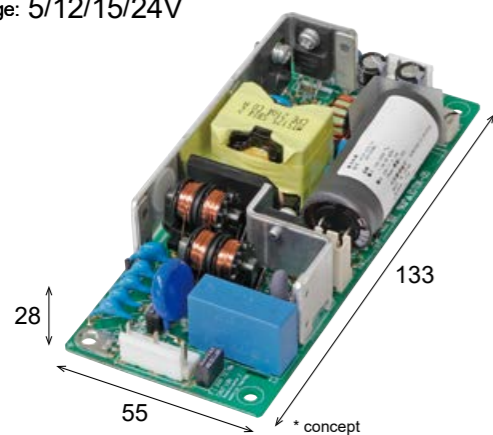
mFZP-040-	05	12	15	24
Output voltage	+5V	+12V	+15V	+24V
Continuous current	6A	3.3A	2.6A	1.6A
Continuous power	30W	40W	40W	40W
Peak current (within 5 s)	8A	5A	4A	2.5A
Peak power (within 5 s)	40W	60W	60W	60W
Input voltage	85-264VAC (worldwide range)			
Safety standards to be approved	IEC/EN62368-1 (2nd) (CE marking), UL/cUL62368-1 (2nd) IEC/EN60601-1 (Ed.3.1, MOPP, MOOP), UL ANSI/AAMI ES60601-1(3rd) expected to be approved.			

* Since the product is under development, the specifications and appearance shown here may change without notice.

Even though it is small, it has high efficiency and low-heat-generation! <http://www.nipron.com>

Medical standard IEC60601-1 Ed.3.1 is compliant
 Medical standard approved small size PCB type single output power supply

Continuous: **50-75W** Peak: **75-150W**
 Output voltage: 5/12/15/24V

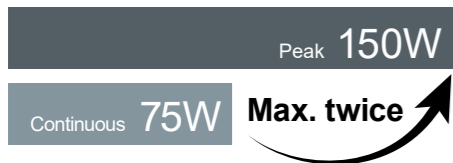


Small size, large capacity and high peak

Supports twice higher peak load (except 5V type)

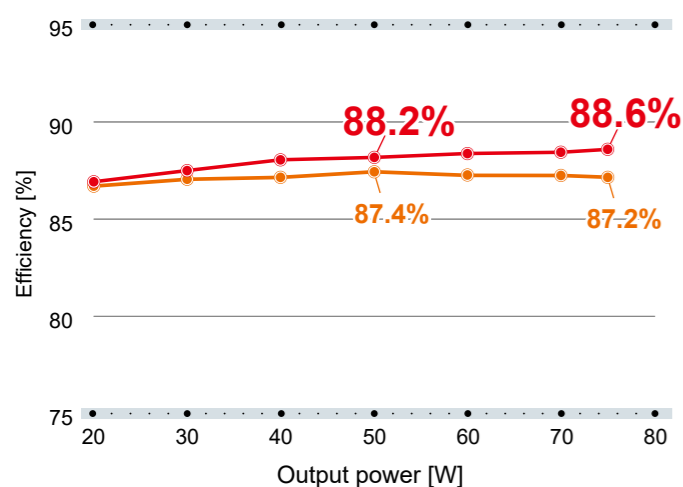
The product supports 5 second output of peak power, which makes it optimum for devices involving an inrush current, such as motors.

■ mFZP-075-12, 15, 24



Achieved high efficiency and low-heat-generation

Efficiency graph: mFZP-075-24 (an example of measurement)
 [Measurement condition: — 230VAC — 100VAC]



Specifications

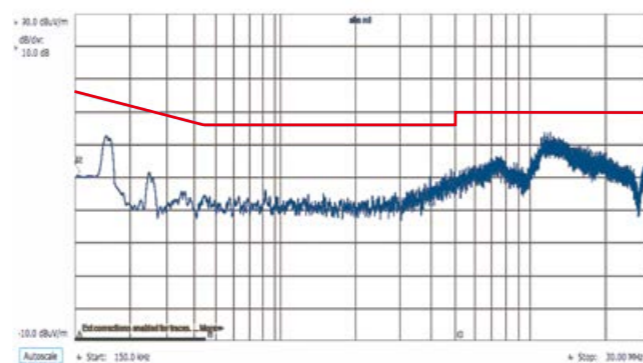
mFZP-075-	05	12	15	24
Output voltage	+5V	+12V	+15V	+24V
Continuous current	10A	6.25A	5A	3.13A
Continuous power	50W	75W	75W	75W
Peak current (within 5 s)	15A	12.5A	10A	6.25A
Peak power (within 5 s)	75W	150W	150W	150W
Input voltage	85-264V AC (worldwide range)			
Safety standards	IEC/EN60601-1 (Ed.3.1, MOPP, MOOP), IEC/EN62368-1 (2nd) (CE marking), UL ANSI/AAMI ES60601-1 (Ed.3.1), UL/cUL62368-1 (Ed.2), CCC:GB4943.1 expected to be approved			

Clears VCCI Class B for the conducted emission

The power supply unit clears VCCI Class B for the conducted emission. Because there is no need to install an external noise filter, it facilitates reductions in the cost and man-hour.

mFZP-075-24 (an example of measurement)

[Measurement condition input: 100VAC, output: rated load]



Other features

- Medical standard IEC60601-1 (MOPP, MOOP) is expected to be approved.
- With chassis or with chassis and cover type lineup
- A variable resistor for adjusting output voltage provided (adjustable range: ± 10%)
- Possible to backup for instantaneous power failure

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Medical standard approved small single output power supply

<http://www.nipron.com>

Medical standard approved small single output power supply
 Large capacity, peak model and medical standard approved model will be lineup

Common features

- Enhances resistance to lightning surges (build-in arrestor)
- The power supply unit clears VCCI Class B for the conducted emission.
- Supports peak output
- Possible to backup for instantaneous power failure (optional, but except UZP-400/1200P)
- With chassis or with chassis and cover type lineup

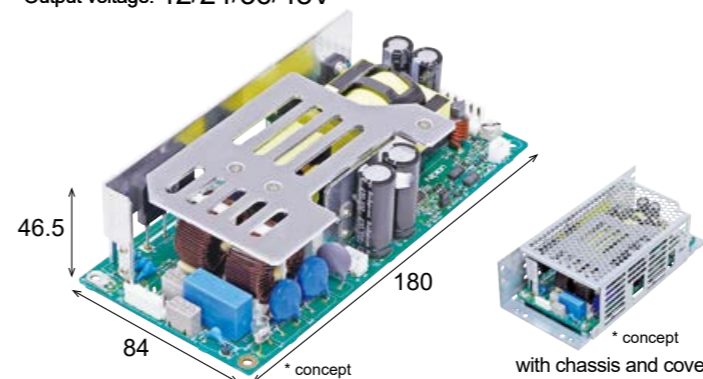
Base model

UZP-400 Series

Medical standard approved model

mUZP-400 Series

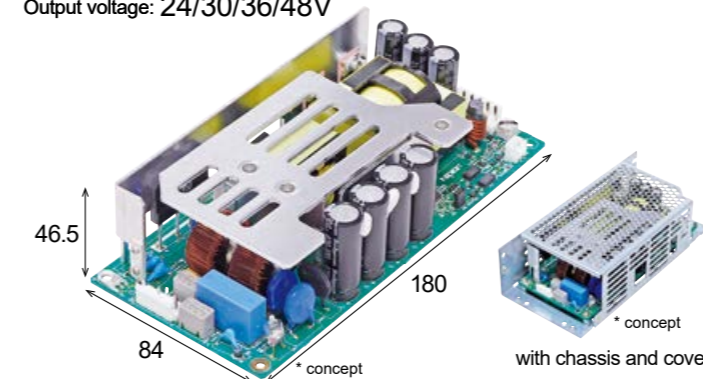
Continuous: **300-400W** Peak: **500-600W**
 Output voltage: 12/24/36/48V



High peak model

UZP-400/1200P Series

Continuous: **400W** Peak: **1200W**
 Output voltage: 24/30/36/48V



Small size, large capacity and high peak

Supports three times higher peak load (at 200VAC input)

The product supports 5 second output of peak power, which makes it optimum for devices involving an inrush current, such as motors.

Specifications

(m)UZP-400-A	12	24	36	48
Output voltage	+12V	+24V	+36V	+48V
Continuous current	25A	16.7A	11.2A	8.4A
Continuous power	300W	400.8W	403.2W	403.2W
Peak current (within 10 s)	41.7A	25A	16.7A	12.5A
Peak power (within 10 s)	500.4W	600W	601.2W	600W
Input voltage	85-264V AC (worldwide range)			
Safety standards	UZP-400: UL (cUL) 62368-1 expected to be approved, CE marking, EN62477 (OVC II) compliant mUZP-400: UL60601 (MOPP), UL (cUL) 62368-1 expected to be approved, EN62477 (OVC III) compliant			

Specifications

UZP-400/1200P-A	24	30	36	48
Output voltage	+24V	+30V	+36V	+48V
Continuous current	16.7A	13.4A	11.2A	8.4A
Continuous power	400.8W	402W	403.2W	403.2W
Peak current (within 5 s)	50A	40A	33.4A	25A
Peak power (within 5 s)	1200W	1200W	1202.4W	1200W
Input voltage	170-264V AC			
Safety standards	UL(cUL) 62368-1 expected to be approved, CE marking, EN62477 (OVC III) compliant			

■ UZP-400/1200P-A24



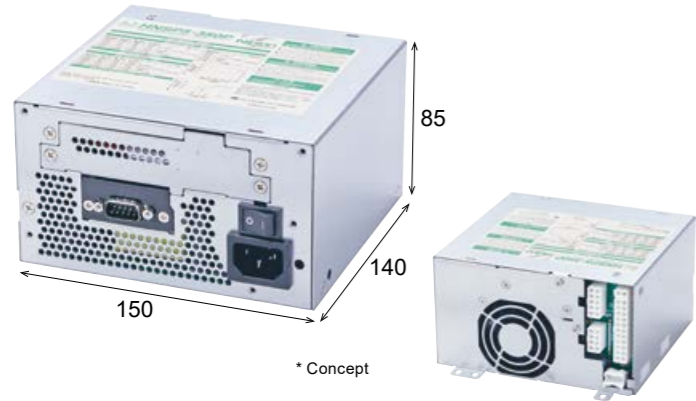
* Since the product is under development, the specifications and appearance shown here may change without notice.

High peak model and medical standard approved model are available!

<http://www.nipron.com>

No external battery required, built-in lithium-ion battery inside ATX power supply.
Space-saving Nonstop power supply

Continuous: 245W Peak: 346W



Specifications

Output voltage	+3.3V	+5V	+12V	-12V	+5VSB
Max. current/power (continuous)	12A Total 66.4W	12A Total 240.4W	20A Total 245.4W	0.5A Total 336W	1A Total 346W
Peak current/power (within 5 s)	22A Total 113W	22A Total 336W	28A Total 336W	0.5A Total 346W	2A Total 346W
Min. load current	0A	0A	0A	0A	0A

More space can be saved because of built-in battery package in a housing

More space can be saved compared to commonly found UPS because of the built-in battery package in the housing. It is also possible to implement UPS function by replacing the existing ATX power supply with HNSP5 series.

Common PSUs

UPS (Uninterruptible Power Supply)

Additional space required

Conventional Nonstop power supply

Space saving,

Battery can be installed inside of PC

► Space for 5 inch bay is required.

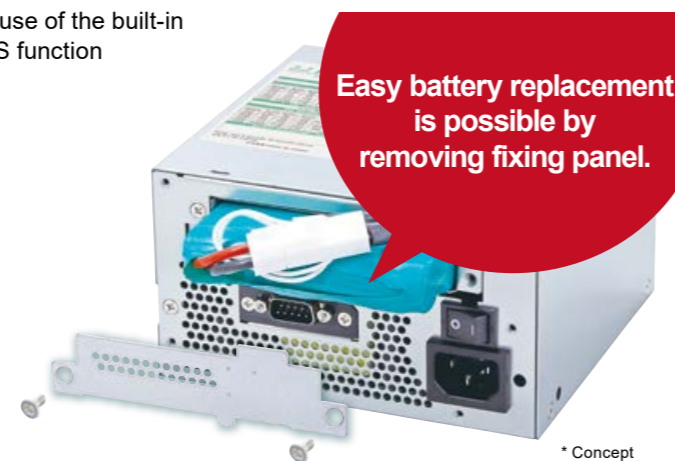
HNSP5 Series

More Space saving

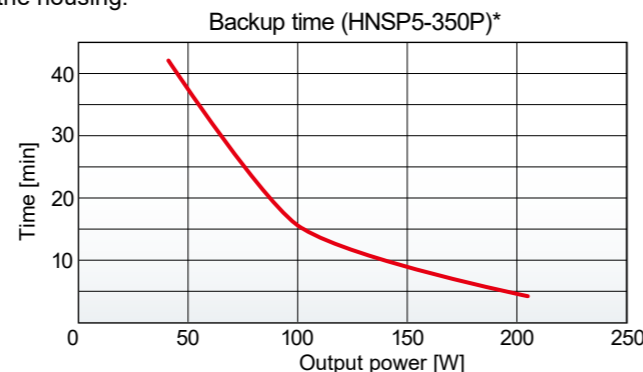
Built-in-battery package setup inside of power supply unit.

► Not required 5 inch bay

Suitable for replacing from the existing ATX power supply.



While the power is normally supplied through the AC power grid, if there is a drop in the AC input voltage or a blackout, the backup power kicks in safely by switching to the built-in battery without any interruption. Also, the battery supports the replacement from the mounting surface of the power supply unit, making it unnecessary to disassemble the PC or removing the power supply unit from the housing.



* Backup time is an example and reference only. Please check it with the actual device.

* Since the published product is under development, the specifications and appearance shown here may change without notice.

Other features

- The power supply unit clears VCCI Class B for the conducted emission
- Shutdown control signal from RS232C/USB

Never-seen-before ATX power supply with a built-in Lithium-ion battery.

<http://www.nipron.com>

High efficiency & high reliability

High efficiency and high reliability are achieved simultaneously by designing optimal components layout and conducting severe product evaluation test.

Low noise

With the enhancement of noise filter circuits and optimization of component arrangement, the conducted emission for the power supply unit alone clears VCCI Class B. Elimination of an external noise filter makes it possible to reduce the cost and man-hour.

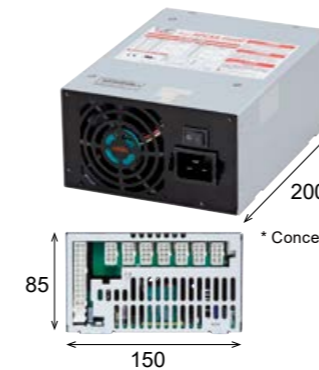
- Low sound noise design by adopting a temperature controlled variable-speed fan.

- Standby is selectable from 5V/12V.

Lineup products launched soon

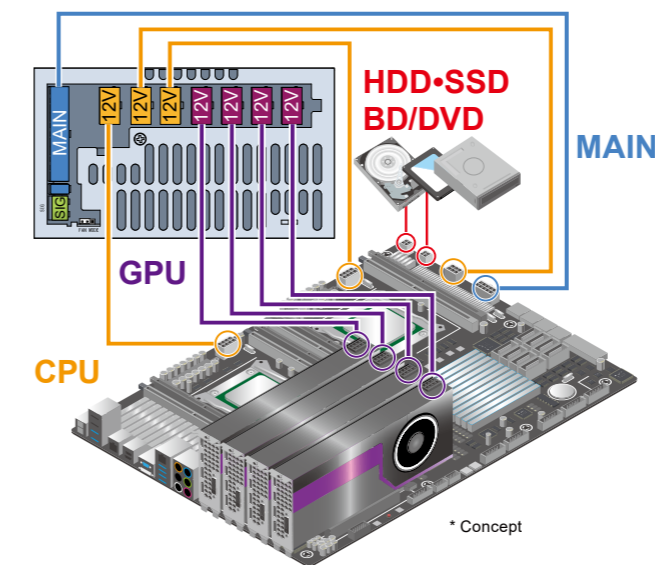
HPCSA-1500P

Continuous: 1200W Max. efficiency: 94%
Peak: 1500W (measurement at 230VAC)



CH	CH1-7	CH8
Output voltage	+12V	+12VSB
Continuous max. current/power	24A each Total 1200W	1A 12W
Peak current/power (within 5s)	32A each Total 1500W	2A 24W
Min. current	0A	0A

Connection concept



HPCSF-400P

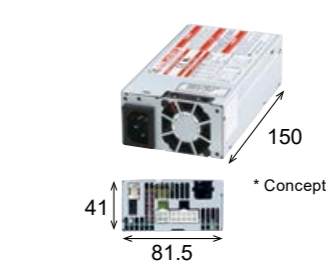
Continuous: 310W Max. efficiency: 89.1%
Peak: 400W (measurement at 240VAC)



CH	CH1-2	CH3
Output voltage	+12V	+5VSB
Continuous max. current/power	25A Total 300W	2A 10W
Peak current/power (within 5s)	30A Total 385W	3A 15W
Min. current	0A	0A

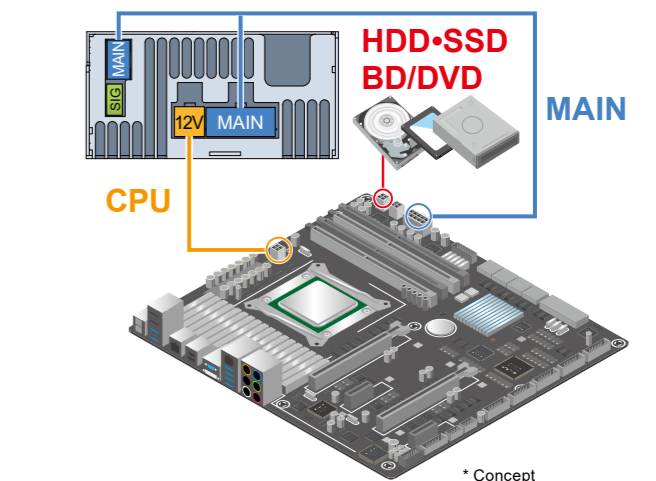
HPCFX-350P

Continuous: 245W Max. efficiency: 88.4%
Peak: 346W (measurement at 230VAC)



CH	CH1-2	CH3
Output voltage	+12V	+5VSB
Continuous max. current/power	20A Total 240W	1A 5W
Peak current/power (within 5s)	28A Total 336W	2A 10W
Min. current	0A	0A

Connection concept



HPCSA-1000P

Continuous: 822W Max. efficiency: 89.5%
Peak: 1000W (measurement at 240VAC)



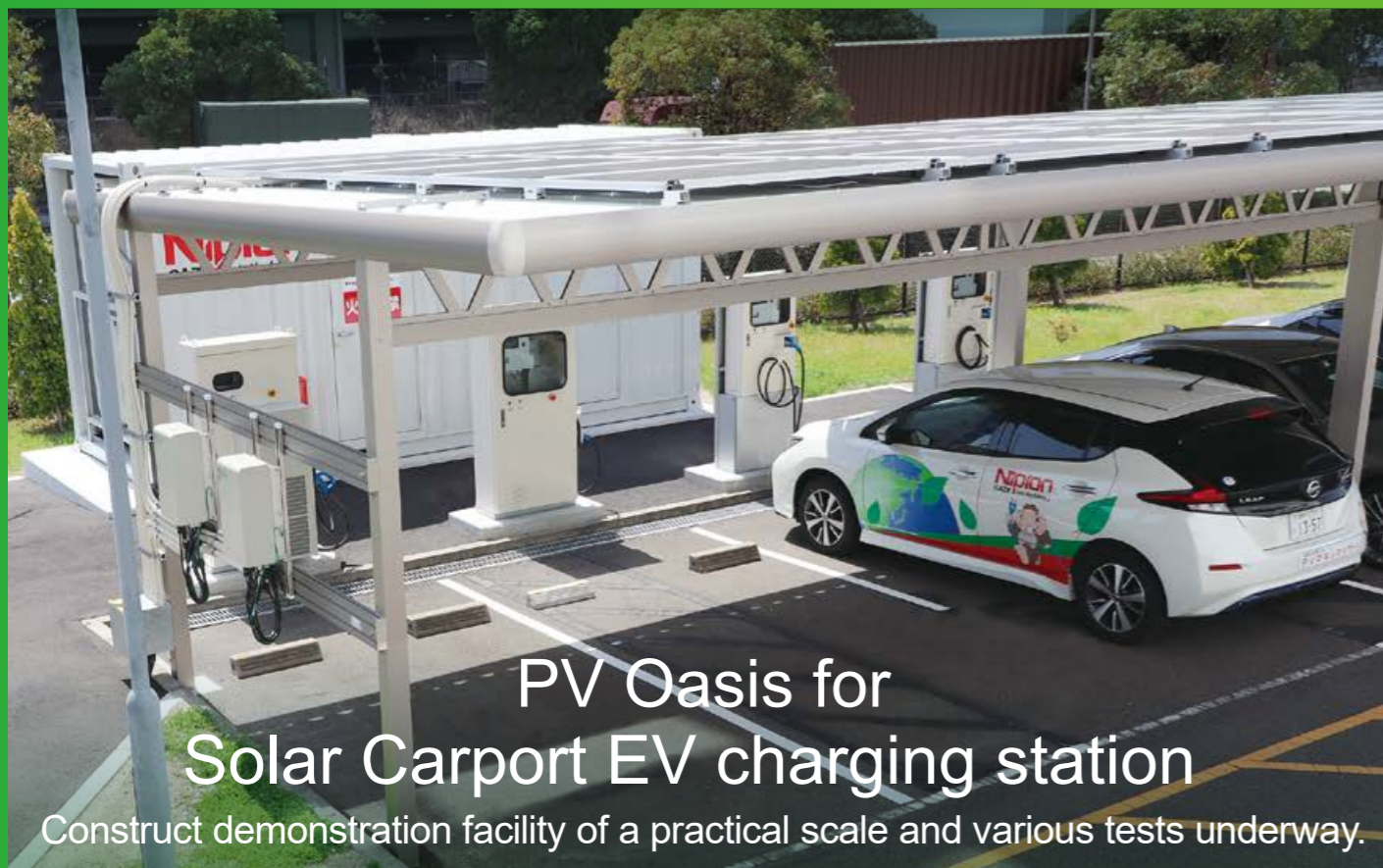
CH	CH1-4	CH5
Output voltage	+12V	+5VSB
Continuous max. current/power	18A each Total 792W	3A 15W
Peak current/power (within 5s)	25A each Total 1000W	4A 20W
Min. current	0A	0A

* Since the published product is under development, the specifications and appearance shown here may change without notice.

Higher efficiency will be achieved by the new design guide.

<http://www.nipron.com>

Development of a solar carport system contributing to both enhanced disaster resilience and decarbonization

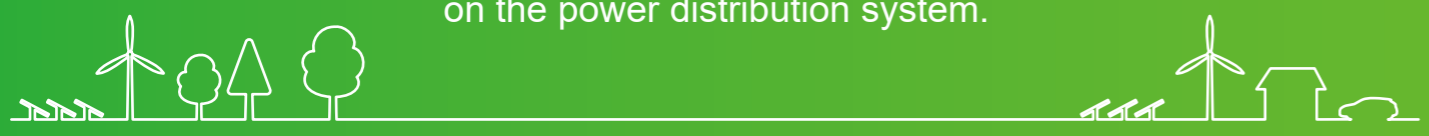


- POINT 1** Charges EVs with 100% renewable energy* generated in the parking area.
- POINT 2** Enables quick charging with low-voltage power feed and simultaneous charging of multiple EVs.
- POINT 3** Can be used as an emergency power source in the event of a blackout.
- POINT 4** A multitude of these carport systems can be managed remotely.

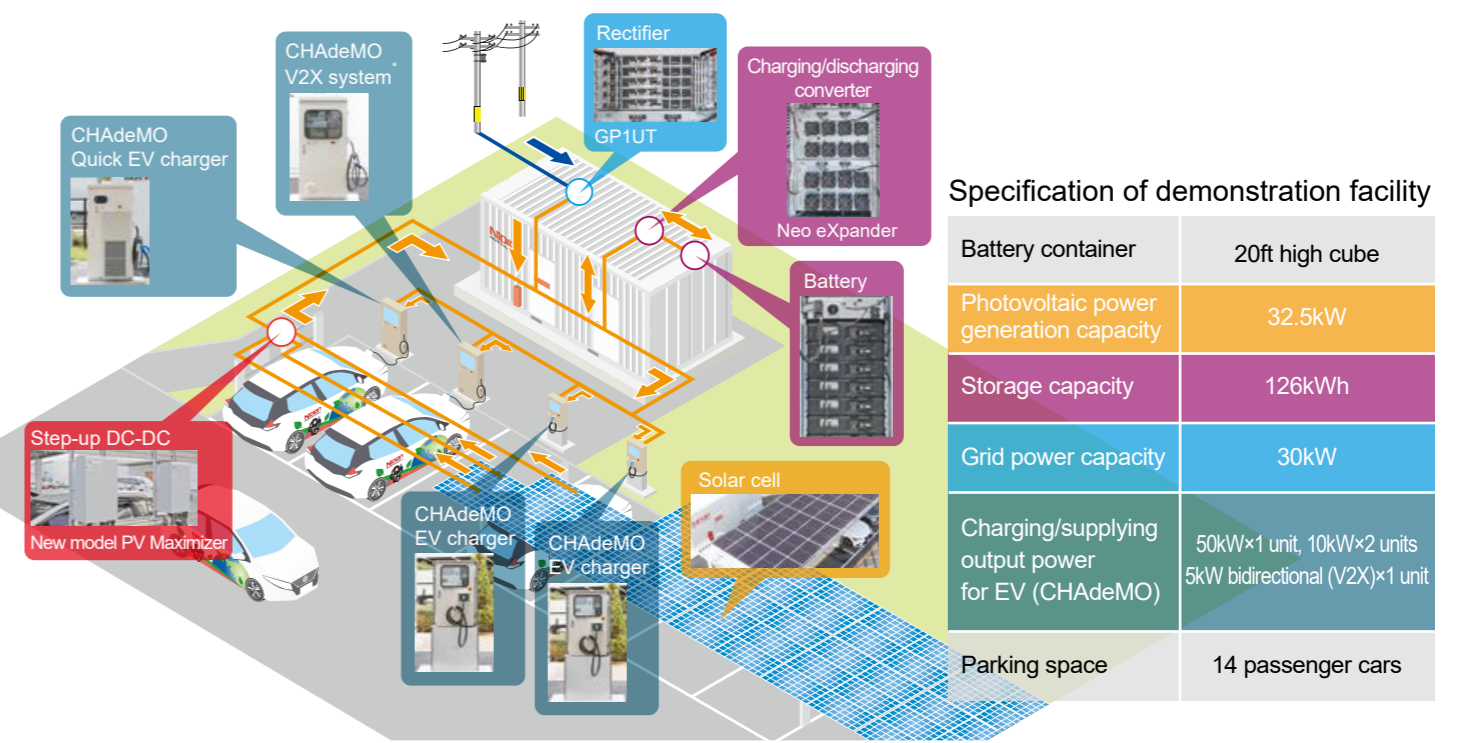
* It may not be possible to charge at 100% renewable energy due to weather and other conditions.

With an eye set on the year 2030, the shortage in the EV battery charger arising from the growth of electric vehicle (EV) has become a major concern in the society. However, in order to install a quick battery charger or multiple number of battery chargers anew, the power distribution system needs to be expanded.

Nipron is committed to solve this problem by developing and disseminating a system to generate renewable energy in a parking lot and using the in-house power consumption to charge EVs with quick & multi-unit chargers without putting an added burden on the power distribution system.



Outline of the system under demonstration experiment

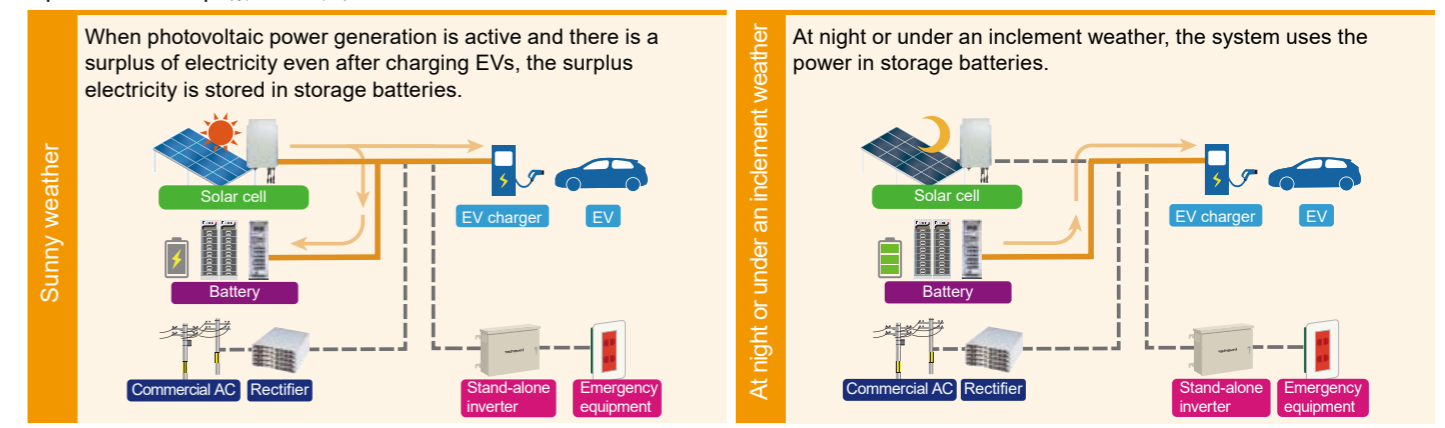


*V2X system is the system that not only charges EV and PHV, but also can extract the power and use it.

POINT 1 Charges EVs with 100% renewable energy generated in the parking area.

If there is enough parking space, solar panels can be installed and whose renewable energy can be used to charge electric vehicles. Surplus electricity can also be stored in storage batteries for use.

Operation concept (typical example)



[Reference] Calculation example for a parking lot with 14 passenger cars (32.5 kW)

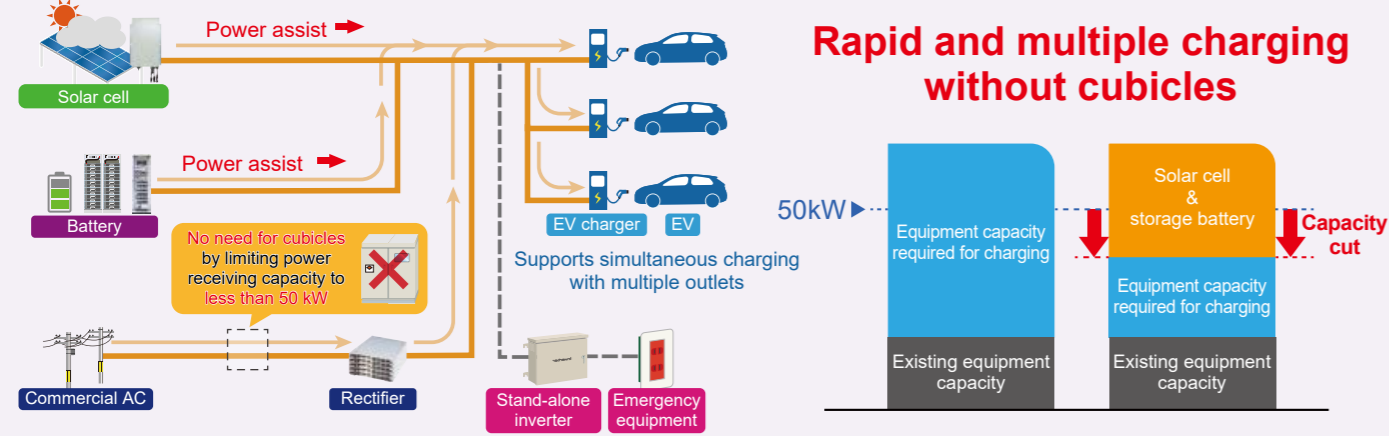
Annual energy generation	32.5kW×1000kWh/kW/yr. = 32,500kWh/yr.
The average energy generation per a day	→Average 89kWh/d.
Cruising range of EV (For Nissan LEAF e+)	Catalog value: 62kWh 458km (WLTC mode) → 7.4km/kWh
EV charging capacity Cruising range conversion	Average 89kWh/d. × 7.4km/kWh → Average 658km/d.

POINT 2 Enables quick charging with low-voltage power feed and simultaneous charging of multiple EVs.

Even for a charging operation (quick charge or simultaneous multi-unit charging) with an aggregate capacity of 50 kW or larger, a low-voltage power feed system (of capacity less than 50 kW) will suffice with an assist of photovoltaic power and/or a stationary rechargeable battery. For the low-voltage power feed, the installation of an electrical cubicle and a contract with a licensed electrical engineer are not required and, thus, it can be introduced and maintained easily.

Using solar power generation and storage batteries preferentially, and any shortage of power is supplemented by commercial power.

■ Operation concept (typical example)

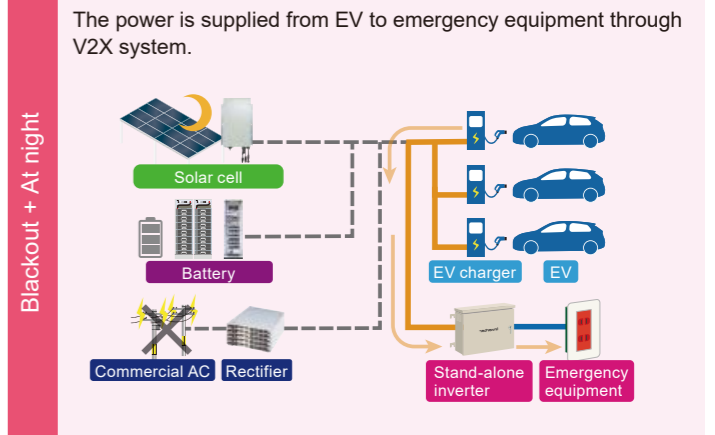
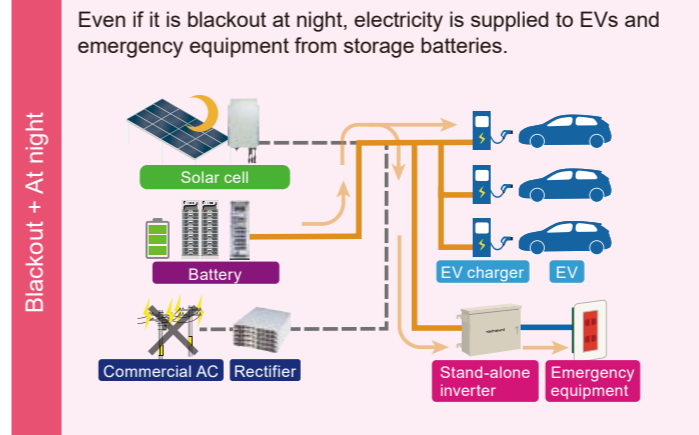
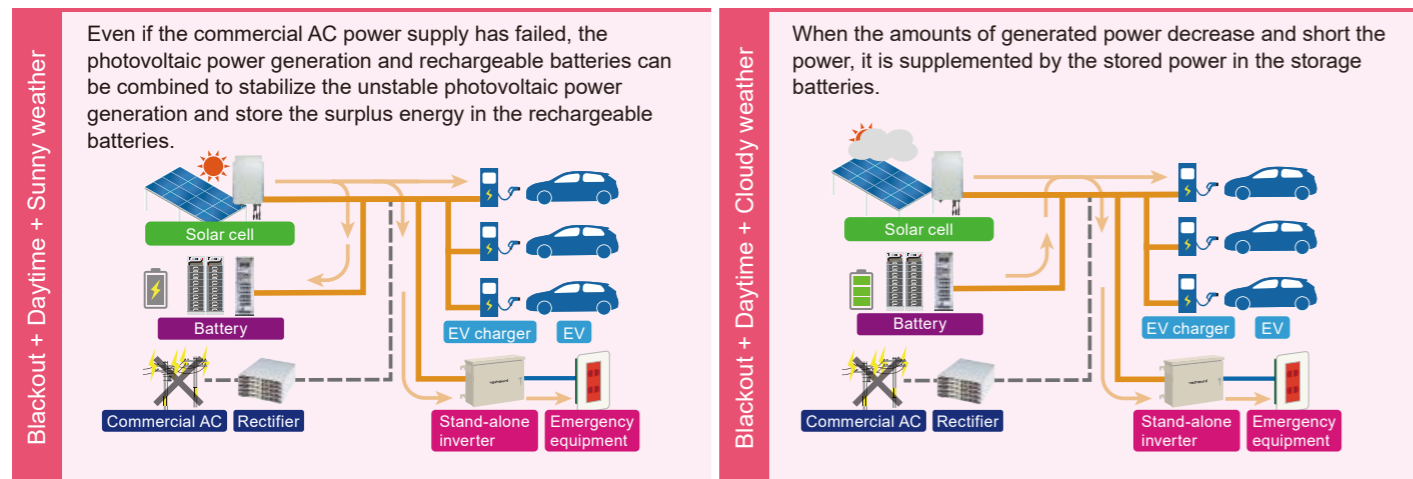


Why the dissemination of EV chargers so slow?

If the total power capacity of EV chargers to be installed and existing facility becomes 50 kW or higher, a contract for high-voltage power feed and an installation of a cubicle will be required. There are a lot of efforts to be made to introduce such a system, e.g. establishment of security rules concerning the installation, maintenance and operation, a submission of report on those rules, selection of a licensed electrical engineer and a submission of report on the selection, as well as monthly and annual inspections. Even if a cubicle was already in place, it is often the case that there is a shortage in the total power capacity and a difficulty in expanding or replacing the system, hindering the dissemination of EV chargers. Nipron's Solar Carport/EV Charging Station enables the installation of quick chargers and multiple chargers, i.e. enabling quick charging and simultaneous multi-unit charging operations, even with a small installed capacity.

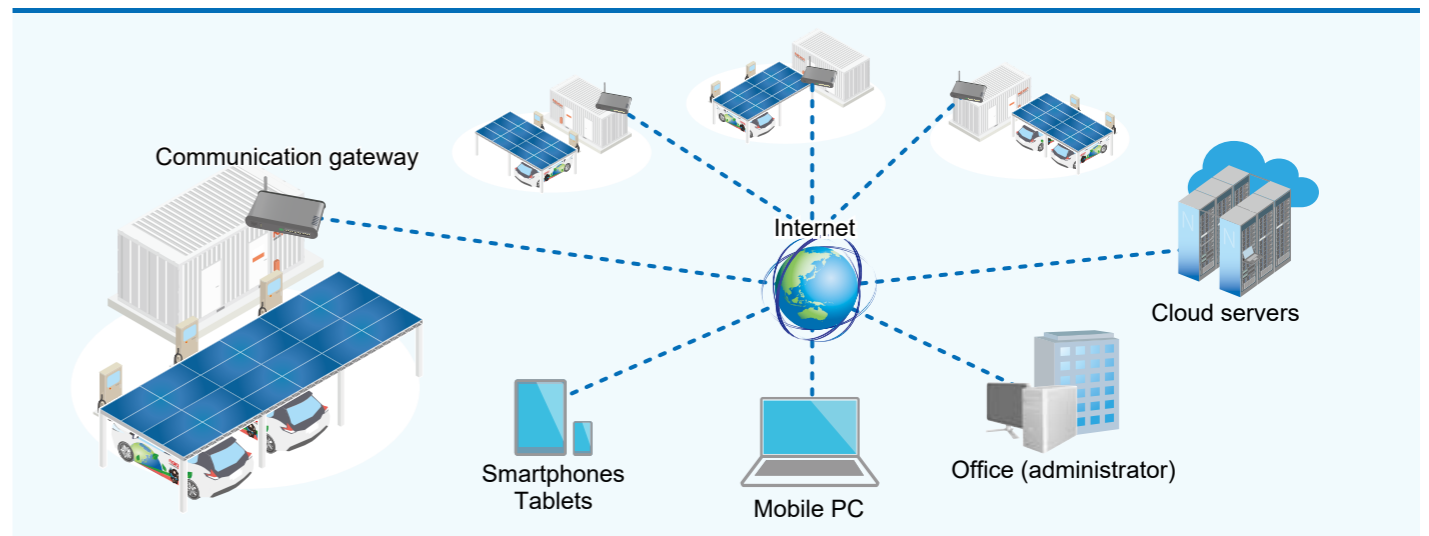
POINT 3 Can be used as an emergency power source in the event of a blackout.

The Solar Carport can also serve as a shelter, where electricity from solar power generation and stationary rechargeable batteries is available, in a wide-area power failure (blackout) caused by a natural disaster. Thus it is possible to use it as a renewable energy power plant & EV charging station in normal situation and as a shelter in an event of a disaster, fulfilling the need of the country and local governments.



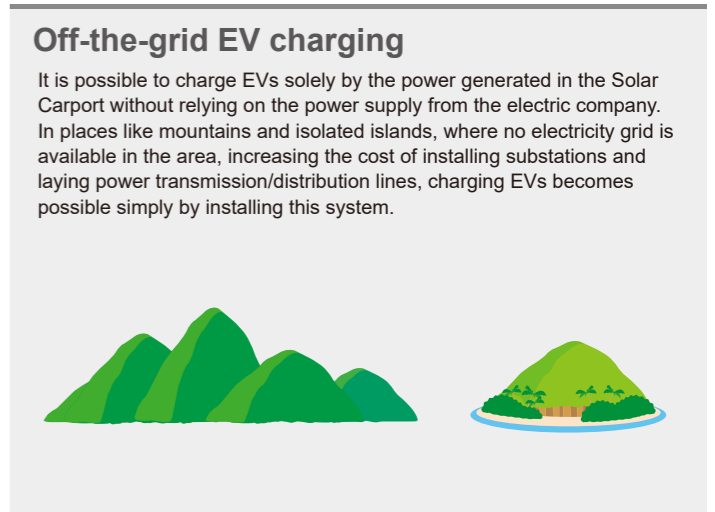
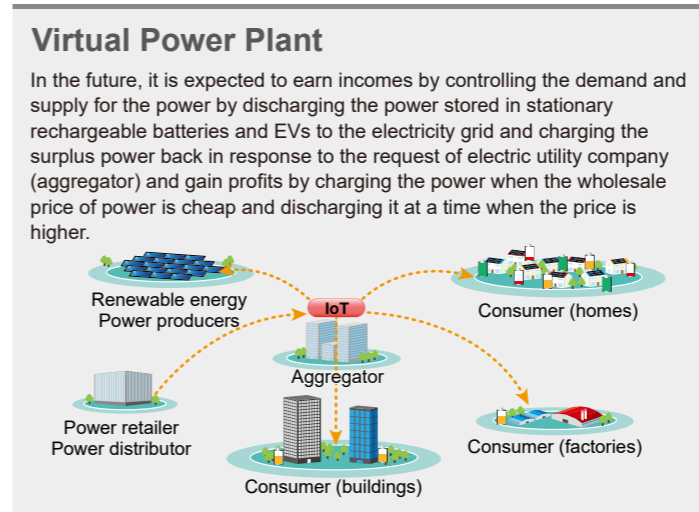
POINT 4 A multitude of these carport systems can be managed remotely.

Data of photovoltaic power generation, stationary rechargeable batteries and EVs are compiled in a cloud server and can be viewed and analyzed over the Internet. This makes it possible to manage different facilities from an office and issue a notice with an E-mail whenever there is a problem.

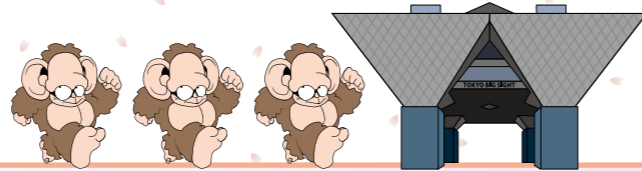


Other Features

The system can also be expanded in various other application such as VPP (Virtual Power Plant), off-grid EV charging, and DC microgrids.



Invitation to Exhibition



36th TECHNO-FRONTIER

TECHNO-FRONTIER 2021

Nipron will participate in the 36th TECHNO-FRONTIER, which will be held at Tokyo Big Sight for three days from 23th to 25th March. This exhibition is the only exhibition specializing in power supply units in Japan, displaying latest technologies in every field, e.g. power electronics, power conversion with power conditioners and stable supply of power using UPS and capacitors.

The Nipron booth features the products commemorating the 50th year of foundation, as well as a variety of other power supply units. Among them, the focus will be on UZP-400, the compact & large capacity single output power supply unit featured in this volume, single output PSU mFZP-075, which is expected to satisfy the medical standard IEC60601-1 Ed.3.1, FZP-040, which is a single output PSU about 44% smaller than conventional products while offering a capacity 1.3 times larger, with a support of peak power, HNSP5-350P, an ATX power supply unit with a built-in lithium-ion battery to back up the power in cases of blackouts, and a power supply unit compatible with the ATX12VO standard, a new design guide established by Intel. Please do visit the Nipron booth as it will also display and propose many products, including those for renewable energy systems aimed at the realization of decarbonization.

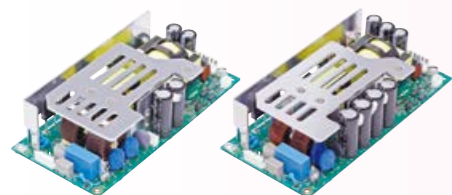


A scene of 2 years ago



A scene of 2 years ago

Special products



New products
UZP-400
p.6



New products
mFZP-075
p.5



New products
FZP-040
p.3-4



New products
HNSP5-350P
p.7



New products
HPCSA-1500P
(Supports ATX12VO)
HPCFX-350P
(Supports ATX12VO)
p.8



New products
UDP-240/180/120
DS01A-EC400/172F
DS02A-L24/2.5L-B
p.1-2



New products
UZP-600
(with cover type)

Many other products will be exhibited!

A wide range of power supply units is available. Call us to find out more.

<http://www.nipron.com>

New employees



14 new employees joined Nipron in this year.



The initiation ceremony

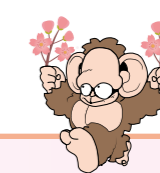


We welcomed a total of fourteen newcomers, three college graduates with humanity majors, three with science majors and eight high school graduates, who are expected to be the force to steer the future of Nipron. At the initiation ceremony, followed by instructions of President Sakai, three Vice Presidents and officers, a declaration of resolution was made by each newcomer to mark the new start as a member of the society.

The training schedule for this year's college graduates newcomers started with a classroom session in the first half of April, in which they learned business manners and undertakings of each department presented by the department head, as well as fundamentals of electronics and Nipron's power supply units presented by older employees.

From the latter half of April to the end of June, the newcomers will learn the basics of manufacturing through a training on the production line. Starting in July, they will work in two different groups and those of science & engineering majors will receive a power supply unit training, in which they will develop and design a power supply unit from scratch in the engineering department, and those of humanities majors will experience jobs in the sales and administration departments by taking turns with an interval of one month. In October, when the training will be over, they will be assigned a position in the departments where they are fit.

Exhibition report



Participated in the 11th INT'L SMART GRID EXPO

Nipron has participated in the 11th INT'L SMART GRID EXPO, which was held at Tokyo Big Sight for three days from 3rd to 5th March. This exhibition is a special exhibition that attracts a range of products and technologies required for the construction of smart-grids and distributed energy systems.

The introduction of virtual power plants (VPPs), which plays an important role and utilization of renewable energy in achieving the political target of carbon neutral by 2050, is urgent.

At the Nipron booth, therefore, the themes of "in-house power consumption" and "VPP" have been adopted and the Solar Carport/EV Charging Station, introduced on the page 11 of this magazine and capable of running EVs solely with the solar power, was presented for the first time. The system turned many heads because of its advantage of utilizing the parking lot, even if there is no space available on the roof or empty ground, and the capability to offer the service of a charging station even at a time of disaster (blackout). Also featured were the Zero Energy Room, which reduces the cost of introduction of an in-house power consumption system by starting it for a single room, rather than the entire building and the PV Guardmyan, which uses remote control to enable an early detection of problems and prevents the loss of opportunity in the power generation. In addition, a variety of presentations were made on renewable energy products for the carbon-neutral society, including the introduction of in-house power consumption system installations and the demonstration of PV Oasis using LEDs, which was popular in past exhibitions. We would like to express our heartiest appreciation to everybody who visited the Nipron booth.



A scene of the booth



LED demonstration

When you are having trouble with your power supply, look to Nipron.

<http://www.nipron.com>

The COVID-19 pandemic — Overturning conventional wisdom

Since the Meiji era following the opening of the country, an organization-oriented system has led to regulatory tightening policies, and whatever the era, our conservative nature of valuing adherence to rules and regulations has made Japan a good country of order, peace and security; this may be because of our successful experience of building a modern nation and achieving great breakthroughs, or it may reflect the Japanese national character. However, in the current era of great change, failure in catching up with the change can be fatal, posing a problem of the Galapagos syndrome. Having said that, on the contrary, the recent Covid-19 pandemic has triggered the breaking of tough regulations. It has also become a factor in overturning conventional wisdom that many Japanese follow.

In a few months, festivals of peace, the Tokyo Olympic Games followed by the Paralympic Games, will take place. I don't know how the world will be like after that. The government threw around a huge amount of money as an economic-stimulus package to cope with the pandemic, and surplus funds have flowed into the stock market, driving unusually sharp rise in stock prices. It is not clear whether it is a real economy or a financial bubble, but the economic recovery of the manufacturing industry is prominent while the service industry is in trouble.

Since last October, at Nipron, recovery of orders in the power supply business has been remarkable. The order amount has increased by 10 to 20%, reaching a new record high every month; this owes to the strong exports of customer companies coupled with the effects of introduction of our new products and launch of new projects for new customers.

There is also a boost in the GP business with the support of decarbonization policy and the enthusiasm in the ESG investment, resulting in an increase in large project inquiries. The GP business is a business centered around the photovoltaic (PV) power generation for which Nipron has many successful projects by developing and commercializing various systems starting with the PV Maximizer (an energy maximization system for photovoltaic power generation systems) and PV Guardmyan (a power generation monitoring & diagnosis system). They were followed by the development of Neo eXpander (a lithium-ion battery charging/discharging system) and this system has been delivered to several dozens of customers throughout Japan to store surplus energy obtained by the PV overloading and increase the income from the sale of power discharged after the sunset.

In the past two years, Nipron has been acclaimed by the development of rectifiers of 6 to 50 kW and deliveries of three demonstration systems of VPP (virtual power plant), in which electric companies collaborate with consumers of power. Apart from these achievements, the development of 5.5 to 16.5 kW single and three phase inverters, in association with the development of 100% digital power supply technology, and the development and commercialization of 100% digital and bi-directional DC-DC converter for the V2X technology are also in progress.

In November 2020, Nipron has built an EV Solar Carport meant for a verification test in the parking lot of Head Office and the system has been well received by many, leading to inquiries for new projects.

This solar carport stores the power obtained by photovoltaic power generation in a large capacity lithium-ion battery and uses it to charge five to ten EVs simultaneously at a speed ranging from medium to high speed, making it possible to run automobiles almost solely, if not 100%, by the solar power. Nipron wishes to enhance the number of charging stations at an economical cost and serve the community by solving the expected shortage in the charging stations and improving the environment through decarbonization. This EV Solar Carport can also be used as a VPP facility by connecting a power conditioning system (PCS). It also offers added advantages, such as its usefulness for regional BCP plans.

Going forward, in the power supply business, Nipron wishes to serve as a reliable power supply manufacturer that protects the safety and security of its customers' equipment and systems, and make investments aiming at an annual growth of over 10% as a partner of its customers. Furthermore, taking advantage of its characteristics of having a rich lineup of GP products, Nipron will strive to achieve rapid growth by expanding the GP business at an explosive pace in response to the strong social demand.

Setsuo Sakai
March 2021



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