

# Nipron Wave

## Vol.82

### Highlights

- 1 New product: SFXL-700P-S**  
High-capacity SFX power supply designed for high-performance GPUs
- 2 Single-output power supplies**  
Energy-saving mode power supply  
Compact, high-capacity 2 kW unit-type PSU, high-efficiency 40 W board-type single-output PSU

# Supports the Latest High-Performance GPUs SFX Power Supply



## *New SFX PSU* SFXL-700P-S

Front



Back

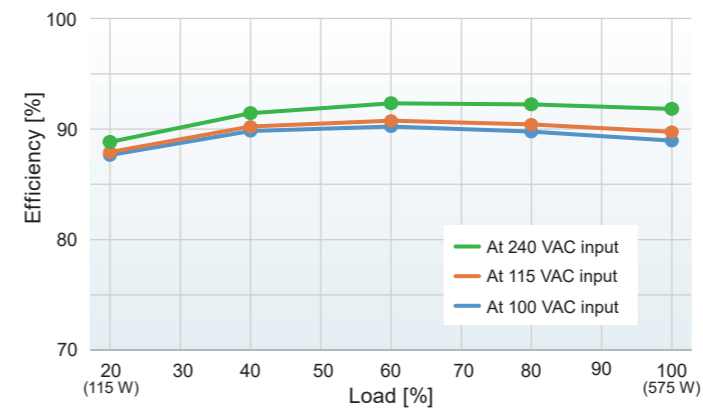


**Scheduled for release in Summer 2026**

<http://www.nipron.com>

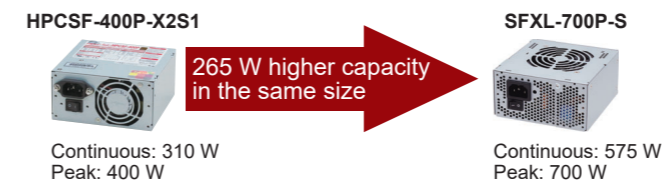
### Reliability & high efficiency in one

Nipron's PSUs support highly efficient system operation while ensuring superb reliability for servers always running under a high load.



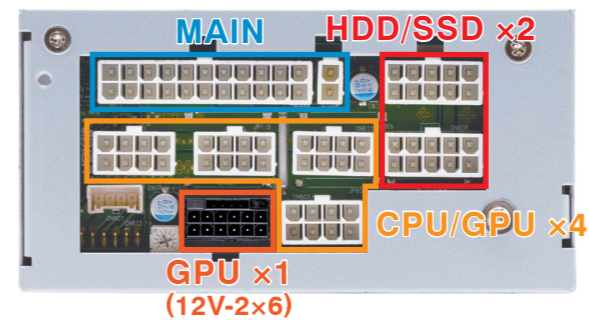
### Achieves approx. 200% of the power density of Nipron's past/current models

Compared with the HPCSF-400P series, the SFXL-700P series offers 185% of the power density, contributing to the compact design of embedded devices.

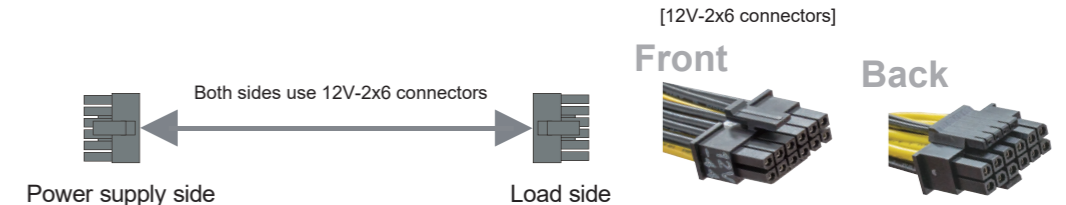


### Full modular design

Only the necessary cables need to be connected, enabling optimized cable management. This design also provides flexibility for future PC configuration changes.



### 12V 2x6 harness coming soon



\*Please use the 12V-2x6 harness with a compatible PSU.

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

<http://www.nipron.com>

### 80 mm fan for more quiet operation

The larger fan provides sufficient cooling performance even at low rotation speeds, reducing operating noise while ensuring stable operation.



### Output specification

The peak power of 700 W, exceeding the maximum continuous capacity, is available.

Output voltage	+3.3 V	+5 V	+12 V	-12 V	+5 VSB
Continuous max. current/power	12 A	16 A	47.5 A	0.2 A	3 A
	39.6 W	80 W	570 W	2.4 W	15 W
	Total 83 W			Total 570 W	
	Total 575 W				
Peak current/power (within 5 s)	16 A	16 A	57 A	0.2 A	3.5 A
	52.8 W	80 W	684 W	2.4 W	17.5 W
	Total 83 W			Total 685 W	
	Total 700 W				

### Other features

- Designed and made in Japan for reliable quality
- Supports 12V 2x6 harness
- Low heat generation with a high-efficiency circuit
- Low noise (VCCI Class B for conducted emissions)

# NSP Pro 2 Ver 2.1.1 Released

Shutdown software NSP Pro 2 Ver. 2.1.1 (Windows 11 compatible) has been released.

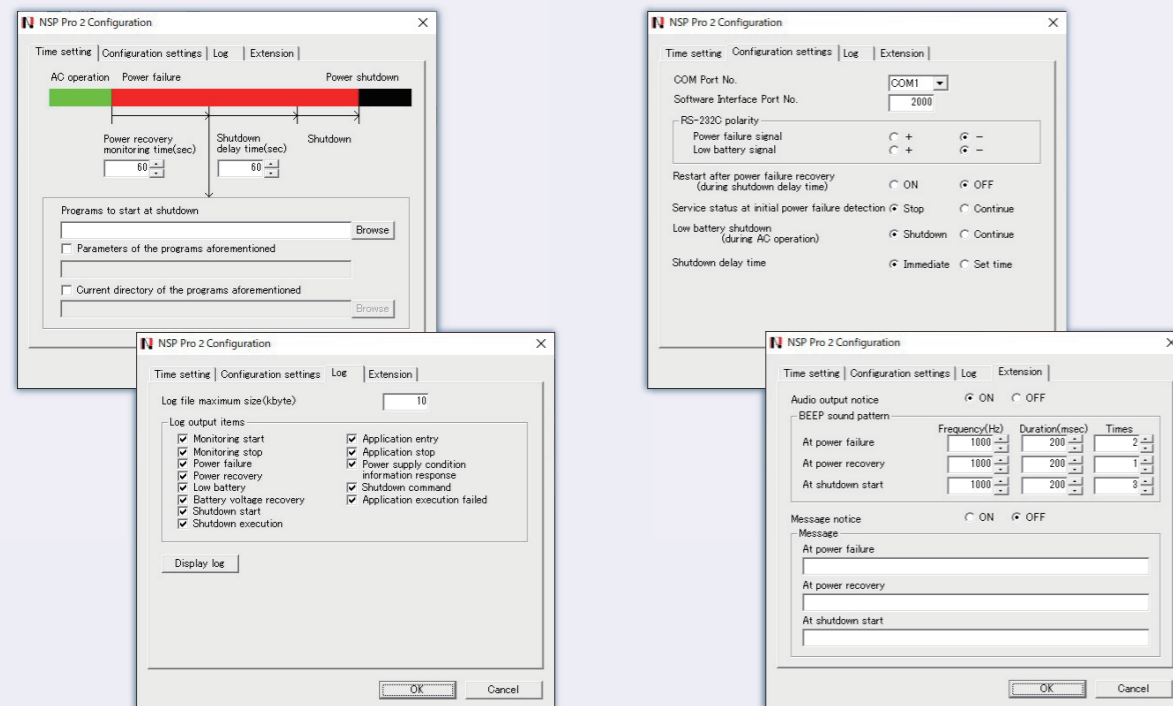
## Changes in the new version

	Previous Version: Ver. 2.0.2*	New Version: Ver. 2.1.1
Support for Windows 11	Not supported	Supported
Maximum value of [Power recovery monitoring time]	120 s	600 s
Maximum value of [Shutdown delay time]	120 s	600 s
Default setting of [Service status at initial power failure detection]	Continue	Stop
Operation of [Shutdown delay time]	Shutdown is triggered when the specified time elapses or when the application closes.	Immediate: Shutdown is triggered when the specified time elapses or when the application closes. Set Time: Shutdown is triggered when the specified time elapses.
Message notice	Do not notify on the desktop	Notify on the user's desktop
Audio output notice	Do not notify on the desktop	Notify on the user's desktop
Operation of [Programs to start at shutdown]	Run in the system	Run on the user's desktop
COM Port Number	1-9	1-255

\*Windows 7 or later

New Version: Ver. 2.1.1	
Operation when battery voltage drops during AC operation	Added setting for Low battery shutdown (during AC operation): Shutdown/Continue

## ■NSP Pro 2 new version setting screen



## Why automatic shutdown software is needed?

In the event of a power failure, Nonstop PSU provides power from its internal battery for a limited time. By using the automatic shutdown software, Nonstop PSU detects the power failure and sends a signal to automatically shut down the connected system, enabling it to stop safely. This helps prevent data and system file corruption and ensures stable system operation.

[Download here](https://www.nipron.com)

[https://www.nipron.com/consultation/consent\\_nsppro211.cgi](https://www.nipron.com/consultation/consent_nsppro211.cgi)

<http://www.nipron.com>

# Space-saving and reliable PC backup during blackout Nonstop Power Supplies

## HPCSF-400P-X2B

SFX power supply



Continuous: **310 W** Peak: **400 W**  
Size: 125×63.5×125 mm  
(W×H×D)

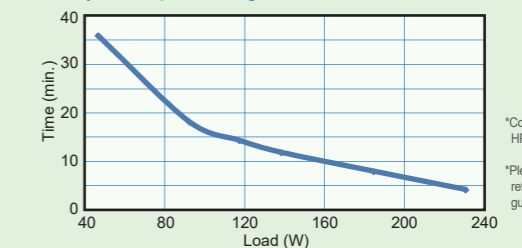
### Compatible battery pack

**Ni-MH** BS28A-H350/2.5L

•Able to output the status of the battery pack (notification of remaining battery level and battery replacement time)



### Battery backup discharge characteristics



\*Combined power supply: HPCFX-350P-X2B  
\*Please note that this is a reference value and not a guaranteed value.

## HPCFX-350P-X2B

Flex ATX power supply



Continuous: **245 W** Peak: **346 W**  
Size: 81.5×41×150 mm  
(W×H×D)

## HNSP9-520P series

ATX power supplies with +24V/+48V output are also available



Continuous: **400 W** Peak: **520 W**  
Size: 150×86×140 mm  
(W×H×D)

### Compatible battery pack

**Pb** BS11A-P24/2.3L

**Ni-MH** BS10A-H24/2.0L

**Pb** RBS02A-P24/2.3L

## HNSP5-350P series

Built-in lithium-ion battery inside ATX power supply



Continuous: **245 W** Peak: **346 W**  
Size: 150×85×140 mm  
(W×H×D)

Battery installation space is not required

Built-in battery in a housing



The Li-ion battery is built into the housing, eliminating the need for an external battery.

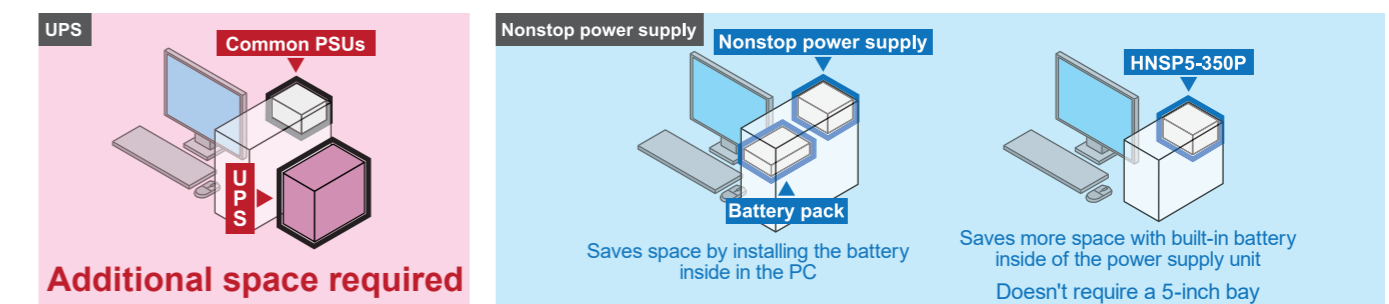
\*Concept

## Features of the Nonstop PSU

With our unique charging/discharging technology, uninterrupted power backup can be achieved by simply connecting a battery pack to a PSU that supports the feature.

### Save space by eliminating the external UPS

The installation of a battery pack inside the housing makes it an optimum choice for PCs with the 5-inch bay occupied and replacing existing ATX PSUs.



### Power feeding with no instantaneous interruption

Nonstop power supply does not require time to switch to battery operation in case of a blackout.

<http://www.nipron.com>

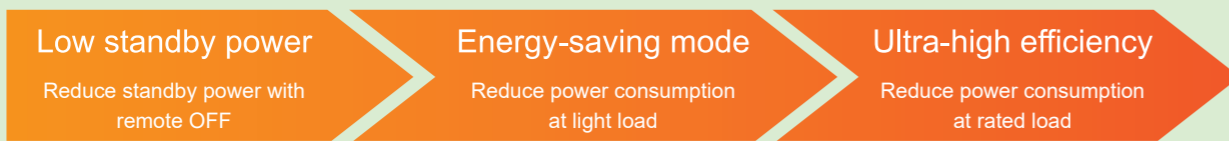
# Reducing Power Loss at Light Loads with Energy-Saving Mode Power Supply

## What is energy-saving power supply?

Conventional switching PSUs achieve high efficiency near the rated load. However, efficiency decreases during standby and light load operation, resulting in increased power loss.

The energy-saving mode PSU is equipped with an optional feature that significantly reduces power loss even during standby and light load operation. This function optimizes conversion efficiency under light load more compared to conventional high-efficiency PSUs, contributing to energy savings and heat reduction in embedded equipment.

**Achieves high efficiency over the entire load range with energy-saving mode**

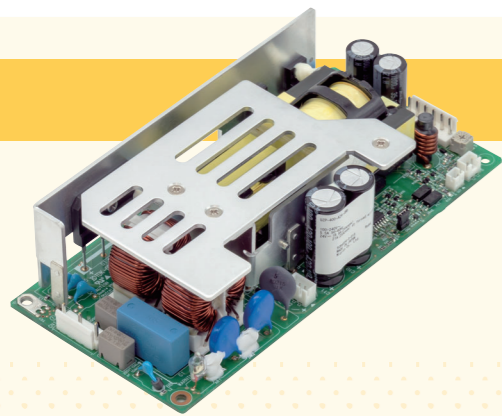
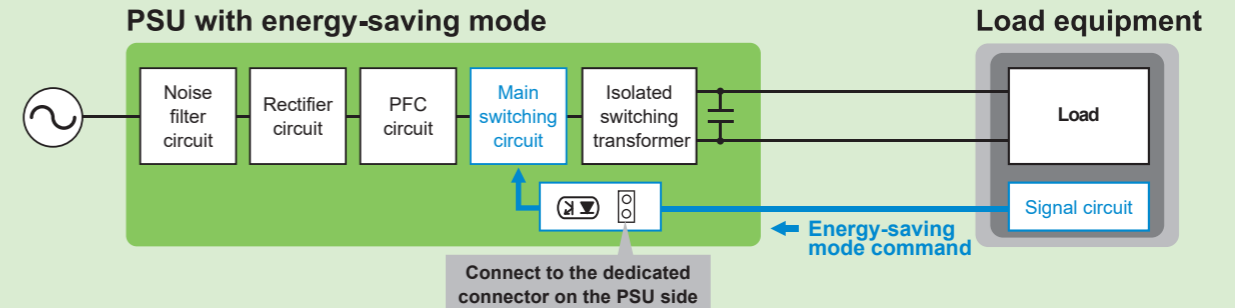


\*For details such as compatible models, please contact us

Significantly reduces power loss even during standby and light load operation, contributing to energy savings and heat reduction in embedded equipment.

## How the energy-saving mode works

When connected equipment operates at a light load, it sends a command to the PSU to switch to energy-saving mode. This triggers the PSU to switch to intermittent mode, which reduces power loss. When the load increases, the command is canceled and the PSU returns to normal operation.



## UZP-400-A24-JBB Model with energy-saving mode

Power loss under light-loss

**Approx. 40% reduction**

Efficiency at light load

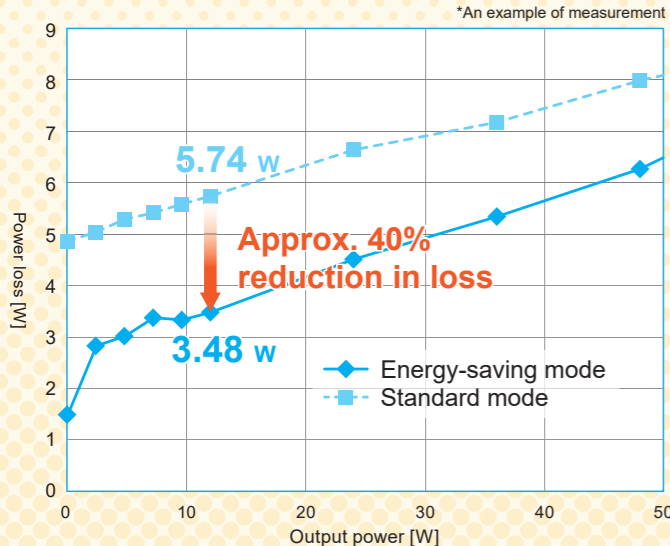
**Approx. 10% improvement**

Continuous: **400 W** Peak: **600 W** Output voltage: **24 V**

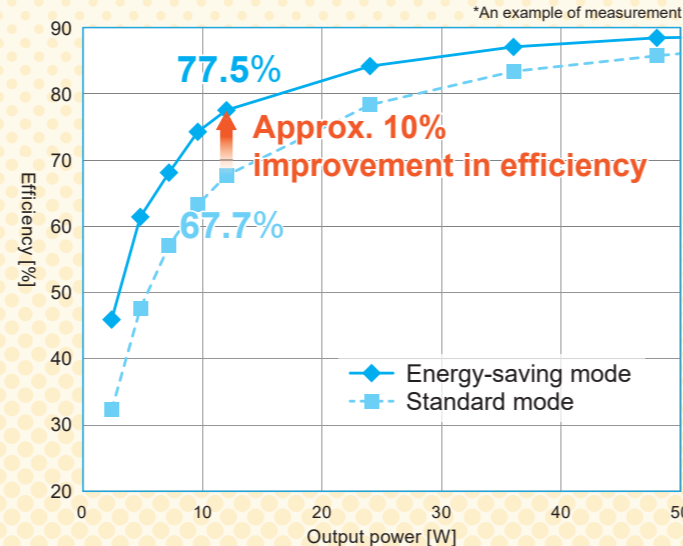
Size: W84×H45×D180 mm

### Benefits of energy-saving mode

Power loss comparison: energy-saving mode vs. standard mode (UZP-400-A24, at 100 VAC) \*An example of measurement



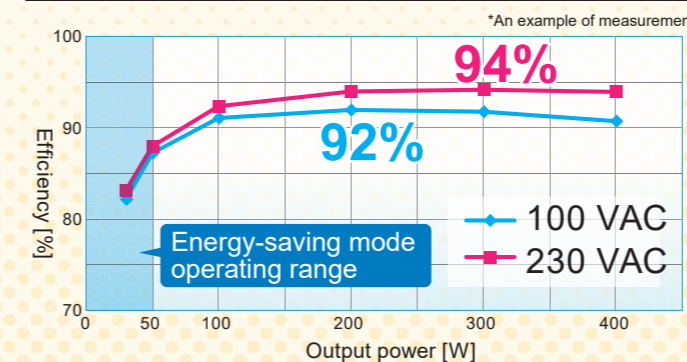
Efficiency comparison: energy-saving mode vs. standard mode (UZP-400-A24, at 100 VAC) \*An example of measurement



### Ultra-high efficiency

Achieves a maximum, industry-leading 94% efficiency with 230 VAC input. This high-level efficiency reduces heat generation, while also allowing a smaller size and a longer service life. Also helps to cut work and costs associated with heat management.

Efficiency graph (UZP-400-A24) \*An example of measurement



### Other features

- High peak output (600 W 10 s)
- Backup for blackout/momentary power failure
- Arrestor and varistor against lightning surges
- High capacity achievable with fan cooling

### Low standby power

Reducing standby power during Remote OFF minimizes unnecessary power consumption. This lowers CO<sub>2</sub> emissions and electricity costs while supporting the energy-efficient design of embedded equipment.

**0.24 W typ** 100 VAC input  
**0.4 W typ** 200 VAC input

An example measurement of UZP-400-A24-JBB

### 650 W unit-type 1U PSU with energy-saving mode is under development

#### GPSU-650/1500P series

- Slim 1U size
  - High efficiency of 94% typ. (at 230 VAC)
  - Measures against momentary power failure (option)
- Continuous: **650 W**  
Peak: **1200 W**(100 VAC), **1440 W**(200 VAC)  
Size: **41×127×220**(W×H×D)



**Scheduled for release in 2026**

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

# Small size and large capacity 2 kW output

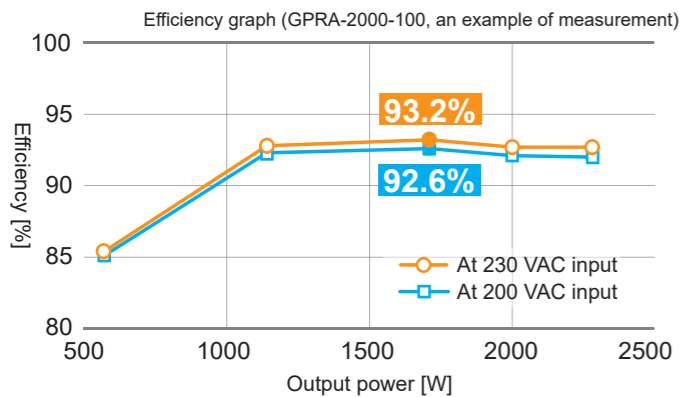
## GPRA-2000 Series

Input voltage: **100-240 VAC**  
 Rated output voltage: **24/48/100 V**  
 Other voltage: 72 V, High voltage types: 240 V/400 V will be available  
 At constant voltage operation  
 Rated output power: **2000 W** (230 VAC)  
 At constant current operation  
 Rated output power: **2200 W typ.** (230 VAC)



### Low-level heat generation by reducing power loss

Achieves high efficiency of 93% typ. with 230 VAC input, which reduces heat generation. Also helps to cut work and costs associated with heat management.

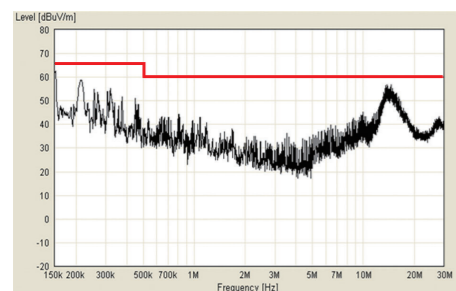


### High power density

Compared to Nipron's conventional model, the GPSA-1500 series, the GPRA-2000 series achieves 62% higher power density, providing more power output while maintaining the equivalent compact size.

Model	GPSA-1500	GPRA-2000
Power density	0.572 W/cm <sup>3</sup>	0.923 W/cm <sup>3</sup>
Rated output power	1500 W typ.	2200 W typ.
Size W×H×D	82×128×250 mm	127×63×298 mm

### Complies with VCCI Class A.



GPRA-2000-100  
 Input: 200 VAC  
 Output: rated load  
 (an example of measurement)

### Other features

- Various signals are equipped as standard (AC\_FAIL/PWR\_OK/PS\_ON)
- Possible to control the output voltage (20%–100%), output constant current (20%–100%) (100 V output model)
- Support harmonic current regulation (IEC61000-3-2 compliant)
- Equipped with an auxiliary power supply (12 V/0.15 A)
- Capacity increase by parallel operation (up to 3 units)  
 High-voltage output by series operation (up to 3 units)
- Constant Voltage / Constant Current (CVCC) operation
- Three-phase input model to be developed (three-phase 200 VAC)

### Output specification

Output voltage	+24 V	+48 V	+100 V	+12 VSB (Common spec.)
Adjustable output voltage range	18-27.6 V	36-55.2 V	20-100 V	-
Constant voltage operation Max. current/power (Continuous) 100 VAC	42 A / 1008 W	21 A / 1008 W	10 A / 1000 W	0.15 A / 1.8 W
Constant voltage operation Max. current/power (Continuous) 230 VAC	84 A / 2016 W	42 A / 2016 W	20.5 A / 2050 W	0.15 A / 1.8 W
Constant current operation Rated current/power (Continuous) 100 VAC	46 A / 1104 W	23 A / 1104 W	11 A / 1100 W	0.15 A / 1.8 W
Constant current operation Rated current/power (Continuous) 230 VAC	92 A / 2208 W	46 A / 2208 W	22.8 A / 2280 W	0.15 A / 1.8 W
Min. current	0 A	0 A	0 A	0 A

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# Achieved high efficiency across a wide load range

## FZP-040 Series

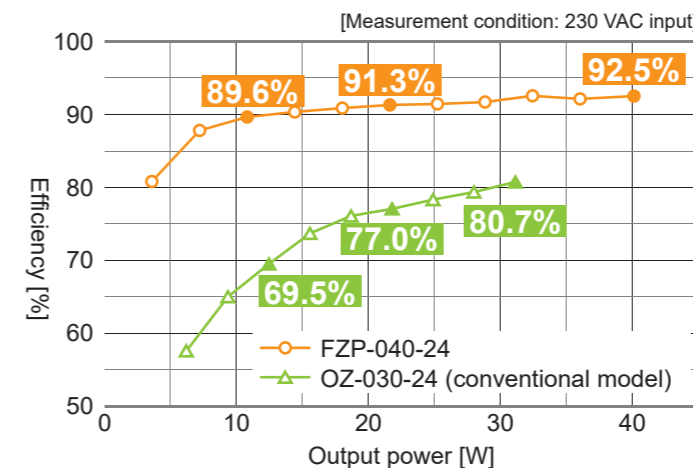
Input voltage: **100-240 VAC**  
 Output voltage: **5/12/15/24 V**  
 Continuous: **30-39.6 W**  
 Peak: **40-60 W**



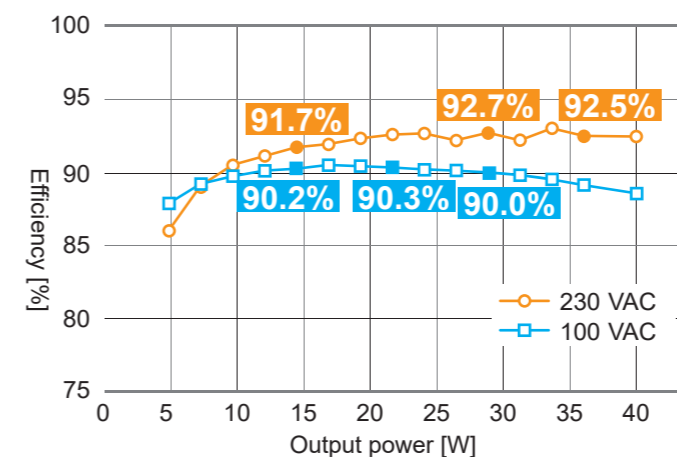
### Achieved high efficiency and low-heat-generation

Achieved efficiency 92.5% typ. with a 24V output type. Smaller size and longer service life realized by high efficiency, reducing heat generation.

### Comparison of efficiency graph (an example of measurement)



### Efficiency graph (FZP-040-12, an example of measurement)



### Measures against momentary power failure (only for FZP-040-\*\*-JBH)

Connecting capacitor units (CB03B-EC400/801F) creates a backup for momentary power failure by extending the output holding time. This contributes to the improved reliability of embedded devices. The output holding time can be further extended by connecting capacitor units in parallel.

### Other features

- The power supply unit clears VCCI Class B for conducted emissions
- Double-sided PCB with plated through hole adopted
- Coated PCB is available (Please contact us for details.)
- Compact size 50×26×87.5 mm

### Output specification

Output voltage	+5 V	+12 V	+15 V	+24 V
Continuous current	6 A	3.3 A	2.6 A	1.6 A
Continuous power	30 W	39.6 W	39 W	38.4 W
Peak current (within 5 s)	8 A	5 A	4 A	2.5 A
Peak power (within 5 s)	40 W	60 W	60 W	60 W
Safety standards	UL62368-1, CSA C22.2 NO.62368-1 certified, UKCA/CE marking (IEC62368-1)			

### Features

Model	Optional connector	Variable resistor to adjust the output voltage
FZP-040-**-J0L	-	-
FZP-040-**-JBH	○	○

# Essential for Solar Power Generation: PV Maximizer

## Main features of PV Maximizer

- 1 Maximize power generation efficiency
- 2 Support different orientations and directions
- 3 Support mixed use of different manufacturers
- 4 Match PCS voltage



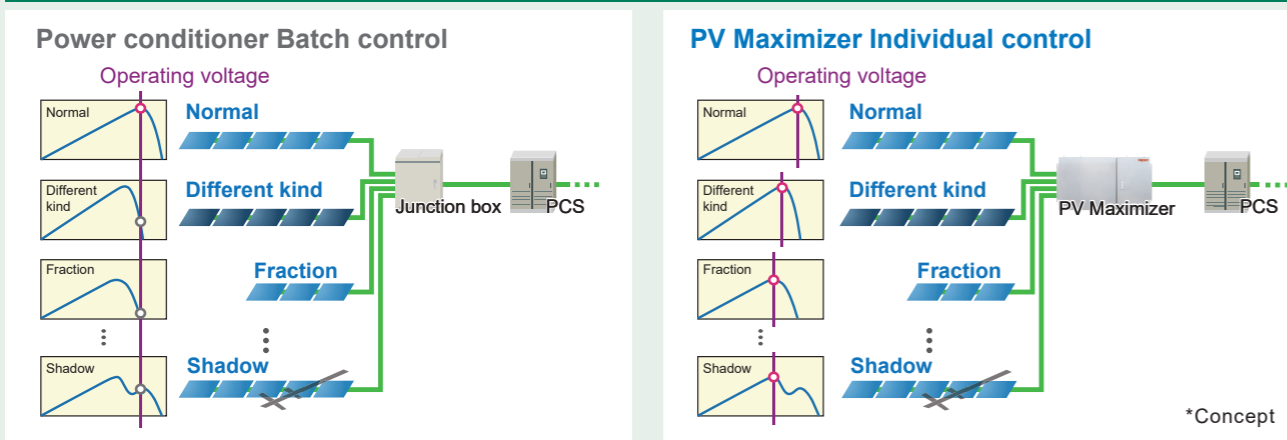
### 1. Maximize power generation efficiency

In power conditioners that perform centralized control, power generation is managed based on the overall average. As a result, it is not possible to optimize each string individually, which leads to power generation losses when strings have different characteristics. The PV Maximizer, however, controls power on a per-string basis, enabling maximum power generation even when different characteristics are present.

### PV Maximizer controls solar power generation on a per-string basis

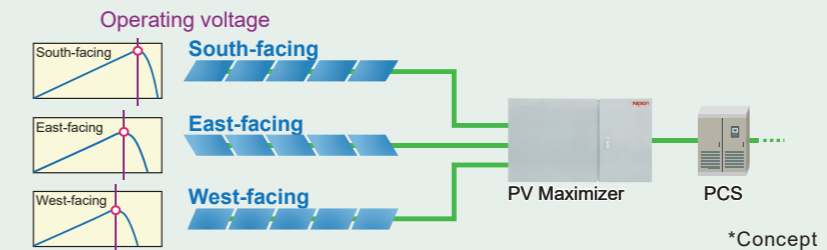
When a solar panel malfunctions, its power generation characteristics change. If the issue is not addressed, the overall output decreases. Frequent replacement of faulty modules leads to costly and time-consuming construction work. Another option is to remove the faulty module, but this creates a voltage imbalance with the other strings and prevents sufficient power extraction. The PV Maximizer controls power on a per-string basis. This allows it to compensate for the voltage shortfall when a module malfunctions and enables continued operation, even with incomplete strings.

#### Concept of maximizing efficiency



## 2. Support different orientations and directions

Even when the tilt angle or orientation of solar panels varies from string to string, installing a PV Maximizer enables optimal voltage control. This is particularly effective when panels are installed in different locations such as rooftops, walls, or parking areas.



## 3. Support mixed use of different manufacturers

Even if there are voltage differences between strings, installing a PV Maximizer boosts each string to a preset voltage. This allows the connection of mixed panels, such as panels from different manufacturers. In addition, after around ten years of operation, replacing solar panels may be considered. With the PV Maximizer, old and new panels can be used together.



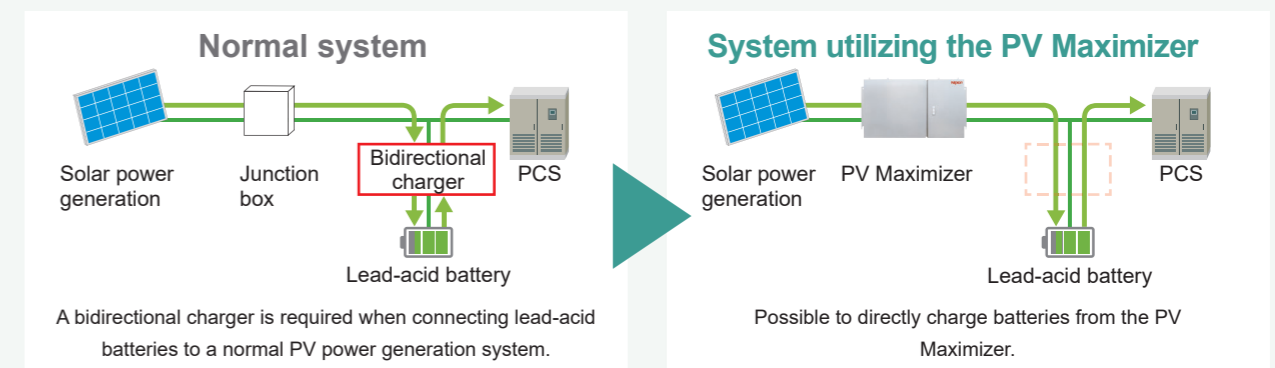
## 4. Match PCS voltage

The PV Maximizer boosts voltage to a preset level. In recent years, various types of solar panels have been developed, some with lower output voltages that may not match the input requirements of existing power conditioners (PCS). Installing the PV Maximizer boosts the voltage to fall within the PCS input voltage range. The PV Maximizer is also effective in systems with a small number of panels.

## Here is another way to use it! PV Maximizer

### Direct charging to lead-acid battery

By using the PV Maximizer, the unstable voltage from solar power generation can be boosted to a stable voltage. It is also possible to directly charge batteries from the PV Maximizer.



When using the PV Maximizer for charging batteries, there are cases in which external control is required in addition to observing the voltage range and current that can be fed to the batteries used in designing the photovoltaic power generation facility and configuring the PV Maximizer. For further information, please contact us.

# Application example of PV Maximizer: Office building

## 1 Mixture of different types of solar panels is possible

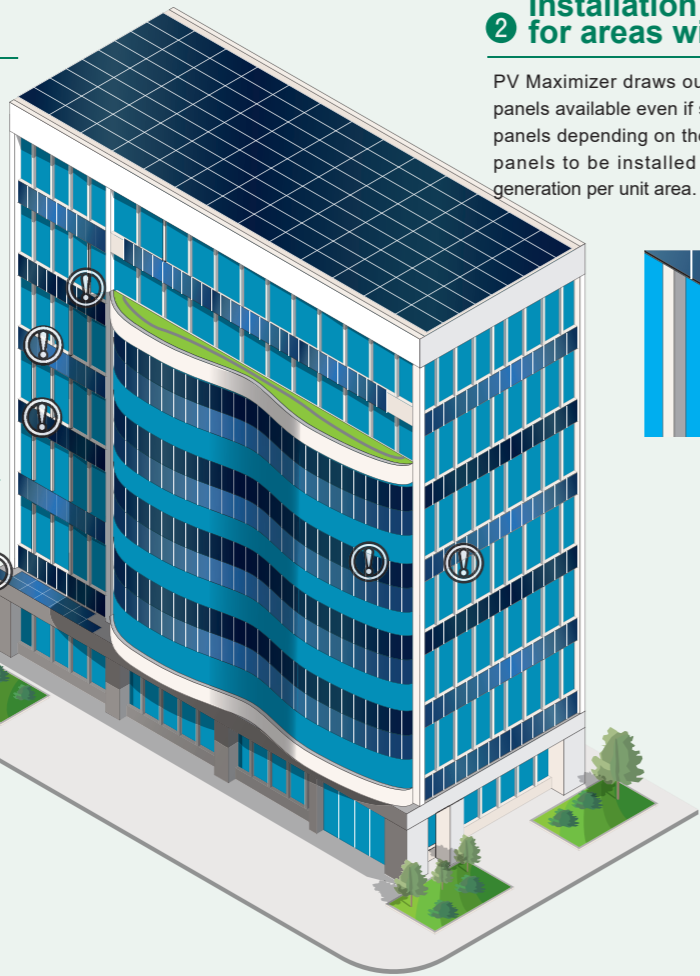
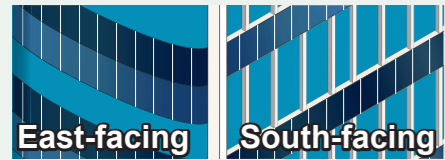
Depending on the installation site, it is possible to mix panels with different characteristics and types, such as low-cost crystalline modules, thin-film modules optimized for diffuse light, and solar carport panels. Since the PV Maximizer controls power generation on a per-string basis, there is no need to install a separate PCS for each panel type. This allows for maximum utilization of available space.

## 3 Install panels without worrying about odd numbers

Power generation is possible even if panels are installed in a narrow space which has been left open because of mismatch in the number of panels.

## 4 All directions

Because the loss in power generation can be held in check and the produced power can be maximized by the string-by-string control of PV Maximizer, panels can be installed on walls not facing the south, where the condition is not good, making efficient use of walls.



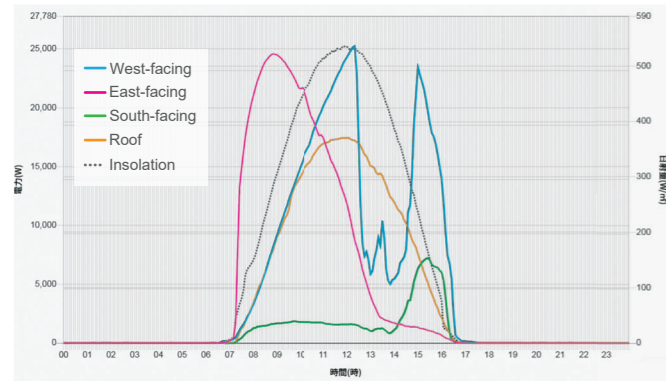
## 2 Installation possible for areas with shadows

PV Maximizer draws out the maximum power from panels available even if shadows are cast over some panels depending on the time of day, allowing more panels to be installed and increasing the power generation per unit area.



# Solar panels are installed on the walls of the Mie Smart Factory

To resolve the shortfall in power generation in winter due to lower insolation, we have added solar panels on three walls of building (east, south & west). Using the PV Maximizer, which maximizes power generation even in poor conditions, the system is now capable of supplying stable power regardless of the season. It boosts the self-sufficiency rate of renewable energy to a higher level.



[Power generation performance of PV Maximizer on December 16, 2025]

### Mie Smart Factory after expanding panels



# DC Link Realized by PV Maximizer

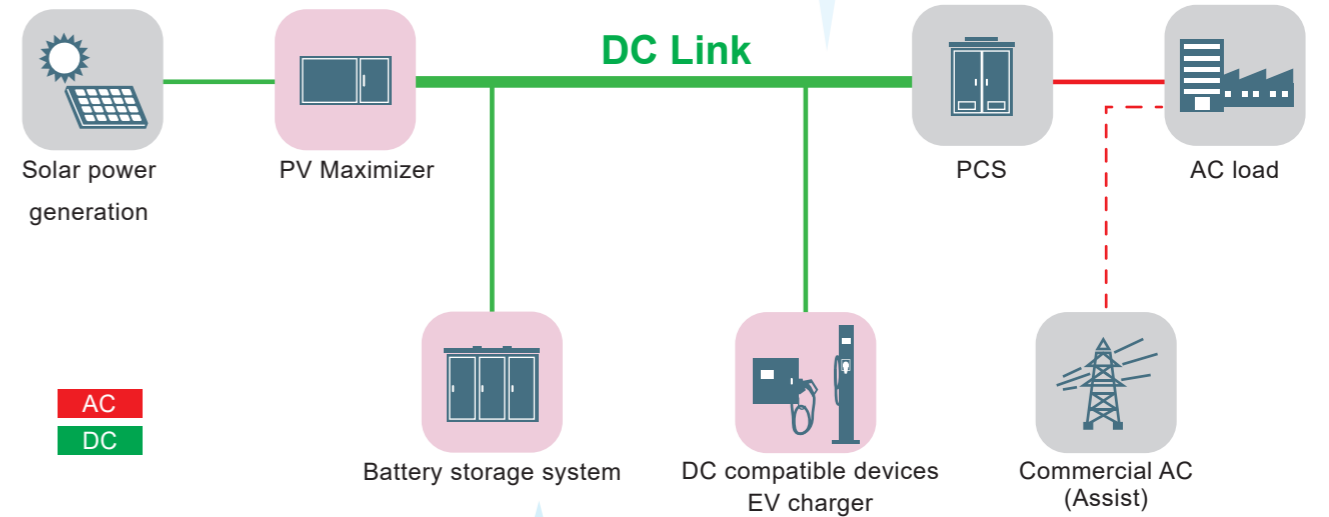


Photovoltaic power generation systems and rechargeable batteries operates on direct current (DC). By the adoption of DC Link, which offers DC-to-DC connections for these systems, a significant number of power conversion can be saved in comparison with conventional systems. While AC/DC power conversions are repeated in each phase of power generation, storage and usage in typical AC systems, with the DC Link, the power loss due to conversion will be reduced and the energy utilization efficiency will be enhanced as the power can be used with the minimum number of conversions. Also, the simplification of system configuration helps improve reliability and maintainability and enables the construction of uninterruptible power supply systems that are not susceptible to interruption of commercial AC power supply. With the combination of solar power generation and power storage system, enhanced resiliency and carbon neutrality can be realized at the same time.

**PV Maximizer**

This is a power supply system supporting MPPT control, which maximizes the efficiency of solar power generation. It traces the maximum power point that shifts due to changes in insolation and supplies stable DC bus voltage by boosting unstable PV voltage. Because of significant voltage fluctuation in solar power generation, it cannot be connected directly to the DC bus and the PV Maximizer, which stabilizes the voltage, is an essential component in building a DC Link.

Realizes a highly efficient and simple power system. Reduction in the number of devices enhances the reliability.



AC  
DC

**PV power consumption system**

Since PV Oasis uses a unique power system to connect the PV power to batteries without converting the DC power, it reduces the power loss associated with power conversion compared to conventional AC systems.

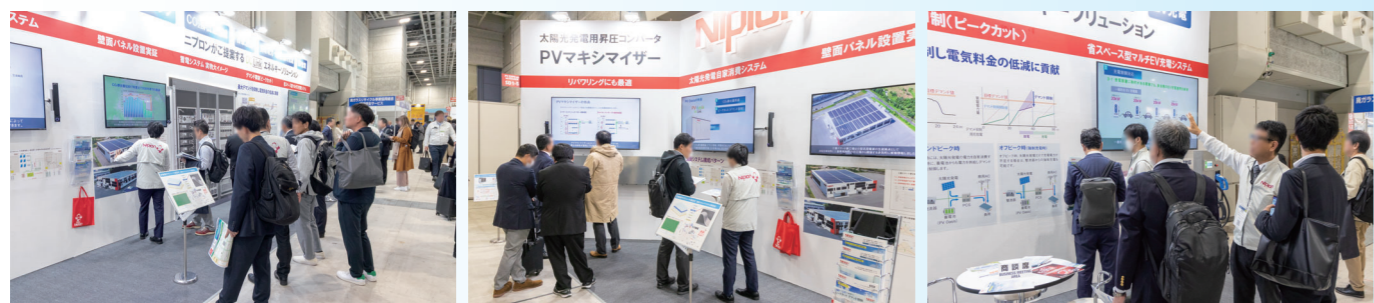
# Exhibition Report

## The 13th Int'l Photovoltaic Power Generation Expo.



We exhibited at the 13th Int'l Photovoltaic Power Generation Expo, held at INTEX Osaka from November 19-21. This exhibition is Japan's largest event dedicated to achieving carbon neutrality.

At the Nipron booth, our main display featured our space-saving multi-EV charging system. A charging stand was installed to help visitors visualize real-world usage scenarios. In addition, we showcased our self-consumption renewable energy storage system, PV Oasis, along with its demand-control functionality, and our PV Maximizer (including the repowering model). We also presented achievements from the Mie Smart Factory, using videos and actual equipment. During the exhibition period, we welcomed numerous visitors with strong interest in EV deployment, renewable energy utilization, and BCP measures, making it a meaningful event where we exchanged views on their specific challenges and requirements.



# Nipron Hosted the Carbon Neutral Fair



## The 2nd Nipron Carbon Neutral Fair (Amagasaki) Held



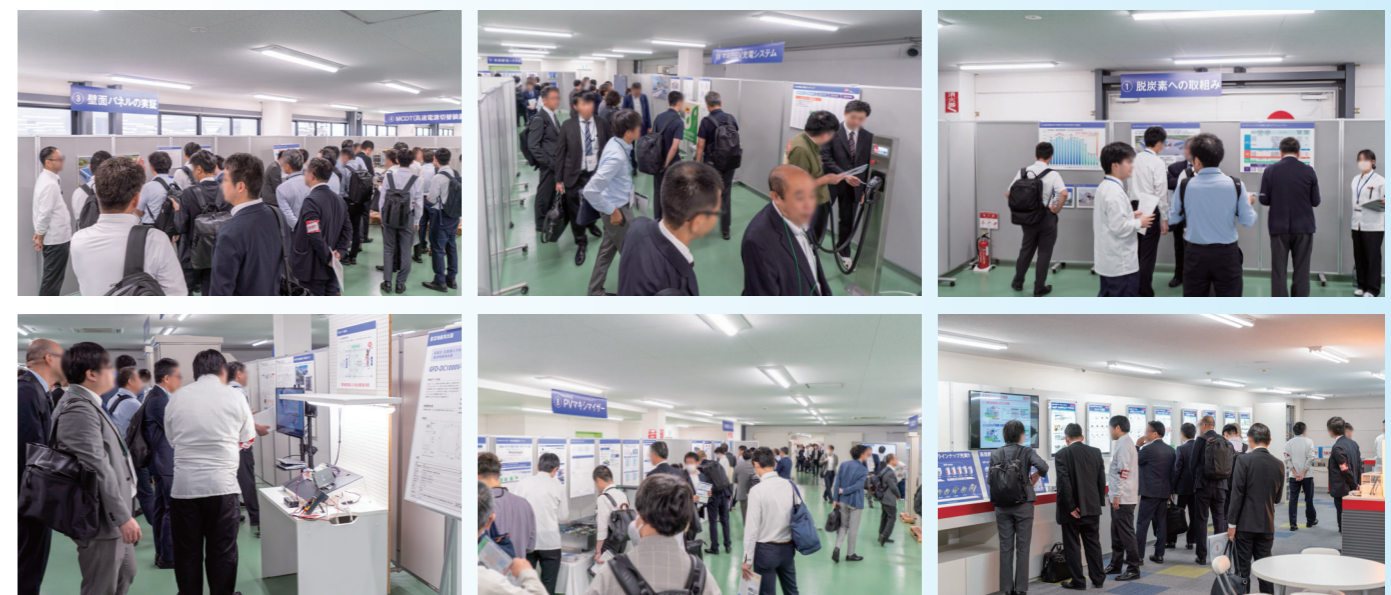
On October 15, we held the 2nd Nipron Carbon Neutral Fair at Nipron Head Office & Hanshin Factory in Amagasaki.

The conference started with an opening address by Mr. Kawakita, Vice President, followed by presentations of actions promoted by Nipron on carbon neutrality and approaches used to realize carbon neutral society.

Products exhibited in the venue consisted, mainly, of products relevant to decarbonization and renewable energies along with various solutions that contribute to the utilization of renewable energies and saving energy. Switching power supply products that serve the purpose were also displayed and attracted the eyes of many visitors.

Furthermore, in the factory and facility tour offered to people interested, more than half of visitors participated. In the tour, people were guided through the workshops used for production of Nipron products to present the manufacturing system supporting Nipron's high reliability and superior quality.

## Product exhibition



In each exhibition booth, the person in charge introduced features of products and scenes of usage to every visitor. With actual products and panels showing existing applications in front, it seemed that people were able to get the idea of specific scenes of introduction.

## Factory and facility tour



In the tour, contrivances and quality management adopted in the workshops were presented with the production line and machinery close by. Also, the operation of EV charging system was introduced using an actual system of EV charging stand and EV charging panel installed in the Solar Carport.

**The Nipron Story,  
as told by our Chairperson**

## Reducing electricity costs and going carbon neutral through the use of Nipron's renewable energy products

New Year's Day 2026 – Happy New Year to everyone.  
We look forward to your continued support this year.

Early on the morning of January 16, we held our annual 45th New Year Executive Meeting with great enthusiasm. We have been holding this meeting twice a year (in January for the New Year and in July at the beginning of the fiscal year) for over 30 years. I value continuing whatever I have started.

At this year's New Year's Executive Meeting, I, as CEO, was the first person to report the progress of this fiscal year's plans, followed by the two executive vice presidents, the general managers, and the heads of each department and section. After that, lively presentations were given regarding the key initiatives to achieve our business plans for the next fiscal year and beyond.

I presented and outlined the vision of our 10th five-year business plan, which will be the last one that I work on before retirement. Under the title of "My thoughts and hopes," I expressed my desire to create a dynamic and sustainable Nipron. To this end, I also made a commitment to stepped-up efforts to develop a personnel evaluation system essential for "sustainability" and to evolve and improve "NDMS," our management accounting system designed to revitalize the organization, as well as to give it my all for the Green Power business to thrive.

Afterwards, 32 participants gave presentations and their detailed and substantive content made me stunned and momentarily speechless. This annual meeting always gives me a sense of fulfillment, but this year I felt something special and couldn't be happier. I feel like we will be able to brilliantly achieve the goals of the new five-year business plan.

I'm looking forward to following up on its monthly progress from now on, which is a bit of a problem because it might weaken my resolve to retire. This maybe an indication of a positive outcome of our continuous efforts to hold these executive meetings at regular intervals ... It reminded me once again how important it is to stick with things over the long term, and I hope you will pass it down as a good tradition of Nipron.

Now, moving on to the main topic of our Green Power business, the era of full-scale adoption of EV chargers is finally approaching. Against this backdrop, our multi-EV charging system—capable of simultaneously charging 2 to 6 vehicles with 100% renewable energy, which is, solar power generated using our own equipment—is virtually unprecedented, bringing us a good business opportunity.

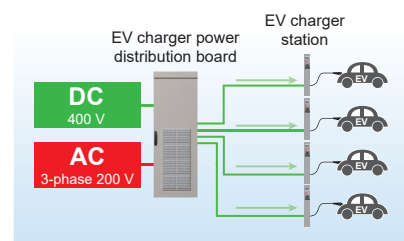
Nipron's Mie Smart Factory and Head Office & Hanshin Factory in Amagasaki are already open for tours and have entered the trial operation phase. Additionally, incentive measures are being implemented to encourage employees who commute by their own cars to switch to electric vehicles.

Furthermore, with the sales fleet of our Central Laboratory & Sales Head Office undergoing sequential conversion to EVs, we have taken up preparations to further pursue carbon neutrality and electricity cost reduction simultaneously.

**Setsuo Sakai**  
**January 2026**



■45th term New year leadership meeting



■Concept of multi-EV charging system



■Multi-EV charging system in Hanshin Factory

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