

# Nipron Wave

## Vol.57 2019 Autumn

**This is the highlight**

- 1 Special feature on new product HPCSA-1500P-E2S**  
Introducing a highly reliable large capacity ATX power supply unit optimum for GPU servers, which are used for deep learning and rendering with the ongoing third AI boom.
- 2 Special feature on in-house consumption of solar power, facilitating the shift from “sell” to “use”**  
With a drop in the FIT price, in-house photovoltaic power generation is gaining attention.

Large capacity ATX PSU suitable for GPU server

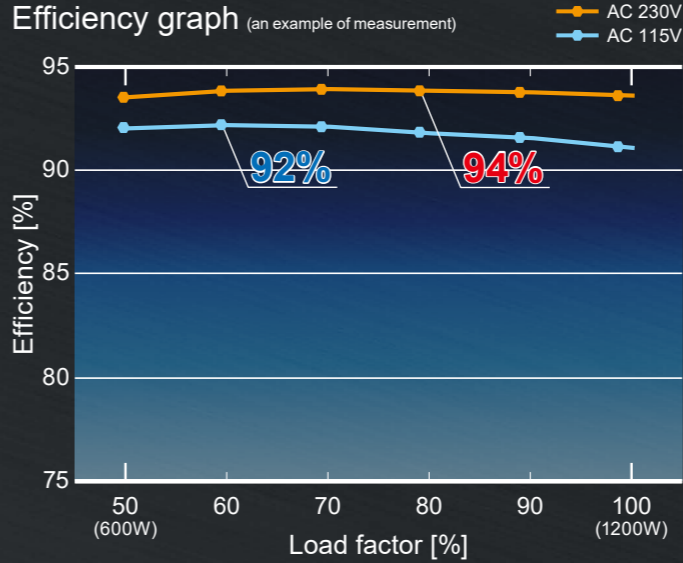
# HPCSA-1500P-E2S

Peak: **1500W**  
 Continuous: **1200W**



## Reliability & high efficiency in one

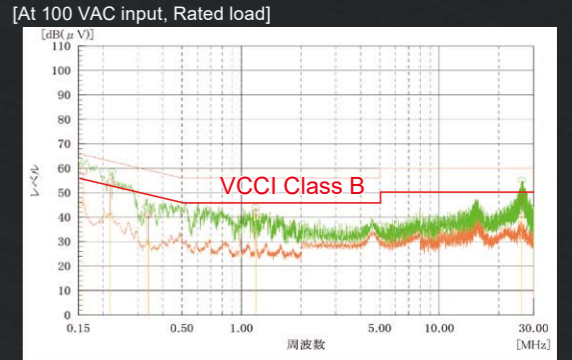
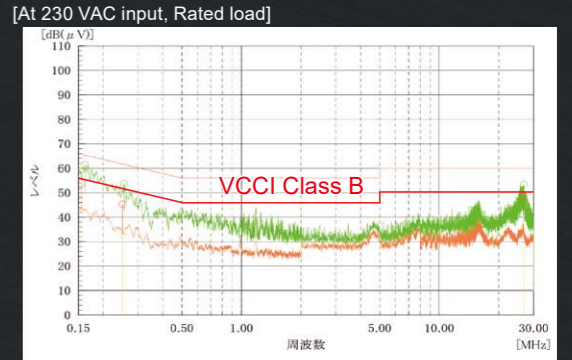
HPCSA-1500P is designed to attain the highest efficiency with a high load factor of 50% to 100% and enables a highly reliable and stable operation of GPU servers, constantly running under a high load, as in the application of deep learning.



## 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.

## Conducted emission characteristics



Large capacity PSU for GPU server suitable for deep learning and rendering

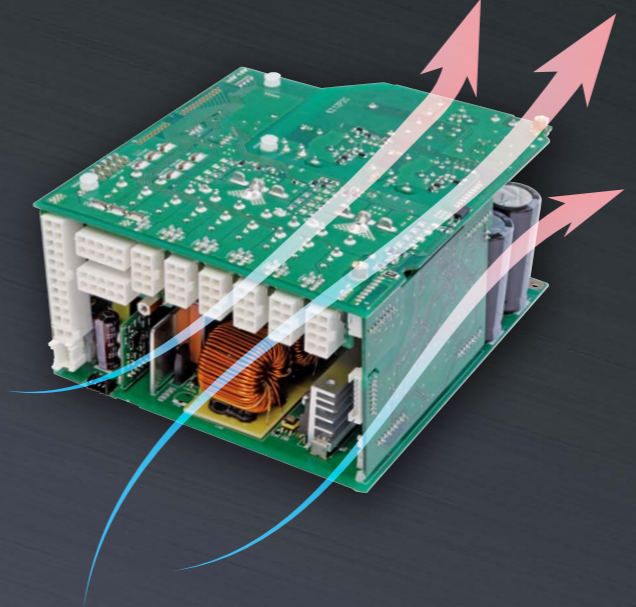
High efficiency of 94% typ. with 230VAC input attained

Long life design with expected life of more than 10 years

Low noise design with the adoption of a temperature controlled variable-speed fan (with semi-fanless mode)

## Committed layout design

In order to protect customers' devices and data, the PSU employs an optimum component arrangement by utilizing a unique thermal analysis/simulation and produced in Japan to offer the security & safety. Also, in order to satisfy a variety of requirements held by customers around the world for the power supply units, severe product evaluation tests are done thoroughly to find weaknesses, which are then eliminated to realize the high reliability to endure the prolonged and severe 24/7 operation at the rated power.



## Deep learning to change the history

Currently, with the culmination of third AI boom, "deep learning," one of machine learning techniques used in conjunction with AI, continues to progress and people's attention is on its diverse potentials, including the analysis of users' preferences using big data. Furthermore, in the field of imaging, the progress of computer graphics technology has made it possible to produce images that look real. However, GPU servers used to perform computations for deep learning and computer graphics rendering consume a large amount of power as they use a multiple number of high-end GPUs, making it necessary to use large capacity power supply units. In addition, a high reliability and durability is demanded to perform computations 24/7 and, for this reason, the demand for power supply units allowing for a highly efficient operation is increasing to hold the running cost.

**Third AI boom, 2000s to the present day**  
 On the background of the boom is the appearance of deep learning technique with the realization of machine learning, in which the AI acquires knowledge on its own using big data.

**Second AI boom, 1980s to 1995 or so**  
 At the time, it was not possible for computers to collect and accumulate information on their own and it was hard for humans to prepare a large amount of information by representing in a way decipherable for computers.

**First AI boom, late 1950s to 1960s**  
 While computers could handle maze solving and simple hypotheses, they could not solve real-life problems.

Reference: Ministry of Internal Affairs and Communications 2016 edition White Paper on Information and Communication part 1

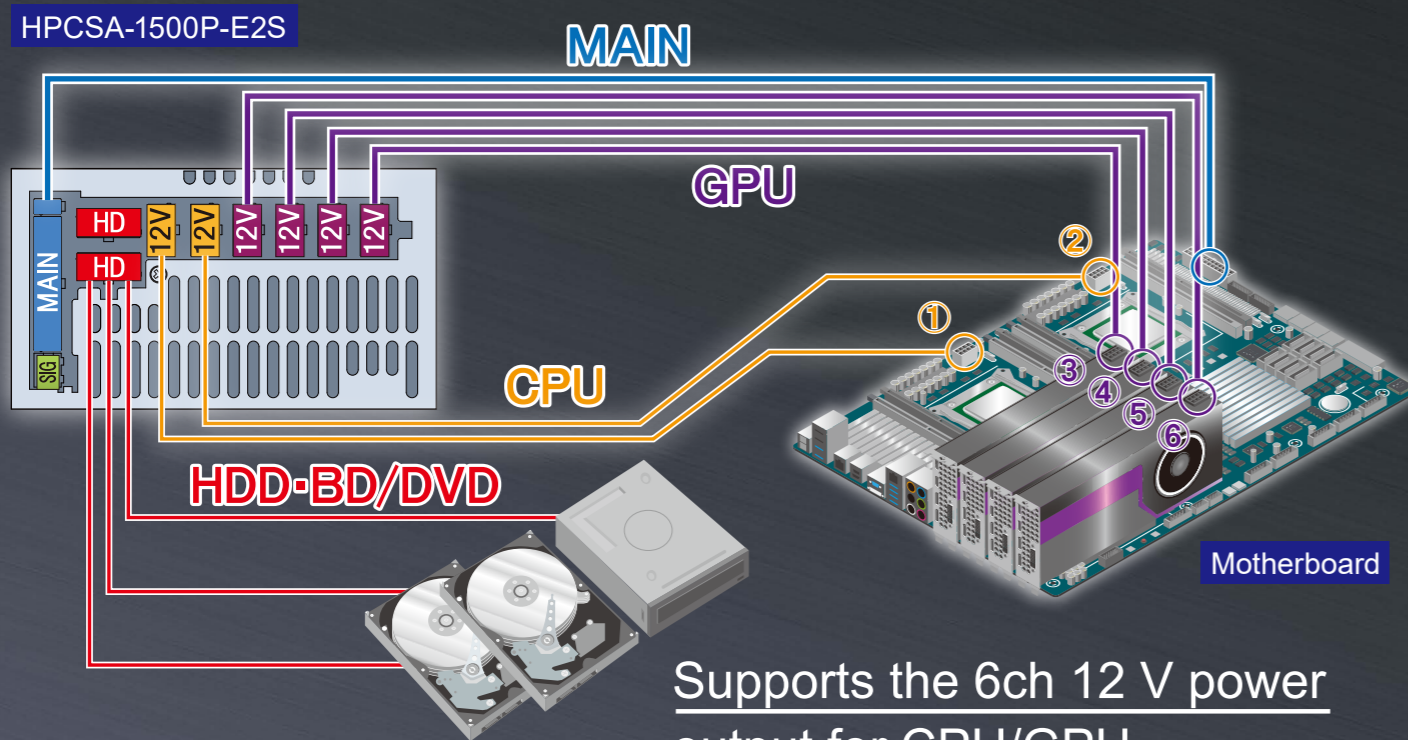
Large capacity ATX PSU with excellent reliability suitable for deep learning <http://www.nipron.com>

High reliability design enables continuous running 24 hours a day, 365 days a year <http://www.nipron.com>

## I/O specification

Input	85 - 264 VAC (Worldwide range)										
Output voltage	MAIN/HD		12V						MAIN/HD		
	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	+12V5	+12V6	+12V7	-12V	+5VSB
Max. current/ Max. power (Continuous)	25A	25A	24A	24A	24A	24A	24A	24A	24A	1A	3A
	Total 207.5 W		Total 1200W						15W		
Peak current/ Peak power (5sec. max)	30A	30A	32A	32A	32A	32A	32A	32A	32A	1.2A	4A
	Total 207.5W		Total 1500W						20W		
Min. load	0A	0A	0A	0A	0A	0A	0A	0A	0A	0A	0A
Size (mm)	150(W)×85(H)×200(D)										

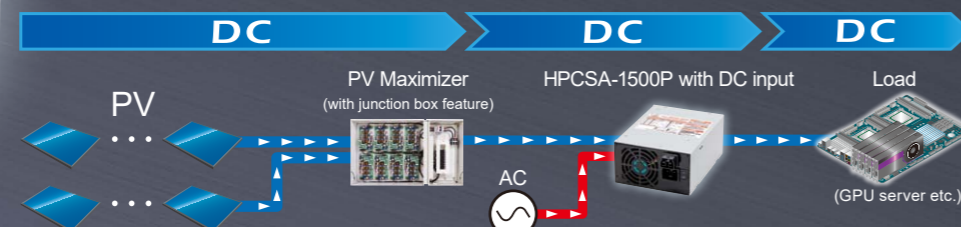
## GPU server configuration example



Supports the 6ch 12 V power output for CPU/GPU

## DC input model is also coming

By supplying the PV power to the load without converting the direct current, it is possible to reduce the loss associated with the AC/DC conversion. With the improved efficiency, a reduction in the running cost can also be expected in comparison with conventional methods.



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

12V large capacity output suitable for GPU server

<http://www.nipron.com>

## UDP-240/120 series DIN rail mount compatible PSU

New products



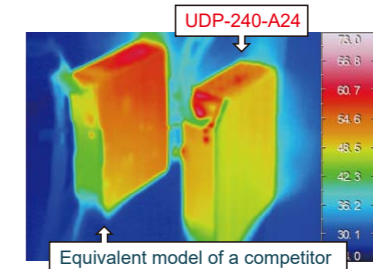
### UDP-240-A24

Continuous: **240W**  
Peak: **400W**  
Output voltage: **24V**  
Max. efficiency: **94%<sub>typ</sub>**  
(230 VAC)

### UDP-120-A24

Continuous: **120W**  
Peak: **200W**  
Output voltage: **24V**  
Max. efficiency: **93%<sub>typ</sub>**  
(230 VAC)

### Limits temperature rise and supports miniaturization and extension of service life



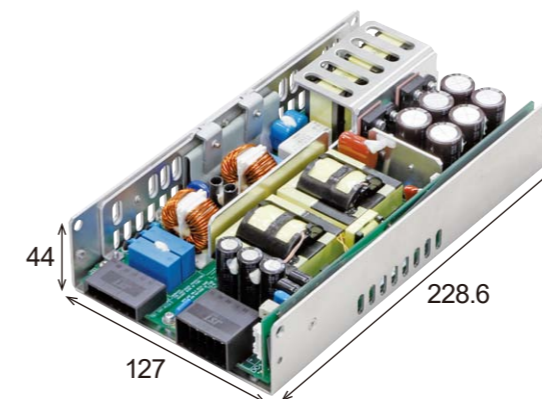
UDP-240-A24 boasts a high efficiency with the maximum efficiency of 94%. Because the heat generation due to switching loss has been reduced drastically by attaining the high efficiency, the series makes it possible to reduce the man-hour and cost in addressing the heat in control panels.

- Reduction of noise filters possible  
The power supply unit clears VCCI ClassB for the conducted emission
- Supports approx. 1.7 times higher peak load  
The output of peak power supported for 10s and is optimum for devices requiring the inrush current higher than the rated load
- Adoption of push-in terminals to reduce the burden of man-hour
- EN62477-1 OVCIII compliant design
- The built-in arrester to avoid/mitigate the risk of lightning damage  
Common mode: Actual performance  $\pm 8$  kV
- Notification of service life expiration supported (optional)



## U2P-600 series PSU supporting the peak power of 1200 W

New products



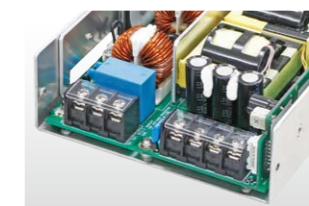
Continuous: **600W** Output voltage: **24V/48V**  
Peak: **1200W** Max. efficiency: **95%<sub>typ</sub>** (230 VAC)

### The high peak power twice as high as the continuous power is supported

The unit can supply the power twice as large as the continuous power for the predefined time (5s). This eliminates the need to select a power supply unit with a large continuous power rating matching the peak load and enables the reduction in the PSU size, leading to many benefits including the elimination of fans in the unit and replacement of unit-type power supplies.

Continuous **600W** Peak **1200W**  
*Twice the power*

### Terminal blocks for different scenes of use are available



The PSU comes with harmonica style terminal blocks or dividable nylon connectors as I/O terminals. (Both horizontal and vertical arrangements will be offered.)

Terminal block type (vertical)

- Miniature size of 5 × 9 inches
- Blackout detection signal and remote ON/OFF feature incorporated
- Instantaneous power failures can be addressed by connecting a capacitor unit
- Avoid & alleviate the lightning damage with the built-in arrester and varistor  
Common mode: Actual performance  $\pm 8$  kV
- Models certified for medical standards will also be added
- With a +12V output (optional) linked with the remote ON/OFF for the fan
- A model with a cover is also coming

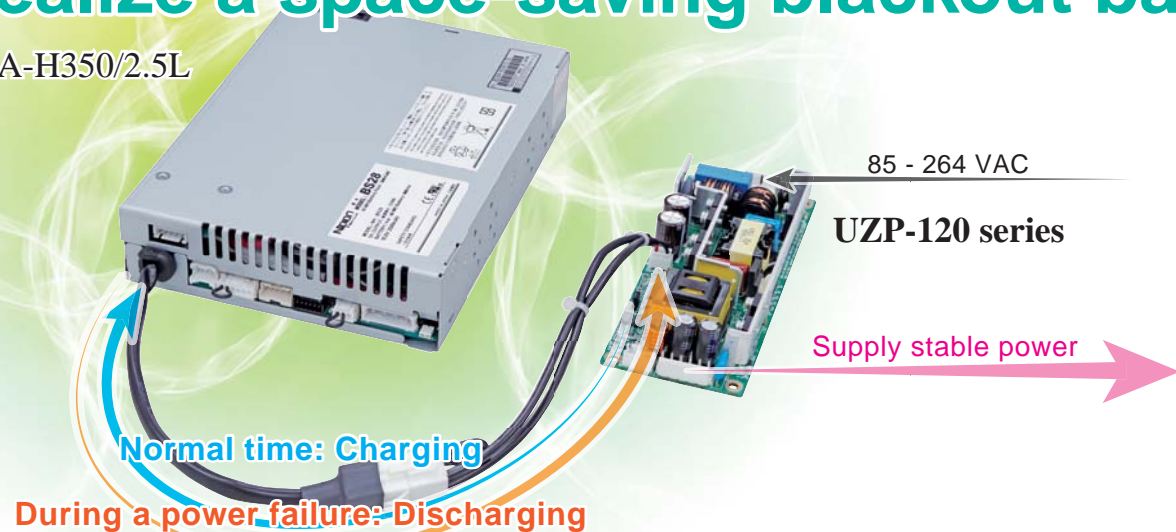


Single output PSU with high efficiency and long life

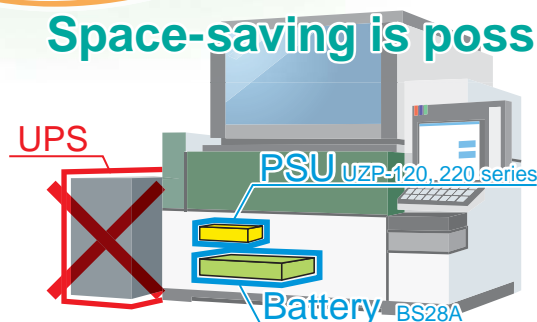
<http://www.nipron.com>

# Realize a space-saving blackout backup

BS28A-H350/2.5L



## Space-saving is possible without external UPS

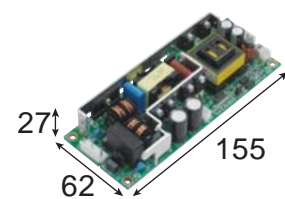


With our unique charging/discharging technology, a blackout backup system without an interruption can be realized simply by connecting BS28A to a PSU that supports the feature. By installing a battery pack within the housing, a power backup system for instantaneous power failures and blackout becomes available within the stand-alone unit.

## Single output power supply units supporting the feature

### UZP-120 series\*

Appearance photo and size

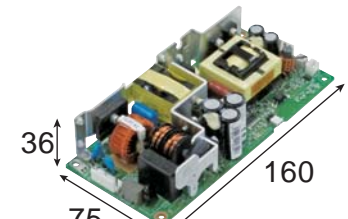


Product description

Input voltage 85 - 264 VAC  
Output voltage 12, 24 V  
Output power  
Continuous:  
100 - 120 W(natural air cooling)  
162 W(forced air cooling)  
Peak: 200 W

### UZP-220 series

Appearance photo and size

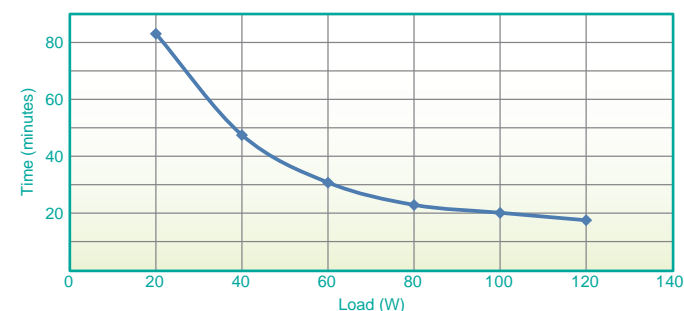


Product description

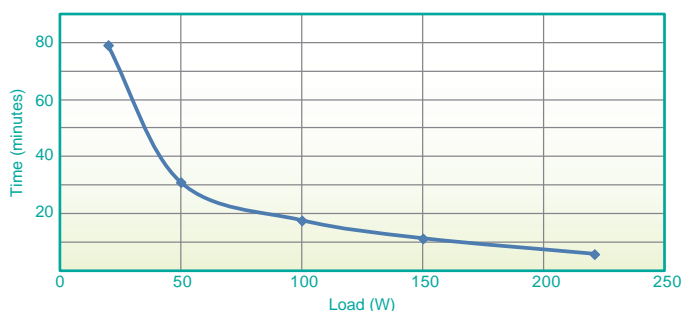
Input voltage 85 - 264 VAC  
Output voltage 12, 18, 24, 48V  
Output power  
Continuous:  
180 - 220 W(natural air cooling)  
250 - 331 W(forced air cooling)  
Peak: 400 W

\* The models UZP-120\*\*-J0L do not support the feature.

The battery backup discharge characteristics with UZP-120 connected (24 V)



The battery backup discharge characteristics with UZP-220 connected (24 V)

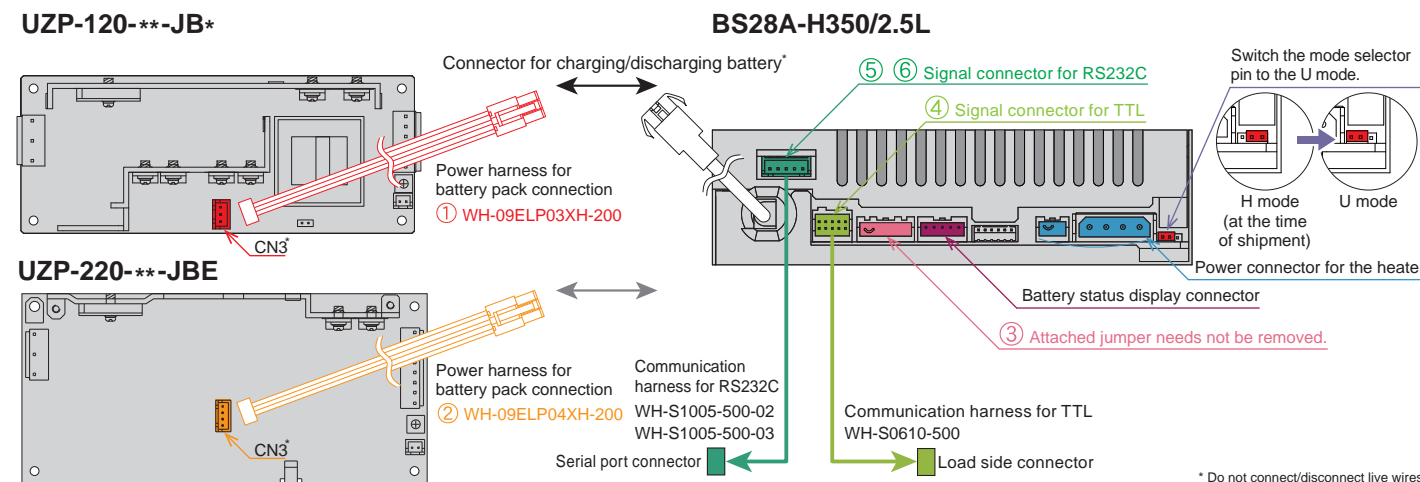


\* The chart is for the purpose of reference only and the values shown are not guaranteed.

Leave it to Nipron about blackout backup!

<http://www.nipron.com>

## Connection example



### Connection harness

No	Model	Details
①	WH-09ELP03XH-200	A connection harness required for the connection of UZP-120 series
②	WH-09ELP04XH-200	A connection harness required for the connection of UZP-220 series
③	-	By connecting this connector, the blackout backup (the operation of discharging circuit) becomes available. If it is necessary to turn it ON/OFF remotely, consult us. (Comes with the unit)
④	WH-S0610-500	Harness for signal Communication harness for TTL For AC_FAIL, SHUT_DOWN, BATT_LOW
⑤	WH-S1005-500-02	Harness for signal Backup signal harness (RS232C) For AC_FAIL, SHUT_DOWN, BATT_LOW
⑥	WH-S1005-500-03	Harness for signal Backup signal harness (RS232C) For AC_FAIL, SHUT_DOWN, BATT_LOW

### Signal harness for RS232C

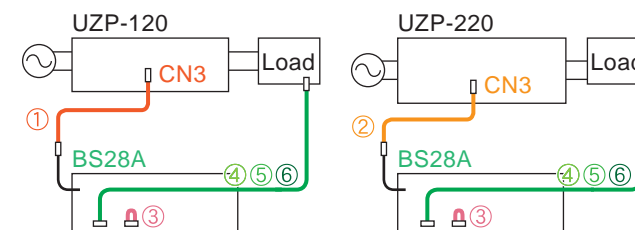
Pin assignment of serial port connector on the motherboard (internal connector)

DCD	1	2	RXD(SIN)	DCD	1	2	DSR
TXD(SOUT)	3	4	DTR	RXD(SIN)	3	4	RTS
GND	5	6	DSR	TXD(SOUT)	5	6	CTS
RTS	7	8	CTS	DTR	7	8	RI
RI	9			GND	9		

(Common pin assignment)

Applicable harness	WH-S1005-500-02	Applicable harness	WH-S1005-500-03
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Check the complete pin assignment by referring to the user's manual for the motherboard.

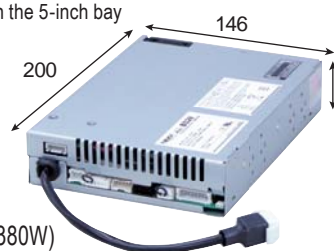


## Products features and specification

- Status outputs (remaining capacity/battery life notification) available for the battery package
- Prevents the drop in the capacity at low temperature with a built-in heater
- Low standby power specification
- A battery pack that can be secured in the 5-inch bay

### Specification

Nominal battery voltage: 16.8V  
Rated capacity: 2.5Ah  
Output power: 230W (peak power 380W)  
Usage battery: Ni-MH



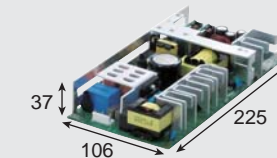
## BS28A also supports ATX power supply units

### HPCFL-400P-X2S

High efficiency fanless ATX PSU

Continuous 170 W  
Peak 400 W

- Min. load current of 0A for all outputs
- Long life design with expected service life of 10 years or longer



### HPCSF-400P-X2B

Compact and Large capacity SFX PSU

Continuous 310 W  
Peak 400 W

- Min. load current of 0A for all outputs
- High efficiency achieved by the adoption of a synchronous rectification circuit

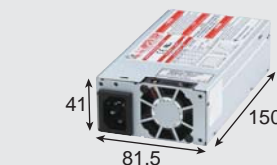


### HPCFX-350P-X2B

Compact and Large capacity Flex ATX PSU

Continuous 245 W  
Peak 346 W

- Min. load current of 0A for all outputs
- Low noise design with a temperature controlled variable-speed fan



Many PSUs support the feature! Blackout backup for the PCB type switching power supplies

<http://www.nipron.com>

# Maximize the return on investment! For important social infrastructures supporting the sustainable society!

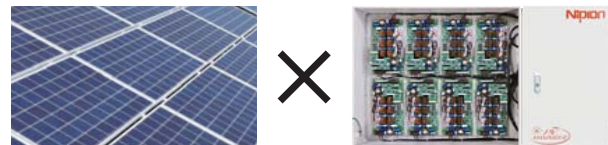
## Nipron's four major solutions

01. Solve problems caused by deterioration of panels and unexpected shadows



PV Maximizer

Controls the panels string by string, corrects gaps in the panel characteristics caused by various reasons, including the manufacture, environments, aging, etc., and maximizes the power generation.

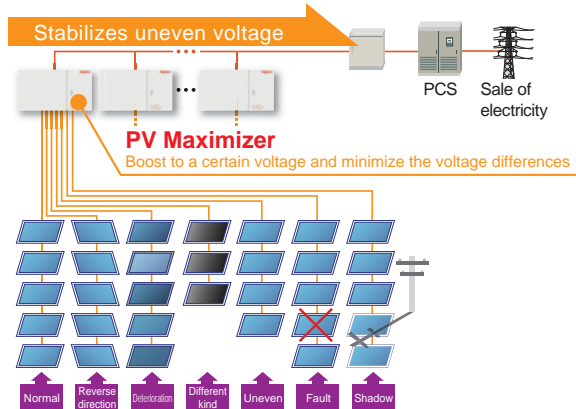


Solar power panel

PV Maximizer  
<PV Guardmyan available in the standard model>

Junction box functions + Function for maximizing generated energy + Remote monitoring function

PV Maximizer system concept



02. High-precision detection of drops in the power generation to remedy the risk of lost opportunities

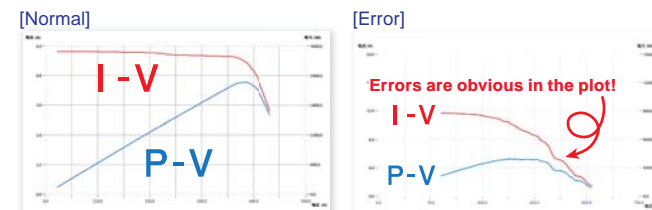


PV Guardmyan

Manage and analyze big data, including the power generation for each string measured by the PV Maximizer and characteristics curve (I-V characteristics curve) reflecting the health of each string, detect problems and their signs remotely and report them.

Major diagnosis features

- Diagnosis by the generated power [power analysis]
- Diagnosis based on the I-V characteristic data [I-V characteristic analysis]



- AI powered failure analysis (under development)

Examples of power generation problems detected

Discovered various power generation error



03. The burden of maintenance and the risk of drop in the power generation solved



Perfect-full O&M

This is a one-stop solution to sustain the power generation and maintain the facility with a comprehensive O&M service taking full advantages of PV Maximizer and PV Guardmyan.

Due diligence

process 1

Monitoring & analysis

Automatic monitoring and an in-depth inspection, address signs of problem before they develop into failures

process 2

Improvement & restoration

Panel replacement and addressing weeds

Aims to maintain the average power generated at the time of signing the O&M contract and even increase it

Total support

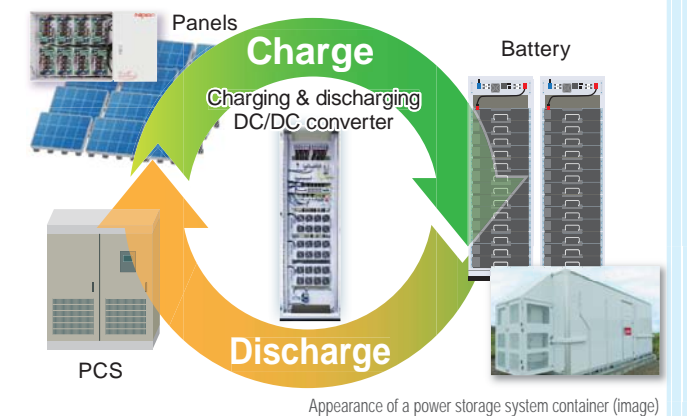
04. Solve the barrier for introducing the power storage system



Neo expander

This is a charging/discharging control rack with features necessary for the construction of a DC link power storage system and it satisfies power storage system needs for a variety of applications from the sale of electricity to the in-house power consumption.

From the power control to communication control, an all-in-one device essential for a power storage system!



Example of use

- Sale of surplus power from photovoltaic power generation
- In-house photovoltaic power generation
- BCP support, ZEB, etc.

See next page for details

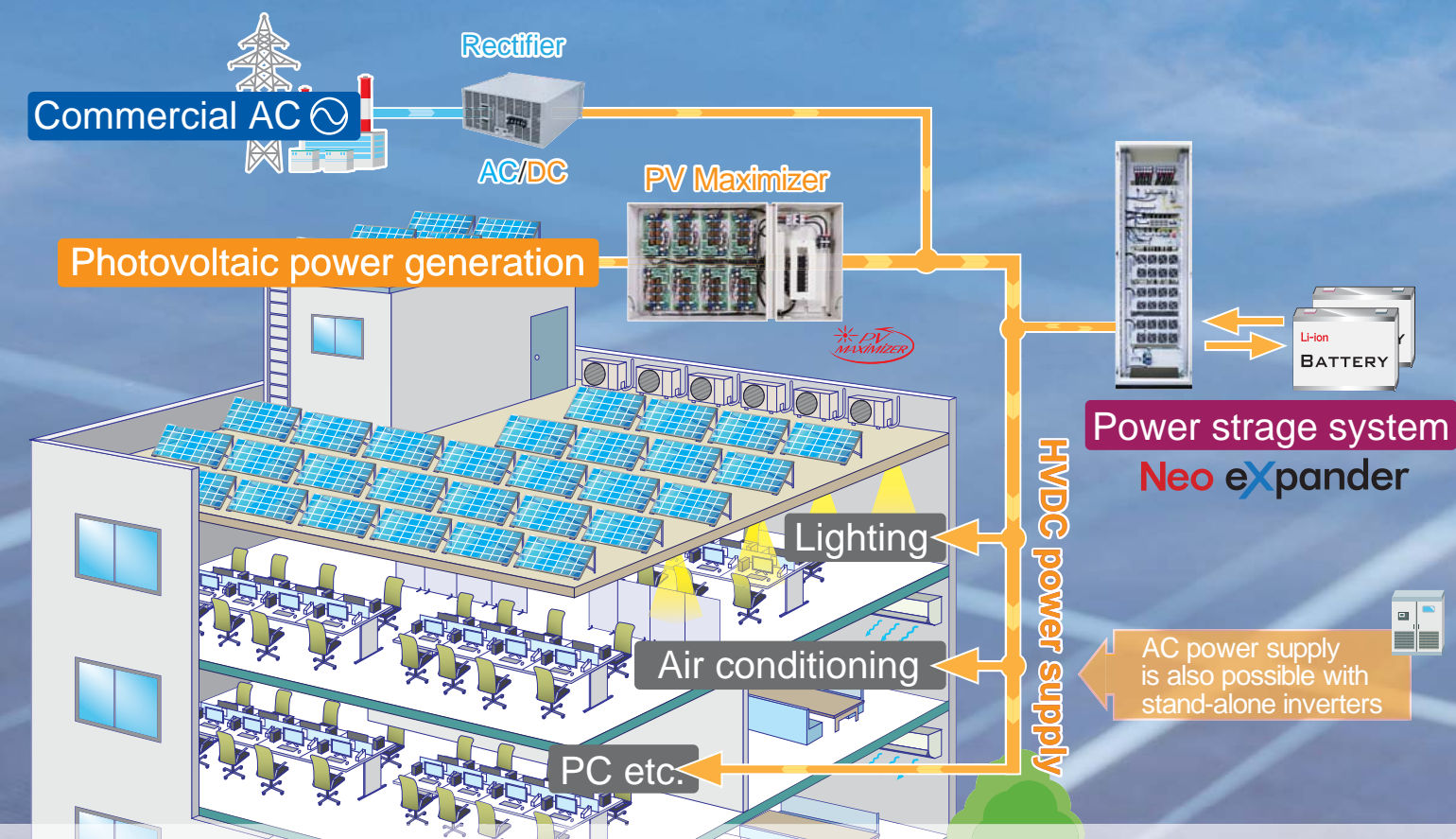
# From “sell” to “use,” utilize renewable energy wisely with PVasis

From in-house power consumption, demand control to BCP, the application is up to the user!

Epoch-making

## With no inverse current

In-house consumption of PV power stored in battery



Construction is simple without the need for power conditioner, RPR or discussion for grid connection!

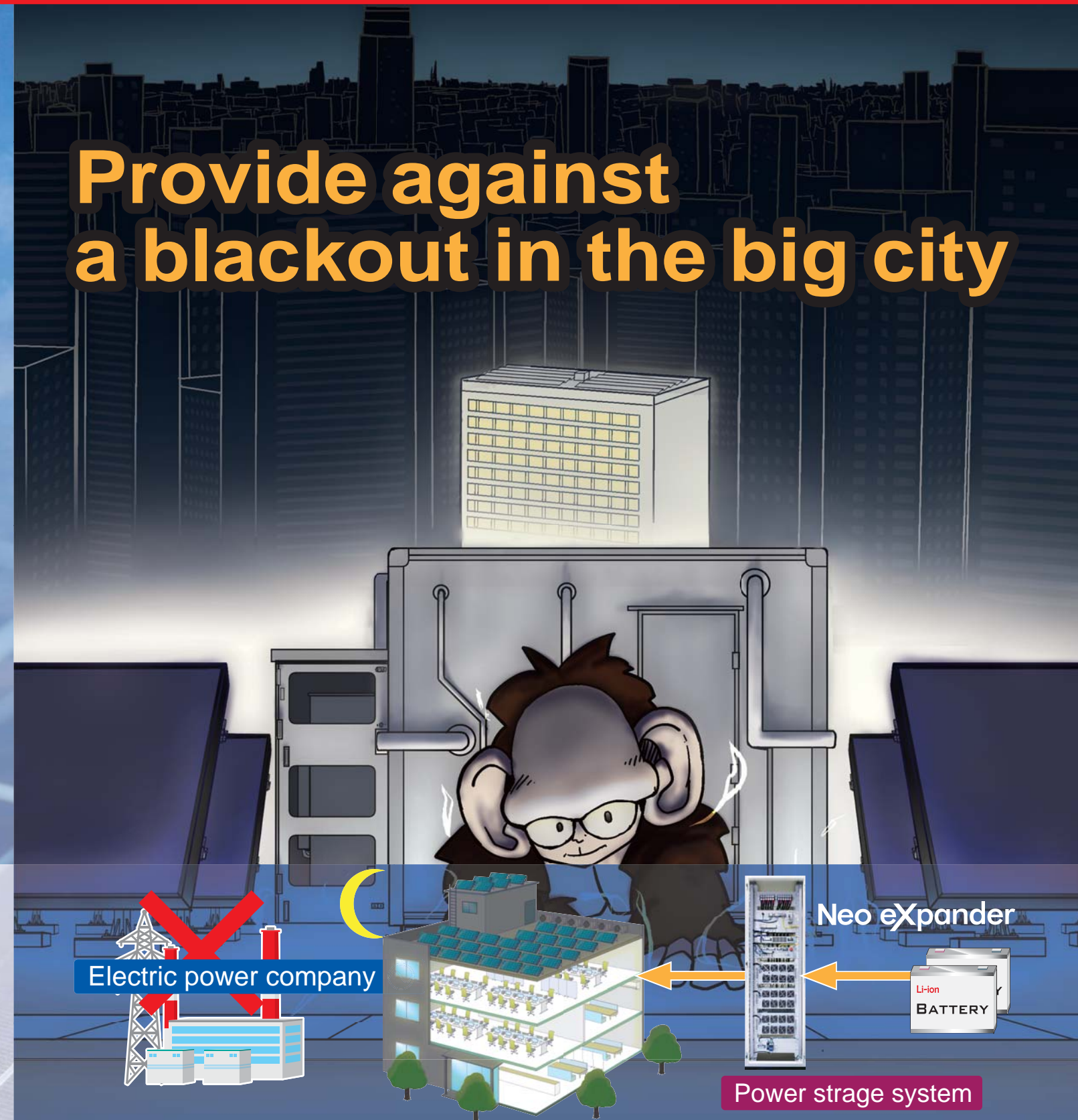
(Reverse Power Relay)

Moreover, the power will not stop even if there was a blackout. (BCP feature built-in)

The power generated shall be “used” rather than “sold.”

<http://www.nipron.com>

## Provide against a blackout in the big city



Build a system that will not stop even with a blackout in a disaster

<http://www.nipron.com>

# Now is the time for the in-house consumption of PV power stored in battery

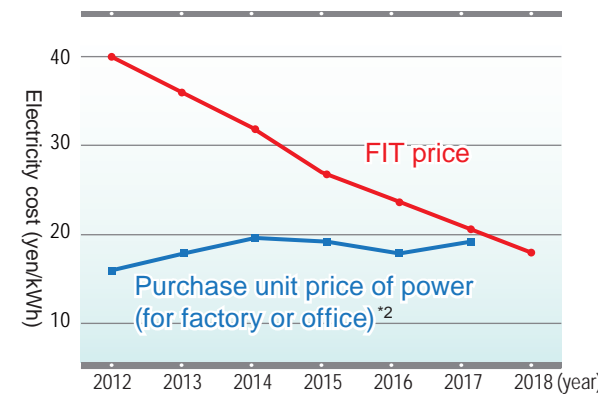
## [A drastic change in the renewable energy market]

With the drop in the FIT price and an increase in the electricity bill for industrial use due to the increase in the renewable energy assessment, the FIT price has become less than the electricity charge and there is a shift in photovoltaic power generation from "the time to sell" to "the time to use."



\*1: A research by Nipron in September 2019

\*2: Excerpt from the validation before the enforcement of Third Revision, Ministry of Economy, Trade and Industry



## However, there are problems in the introduction

### Problem [1] Addressing inverse current

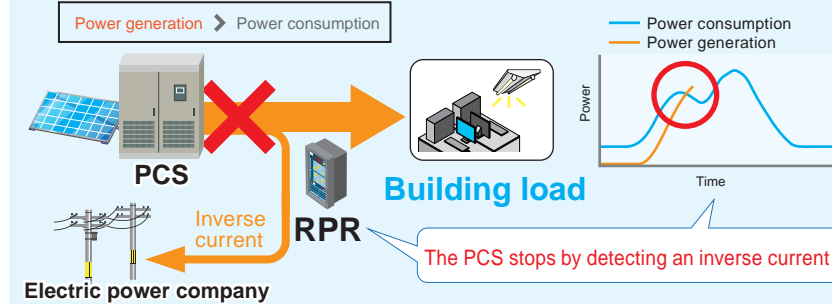
Inverse current must be addressed in an in-house photovoltaic power generation

For an in-house power consumption system with a grid connection, an action should be taken to prevent inverse current. Although it is possible to take following actions, there are disadvantages as well.

- Introduce a device to prevent the inverse current.
- Limit the PV power generation at or below the base power consumption of the building.

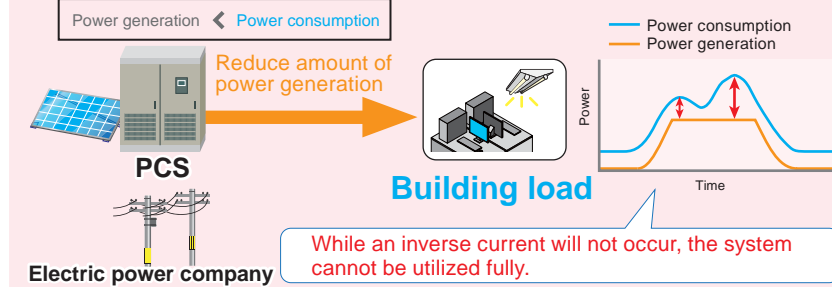
#### Introduction of a device preventing the inverse current

While the introduction of a device preventing the inverse current (RPR) will prevent the inverse current, the PCS will stop if the power generation becomes excessive and it will take time to restore it. Also, the cost of RPR installation is expensive.



#### Reduce photovoltaic power generation

If the power generation is limited at or below the base power consumption to prevent the inverse current, it will be impossible to install solar power panels with a capacity sufficient to make the user appreciate the economic advantage and the power generation system will not be utilized effectively.



It is difficult to maintain the optimum power generation at all times while restraining the inverse current and this is a major problem in the introduction of in-house power consumption.

### Problem [2] Unstable power generation

Because the power depends on the insolation, it will drop in adverse weather and no power is generated at night.

Dependent on the insolation and unstable



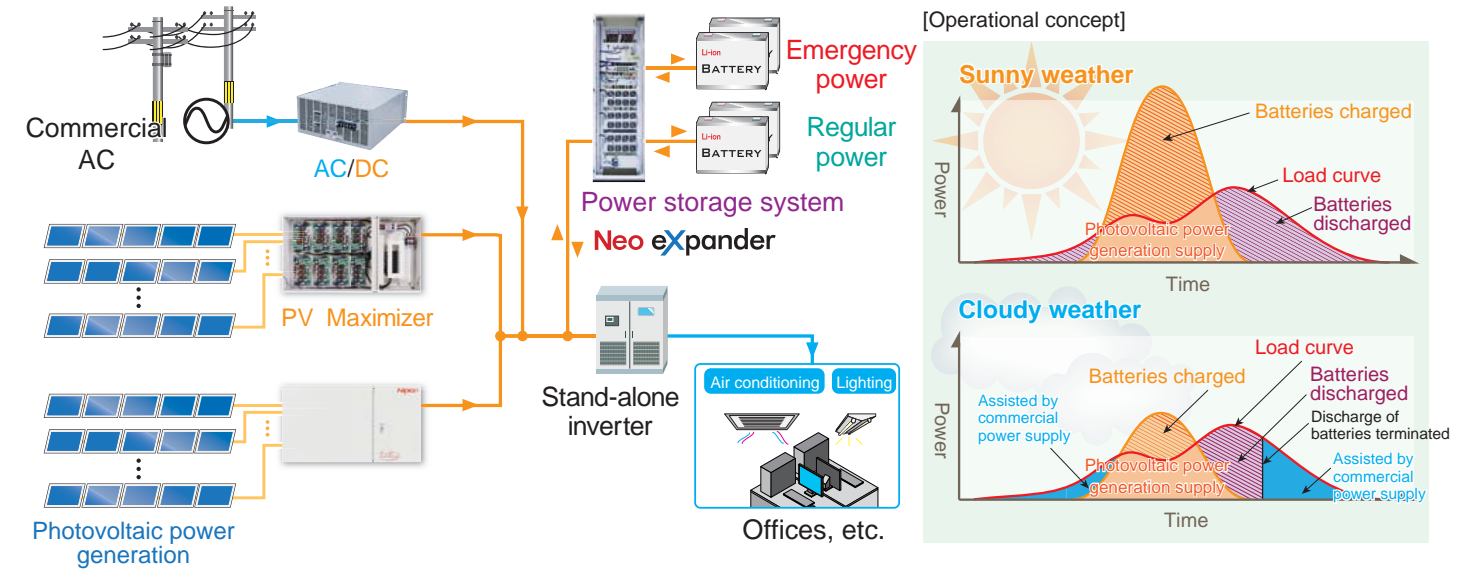
Photovoltaic power generation is available in the daytime only



In addition, an elaborate discussion is necessary on the grid connection ...

# Solving the issue of in-house consumption photovoltaic power generation with PV Oasis

## Non-grid connected, Photovoltaic power generation & Battery Stand-alone power supply system



## Features of PV Oasis

Because the grid connection is not provided, there is no inverse current and RPR is not necessary. An elaborate discussion on the grid connection is also unnecessary.

"PV power + Battery" will enable a stable operation without the influence of weather. Moreover, the power will be backed up with no interruption in an event of a blackout.

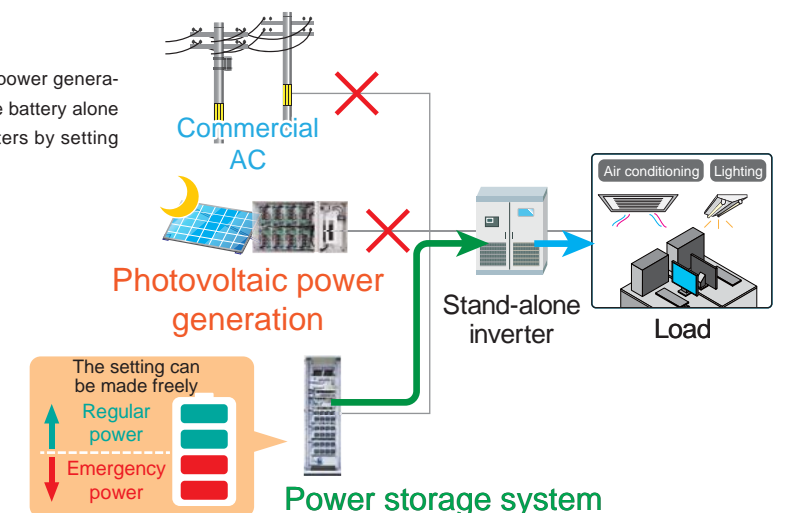
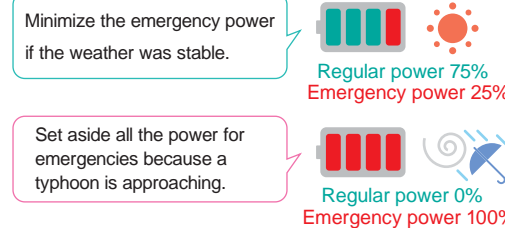
The use of a stand-alone inverter will make the PCS unnecessary.

## Also effective in preparing for blackouts

- The PV Oasis can be operated as an emergency response system.

In an event of a blackout, the power can be supplied from the photovoltaic power generation system and the battery. It is also possible to manage the power with the battery alone during the night. In addition, the system can be used to prepare for disasters by setting aside a part of the battery power for emergencies.

The portion of the emergency battery can be adjusted arbitrarily.



# Invitation to exhibition

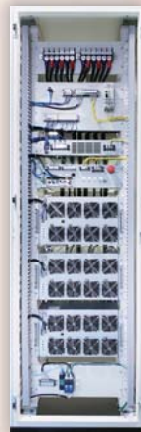
We took part in the 6th INT'L SMART GRID EXPO Osaka.

Nipron took part in the 6th INT'L SMART GRID EXPO Osaka held for three days from September 25 to 27 at INTEX Osaka. This is a special exhibition in which all products and technologies necessary for building smart grids and distributed energy systems are presented. With the drop in the FIT price and an increase in the electric bill due to the increase in renewable energy assessment, the economic advantage of "using" the power generated, rather than "selling" it, has become larger and, with added effects of large-scale blackouts caused by recent earthquakes and typhoons, in-house consumption of solar power has attracted people's attention.

The main feature of Nipron booth was the in-house consumption of PV power system, PV Oasis, which makes it possible to use the electric power even in a blackout and without a worry for the inverse current because there is no grid connection. Other products exhibited included the charging/discharging rack system for medium to large-scale power storage systems, Neo eXpander, which can also be applied for the surplus power storage and emergency response. Presentations given at the booth turned out to be a big success attracting many visitors. The exhibition was meaningful in appealing Nipron products for the PV power generation businesses, in which in-house power consumption and power storage have become the focus of attention.



See the page 11 for details



Neo eXpander



A scene of the presentation

# The Productivity Improvement Presentation for Manufacturing department

The Productivity Improvement Presentation for Manufacturing department was held.

As the 4th event of Productivity Improvement Presentation that was held during the employee training session held in September last year, a presentation of productivity improvement actions by young employees of production departments was held on the 19th of July. It was a contest among a total of eight teams that made presentations on their improvement activities and results. After a strict and fair examination, the top three teams listed below were awarded for making excellent presentations. Congratulations to everyone in the teams.

Once again, the event turned out to be a very fruitful one thanks to the efforts of young employees with working experience of ten years or less in sharing the improvement activities performed routinely by different departments. We have a feeling that the constant efforts and their results in the production departments would lead to a "Work Style Reform." In addition, a friendship party was held after the presentation as usual and it was invigorated with teams voicing their respects for other teams' presentations. We are determined to continue improving our productivity further by coordinating the efforts of all employees.



A scene from the conference

**Gold Prize**  
MDF Jyosei Kagayaki  
(Female Brilliance) Team

**Silver Prize**  
HDF Mae-kako  
(Pre-process) Team

**Bronze Prize**  
MDF Kikai Jisso  
(Machine Implementation) Team



Gold Prize:  
MDF Jyosei Kagayaki  
(Female Brilliance) Team



Silver Prize:  
HDF Mae-kako  
(Pre-process) Team



Bronze Prize:  
MDF Kikai Jisso  
(Machine Implementation) Team

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

<http://www.nipron.com>

# Renewal open permanent exhibition hall

Permanent exhibition hall was renewal opened.

The permanent exhibition space on the 5th floor of Nipron Head Office has been renewed and opened to the public.

In this exhibition space, visitors can take a look at all power supply units, from the current model to new products, and its scale is bigger than ordinary exhibitions Nipron has participated in the area and in the number of products exhibited. Also, in addition to the product exhibition, there are History of Nipron corner, where the timeline from the incorporation of Nipron to the present day is presented by panels, and Nipron Wave corner, where all Nipron's seasonal magazines published in the past can be browsed. Moreover, monitors within the exhibition space and a business meeting booth have been added in the renewal to facilitate an in-depth explanation of our products to the visitors, along with presentations given by our employees. In the future, we plan to focus our efforts in holding "invitee exhibitions" using this permanent exhibition space.

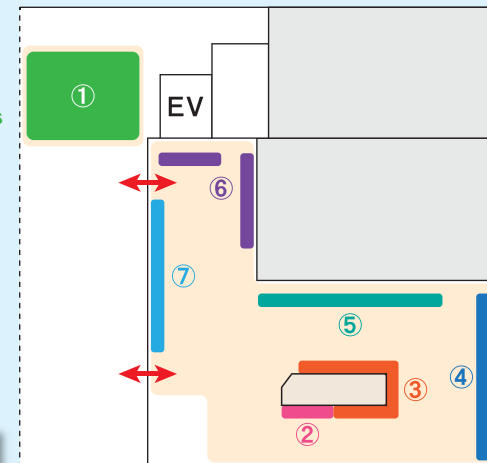
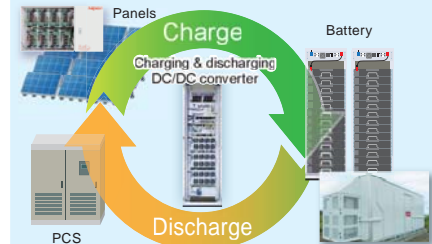


## High light map of the permanent exhibition hall

### ① Power storage system demonstration

Support of stabilized demand peak in power generation amount with batteries

From the power control to communication control, an all-in-one device essential for a power storage system!



### ④ General use PSU section

Miniature and highly efficient PSUs for control and motive power systems are exhibited. Also, many demonstrations on the blackout backup system, comparison of efficiency, etc. are offered.



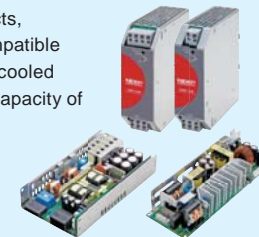
### ⑤ Green power PSU section

An introduction is given on the PV Maximizer and power storage systems, which are essential for the PV power generation, along with introduction of past projects, in which the products were employed.



### ② New product section

Nipron's latest products, including DIN rail compatible PSUs, a naturally air-cooled PSU with the output capacity of 600 W, are exhibited.



### ③ PC PSU section

Starting with Nipron's unique nonstop PSUs, power supply units ideal for industrial PCs, system racks and medical appliances are displayed.



### ⑥ History of Nipron section

The timeline from the incorporation of Nipron to the present day is presented with panels. Visitors can take a look at past products and awards presented to Nipron.

### ⑦ Nipron Wave section

Past volumes of Nipron Wave, which started in 2005 and still attracts many readers, are exhibited.



New product section



General use PSU section



Nipron Wave section



Green power PSU section

Please come our renewed permanent exhibition hall!

<http://www.nipron.com>



*The Nipron Story,  
by Our President*

# That's Apple!

## The soul of Jobs is alive!

On October 22, 2019, Japan's new Emperor will solemnly proclaim the enthronement at the "Sokuirei-Seiden-no-gi" ceremony with many dignities from all over the world. After that, the royal couple will depart from the Imperial Palace with a great many well-wishers watching, to have a spectacular celebration parade, called "Shukuga-Onretsu-no-Gi," to Akasaka Imperial Residence. Indeed, it's an auspicious occasion.

Looking at the current world situation, the influence of the US-China trade tensions is beginning to cast a cloud on the global economy. China, the country directly concerned, has problems from within and without: a sharp decline in the amount of trade due to the US punitive duties and the expanding protests in Hong Kong, as well as a significant downturn in the domestic economy. On October 1, at the grand ceremony of the 70th anniversary of the founding of the People's Republic of China, the country displayed the national prestige with a massive military parade both at home and abroad. However, it possesses an element of danger that it may throw the world into turmoil.

Deep in the mind of Xi Jinping, the head of state, there remain regret over invasion by the Western great powers, as well as some thoughts rooted in the history of humiliation, which can also be called ambition. His behavioral tendency toward a power of the world through the Belt and Road Initiative, radical increase in military strength and ambition as an economic power are becoming not only a threat to the United States but also a critical and dangerous factor to the world, including Japan. This may cause waves around the world and, what is more, China itself may pay dearly for it.

Let's get back to the issue. Looking at Nipron's current order receipt status, the impact of the Chinese economic slowdown has now become visible: it began to put a crimp on the power supplies demand for machine tools and semiconductor manufacturing equipment, which had been strong until now. It seemed that the order receipt hit the bottom of the curve (fluctuations in production adjustment) in March of this year, but the curve reached the bottom again six months later in September.

It's just an imagination, but I fear that every country will bring "my country first" policy to the fore over the next few years at least. In view of this, with a desire to focus on domestic demand, we are stepping up efforts in the GP (Green Power) business, on which we have focused as our third power source business over the past five to six years, foreseeing its potential.

"RE100" is a movement to cover electricity by 100% with Green Power, or renewable energy (RE). Similar international movements are growing and awareness of SDGs (Sustainable Development Goals) and ESG (Environment, Social and Governance) are increasing. Under such circumstances, an article of the Nikkei Sangyo Shimbun published on October 4 caught my eyes as I was thinking of making contribution through the renewable energy business.

Seeing the article titled "How Apple Will Run on 100% Renewable Energy?", I was impressed by the company's awareness or sense of mission as a globally influential company, as well as its commitment and attitude of taking the lead in CO2 reduction activity to prevent the deterioration of the geo-environment. I was convinced that "That's Apple! The soul of Jobs is alive."

The article is about a declaration that Apple will replace its power consumed at their worksites including their directly-managed data centers (electricity of 1.830 billion kWh in the United States and 351 million kWh in other countries including Japan) by RE. They have already achieved over 99%! They had the hardest time in Japan, because of a lot of regulations and high renewable energy procurement cost. I'm disappointed since it shows that the power administration of our country has fallen behind. They narrowed down the ways to procure renewable energy to three: one is direct ownership of renewable energy (45%), the second is investment in the power generation business, and the third is the conclusion of a long-term sales contract with a power generation company; these add up to 49%. As for the rest, they bought about 3% with renewable energy certificates, etc., and 100% has already been achieved. Most of the RE100 declarations have set achievement target between 2030 and 2050. I'm just amazed at their abilities to take action and create plans, as well as great sense of mission, that enable them to achieve their target in 2019 if they are so inclined. I have renewed my recognition as to how amazing the US companies are and what a strong climate (the basis of freedom and democracy) they have to create the IT information industry called GAFA.

No matter how hard Xi Jinping of China, the head of state, exerts himself to create a great power by the dictatorship, he will never be able to beat the strong US climate that has originated from the building of the nation where freewheeling thinking of individuals can be used to the maximum, I think.

I'm afraid that the ongoing protests by Hong Kong's young people who wish to set them free from China will spread to Taiwan and eventually to mainland China. I conclude the "The Nipron Story!" of this issue hoping that China will have respect for the international order.

*Setsuo Sakai  
October 2019*

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