

# Nipron Wave

## Vol. 70

### Highlights

- 1 PV Oasis**  
We offer optimal solutions for carbon neutrality!
- 2 Multi-output/single-output power supplies**  
Introducing the hottest multi-output and single-output power supplies. Models that support blackout/momentary power failure backup, and models with a service life indicator are also included in the lineup!



# Carbon Neutrality by Any Means!

## But Where to Start? 🐣

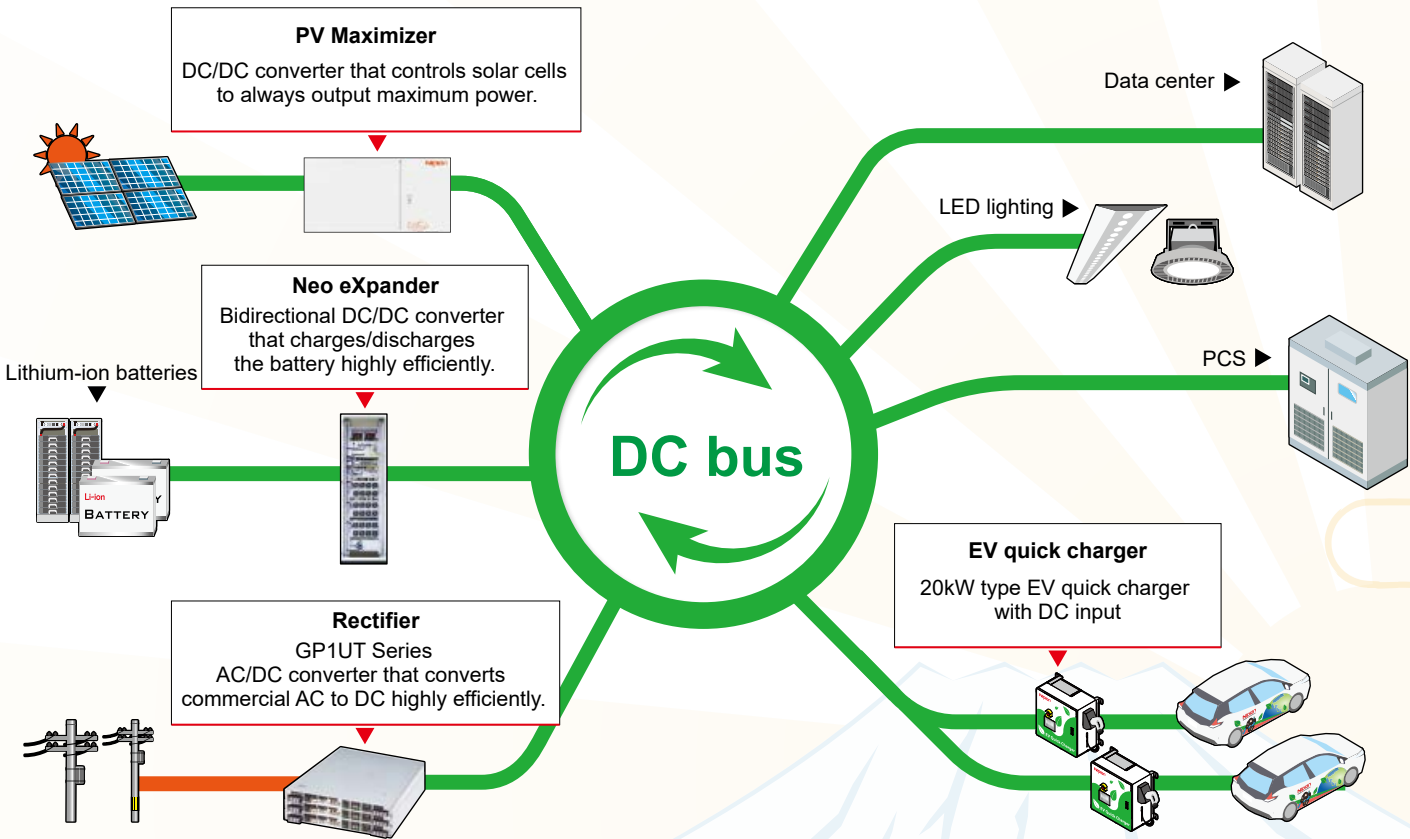
We propose optimum carbon-neutral solutions matching the business scale, objectives, and budget.

### DC grid-type renewable energy storage system

**PV Oasis**

Toward solution for decarbonization

The system uses renewable energy to manage power consumption and, in the event of a blackout, the power (renewable energy) stored in batteries can be employed to execute BCP. In addition, the system facilitates efficient supply of power derived from renewable energy to EV chargers and DC devices.

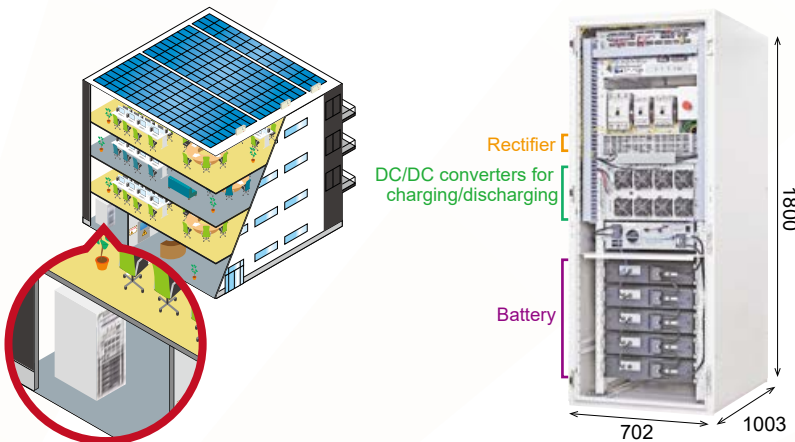


### PV Oasis features

- **Contribute to achieving carbon neutrality**  
Increase corporate value by showing how you are tackling environmental issues.
- **Hedging against rising electricity bills**  
Raising the ratio of renewable energy in in-house consumption can hedge the risk of rising electricity bills.
- **EV charging using 100% renewable energy**  
High-efficiency EV charging utilizing photovoltaic power generation enables zero carbon driving.
- **DC supply**  
Highly efficient power supply by suppressing AC conversion loss because photovoltaic power generation and storage batteries can be connected with direct current (DC).
- **BCP measure**  
Protecting production activities from unexpected prolonged power outages due to natural disasters and other factors, through solar power generation and storage batteries.
- **Off-grid connection is also possible**  
It is possible to build an independent system without a grid connection, eliminating the need for grid connection discussions, RPR, or cubicle modification.

### Example of a small-scale system

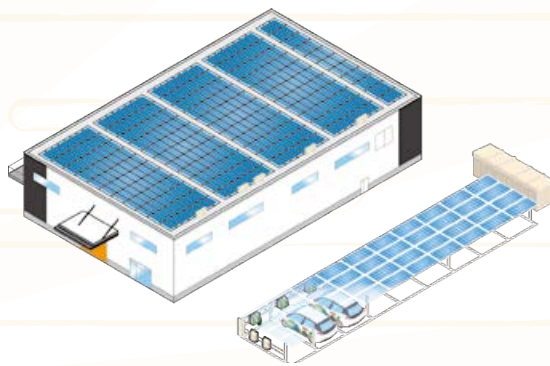
### PV Oasis 400V



### Small-scale PV Oasis facility specification (PV Oasis 400V)

| Items                            |    | Specification                 |
|----------------------------------|----|-------------------------------|
| Input                            | AC | Three phases three wires 200V |
|                                  | DC | Solar cell (PVM output)       |
| Output voltage                   |    | 400V DC max.                  |
| Battery capacity                 |    | 30kWh                         |
| Rectifier capacity (selectable)  |    | 5.94kW                        |
|                                  |    | 10.6kW                        |
| Charging rating                  |    | 12kW                          |
| Discharging rating (normal mode) |    | 11kW                          |

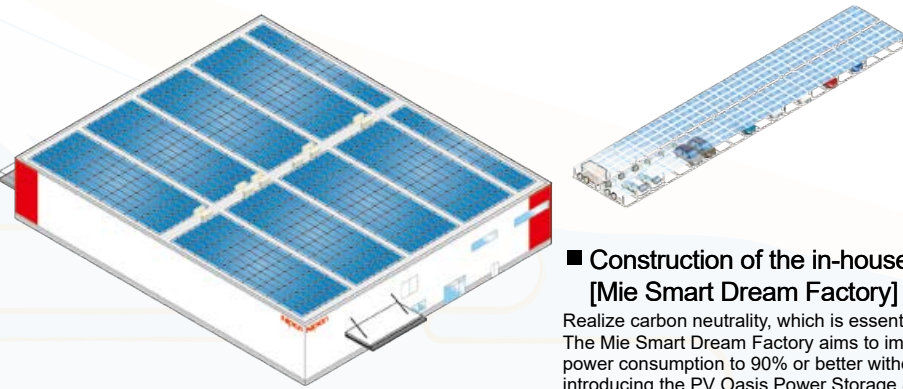
### Example of medium-scale system



### Medium-scale PV Oasis facility specification

| Items               |  | Specification |
|---------------------|--|---------------|
| Solar cell capacity |  | 100–300kW     |
| Battery capacity    |  | 180–360kWh    |
| EV charger          |  | 20kW×6 units  |
| Rectifier capacity  |  | 30kW          |
| PCS capacity        |  | 100kW         |

### Example of large-scale system



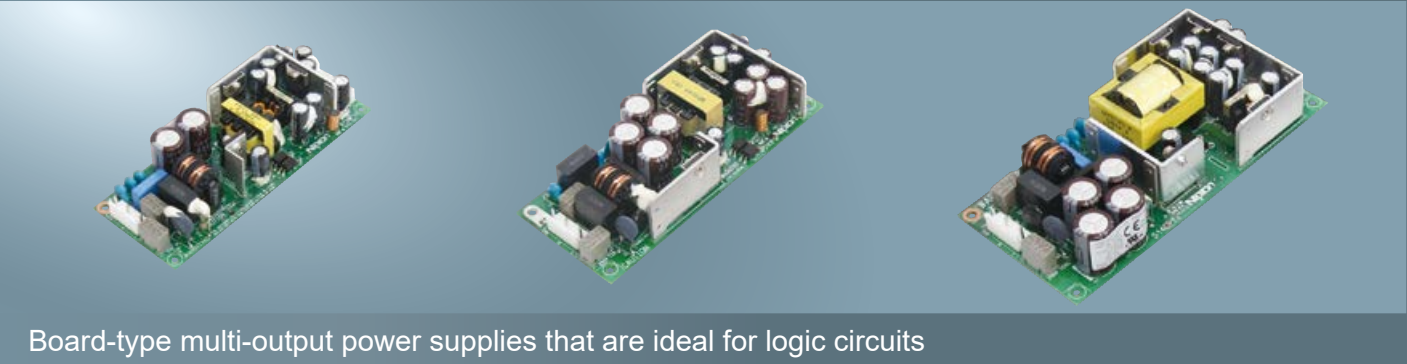
### Large-scale PV Oasis facility specification

| Items               |  | Specification |
|---------------------|--|---------------|
| Solar cell capacity |  | 519kW         |
| Battery capacity    |  | 540kWh        |
| EV charger          |  | 20kW×6 units  |
| Rectifier capacity  |  | 30kW          |
| PCS capacity        |  | 250kW         |

### Construction of the in-house power consumption demonstration factory [Mie Smart Dream Factory]

Realize carbon neutrality, which is essential in bringing forward a sustainable society. The Mie Smart Dream Factory aims to improve the ratio of renewable energy in the factory's power consumption to 90% or better without relying on the Tradable Green Certificate by introducing the PV Oasis Power Storage System. In addition, in the event of a blackout, it is possible to run the factory with the power (renewable energy) stored in batteries, making it a viable solution as a BCP solution.

# 15W 30W OZM Series



Board-type multi-output power supplies that are ideal for logic circuits

## OZM-015 Series

Continuous output: 13.8–17.5W

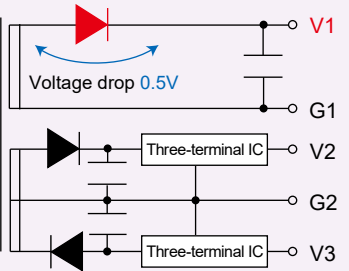
Output voltage:  
+3.3V/+12V/-12V, +3.3V/+15V/-15V  
+5V/+12V/-12V, +5V/+15V/-15V

## High-efficiency design

The OZM series adopts synchronous rectification technology, achieving high efficiency. Typically, power supplies with output in the range of tens of watts use diode rectification as the mainstream method. Nipron, based on the load capacity, employs a unique circuit that switches between diode and FET rectification, resulting in high efficiency. This high efficiency helps to reduce heat generation in the power supply, contributing to the reduction of work and cost associated with thermal countermeasures for embedded devices.

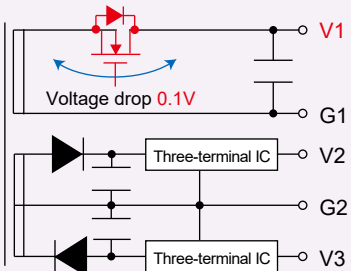
### Diode rectification (V1 light load)

By detecting the current of the V1 (main control) output, the circuit switches to diode rectification during light loads, raising the input voltage of the V2/V3 output control three-terminal IC to the required level for maintaining output accuracy.



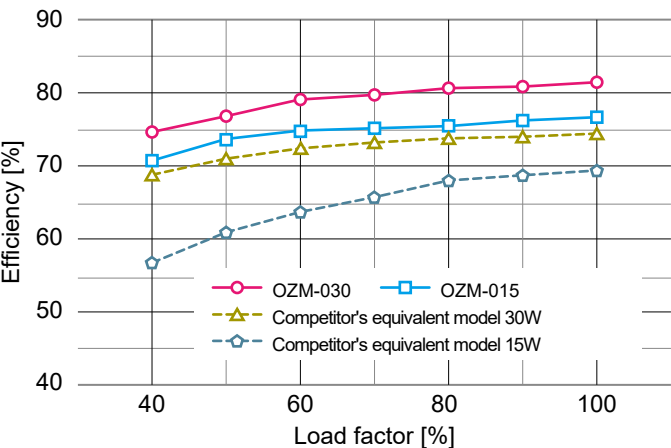
### FET synchronous rectification (V1 heavy load)

To achieve high efficiency, the circuit switches to FET synchronous rectification during increased current loads in V1, effectively reducing heat generation and suppressing the rise in the input voltage of the V2/V3 output control three-terminal IC.

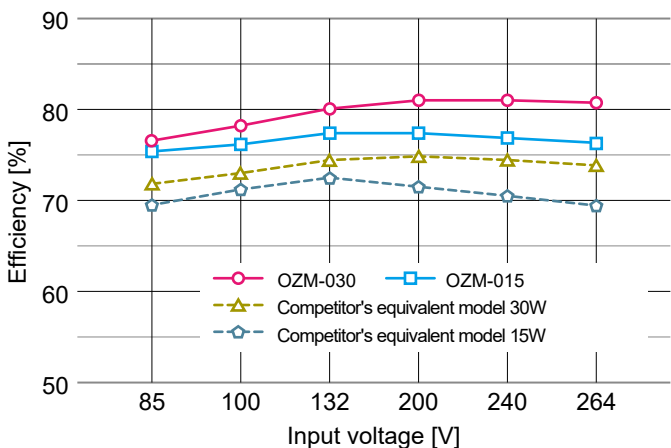


Automatic switching

Comparison of efficiency graph (240V AC, an example measurement)



Comparison of efficiency graph (All output rated, an example measurement)



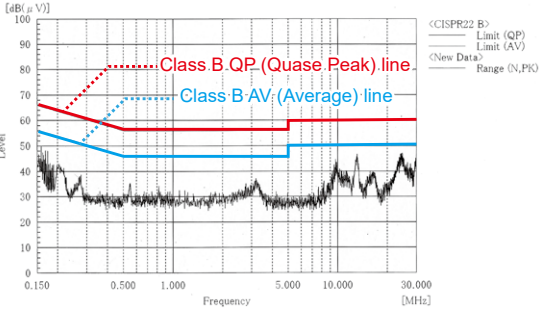
Nipron also has a line of multi-output power supplies!

<http://www.nipron.com>

## Low noise and low leakage current

While it reduces leakage current, with the enhancement of noise filter circuits and optimization of component arrangement, the conducted emissions for the power supply unit alone clears VCCI Class B. There is no need for an external noise filter, which helps to save associated work and costs.

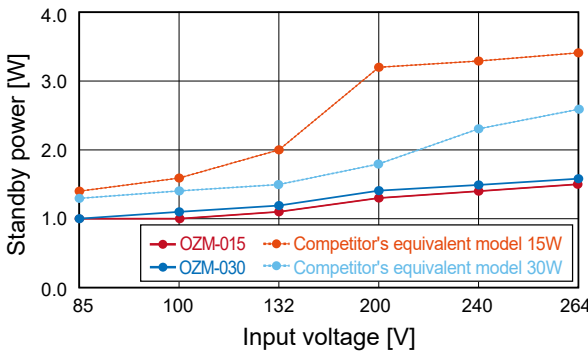
### The conducted emissions



## Low standby power

Power consumption in standby mode can be reduced, resulting in reduction of CO2 and electricity costs.

### Comparison of standby power (an example measurement)



### Leakage current

| Model         | OZM-015-0515N15 |            |
|---------------|-----------------|------------|
| Input voltage | Min. load       | Rated load |
| 100V AC       | 0.075mA         | 0.076mA    |
| 200V AC       | 0.155mA         | 0.160mA    |

## Supports peak

The V2 output has a higher peak output compared to other manufacturers, allowing for increased capacity without changing the size of the power supply.

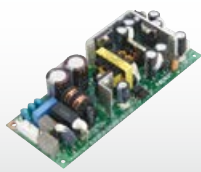
|                         | Competitor's equivalent model | OZM-015               |
|-------------------------|-------------------------------|-----------------------|
| 0512N12/<br>V2 output   | +12V 0.3A (peak 0.6A)         | +12V 0.4A (peak 1A)   |
| 0515N15/<br>V2 output   | +15V 0.3A (peak 0.6A)         | +15V 0.3A (peak 0.8A) |
| 0512N12/<br>Rated power | 16W                           | 17.2W                 |
| 0515N15/<br>Rated power | 17.5W                         | 17.5W                 |

## Other features

► Double-sided PCB with plated through hole adopted

## Products outline

### OZM-015 Series



| Model (OZM-015-)   | 0512N12             |      |      | 0515N15 |      |      | 0312N12 |      |      | 0315N15 |      |      |
|--------------------|---------------------|------|------|---------|------|------|---------|------|------|---------|------|------|
| 3 outputs type     | V1                  | V2   | V3   | V1      | V2   | V3   | V1      | V2   | V3   | V1      | V2   | V3   |
| Output voltage     | +5V                 | +12V | -12V | +5V     | +15V | -15V | +3.3V   | +12V | -12V | +3.3V   | +15V | -15V |
| Max. current       | 2A                  | 0.4A | 0.2A | 2A      | 0.3A | 0.2A | 2A      | 0.4A | 0.2A | 2A      | 0.3A | 0.2A |
| Peak current (10s) | 3A                  | 1A   | 0.3A | 3A      | 0.8A | 0.3A | 3A      | 1A   | 0.3A | 3A      | 0.8A | 0.3A |
| Max./Peak power    | 17.2W               |      |      | 17.5W   |      |      | 13.8W   |      |      | 14.1W   |      |      |
| Min. current       | 0A*                 | 0A   | 0A   | 0A*     | 0A   | 0A   | 0A*     | 0A   | 0A   | 0A*     | 0A   | 0A   |
| Safety standards   | UL/CSA60950(UL/cUL) |      |      |         |      |      |         |      |      |         |      |      |
| Size (W×H×D)       | 50×28×127 mm        |      |      |         |      |      |         |      |      |         |      |      |

\*When V1 output is 0A, the peak current of V2 and V3 must be 70% or less. However, when using V1 with dynamic loads (pulse loads), ensure a minimum current of 0.3A or above.

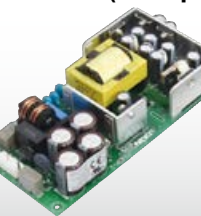
### OZM-030 Series (2 outputs type)



| Model (OZM-030-)   | 12N12               |      |  | 15N15 |      |  |
|--------------------|---------------------|------|--|-------|------|--|
| 2 outputs type     | V1                  | V2   |  | V1    | V2   |  |
| Output voltage     | +12V                | -12V |  | +15V  | -15V |  |
| Max. current       | 2.4A                | 0.6A |  | 1.8A  | 0.6A |  |
| Peak current (10s) | 3A                  | 1A   |  | 2.4A  | 1A   |  |
| Max./Peak power    | 36W                 |      |  | 36W   |      |  |
| Min. current       | 0A                  | 0A   |  | 0A    | 0A   |  |
| Safety standards   | UL/CSA60950(UL/cUL) |      |  |       |      |  |
| Size (W×H×D)       | 58×28×133 mm        |      |  |       |      |  |

\*When V1 output is 0A, the peak current of V2 must be 70% or less. However, when using V1 with dynamic loads (pulse loads), ensure a minimum current of 0.3A or above.

### OZM-030 Series (3 outputs type)



| Model (OZM-030-)   | 0512N12             |      |       | 0515N15 |      |       | 0312N12 |      |       | 0315N15 |      |       |
|--------------------|---------------------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|
| 3 outputs type     | V1                  | V2   | V3    | V1      | V2   | V3    | V1      | V2   | V3    | V1      | V2   | V3    |
| Output voltage     | +5V                 | +12V | -12V  | +5V     | +15V | -15V  | +3.3V   | +12V | -12V  | +3.3V   | +15V | -15V  |
| Max. current       | 3A                  | 1.3A | 0.3A  | 3A      | 1A   | 0.3A  | 3A      | 1.3A | 0.3A  | 3A      | 1A   | 0.3A  |
| Peak current (10s) | 4.5A                | 2A   | 0.45A | 4.5A    | 2A   | 0.45A | 4.5A    | 2A   | 0.45A | 4.5A    | 1.6A | 0.45A |
| Max./Peak power    | 34.2W               |      |       | 34.5W   |      |       | 29.1W   |      |       | 29.4W   |      |       |
| Min. current       | 0A*                 | 0A   | 0A    | 0A*     | 0A   | 0A    | 0A*     | 0A   | 0A    | 0A*     | 0A   | 0A    |
| Safety standards   | UL/CSA60950(UL/cUL) |      |       |         |      |       |         |      |       |         |      |       |
| Size (W×H×D)       | 65×31.5×140 mm      |      |       |         |      |       |         |      |       |         |      |       |

\*When V1 output is 0A, the peak current of V2 and V3 must be 70% or less. However, when using V1 with dynamic loads (pulse loads), ensure a minimum current of 0.3A or above.

Achieved high efficiency, low noise, and low leakage current

<http://www.nipron.com>



# 40<sub>W</sub> FZP-040 Series



Ultra-small, high-efficiency, board-type, single-output power supplies

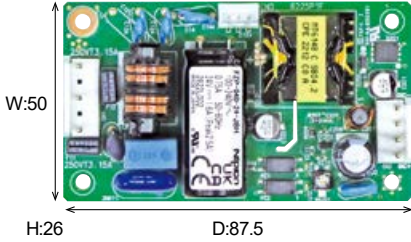
Continuous: 30–40W Peak: 40–60W

Output voltage: 5V, 12V, 15V, 24V

## Smaller size with larger capacity

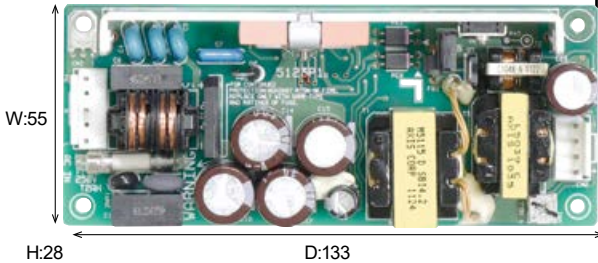
130% larger capacity and 44% smaller size compared with Nipron's conventional OZ-030-24 models

FZP-040-24-JBH Continuous: 40W Peak: 60W



Smaller size,  
larger capacity,  
peak support

OZ-030-24 Continuous: 30W Without peak power



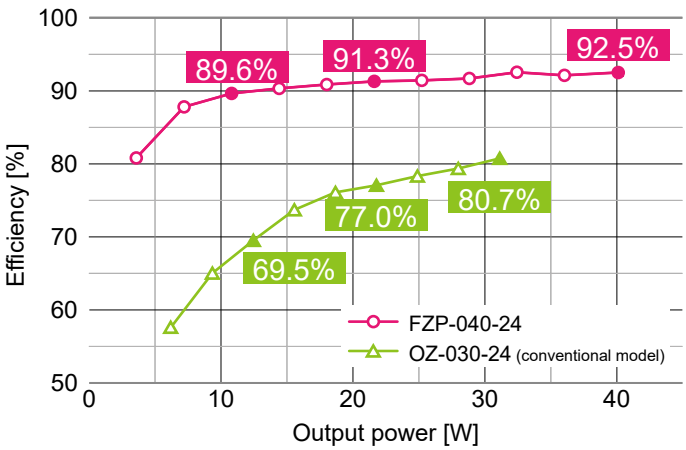
## Adjustable output voltage (only for FZP-040-\*\*-JBH)



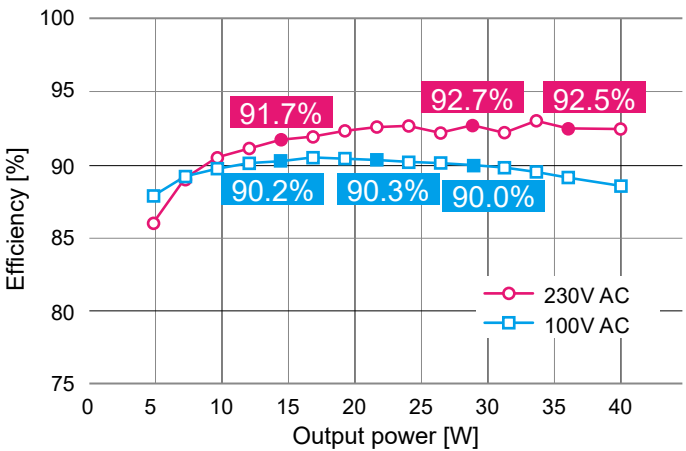
The output voltage is adjustable for a particular model with a variable resistor. It allows voltage adjustment within  $\pm 10\%$  of the rated output voltage.

## Achieved high efficiency and low-level heat generation

Comparison of efficiency graph (an example measurement)



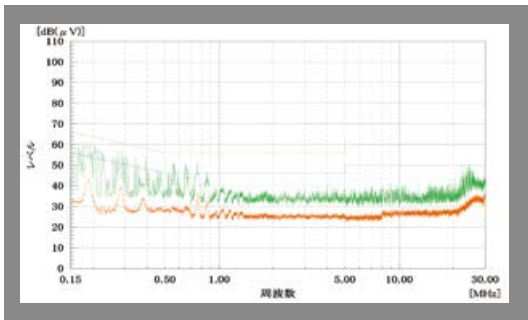
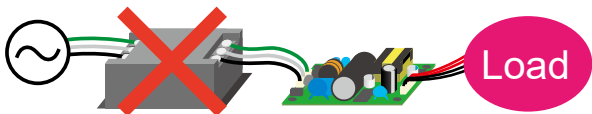
Efficiency graph (FZP-040-12, an example measurement)



## Clears VCCI Class B for conducted emissions

The power supply unit clears VCCI Class B for conducted emissions. There is no need for an external noise filter, which helps to save associated work and costs.

There is no need for an external noise filter!



Measurement condition  
Input: 230V AC  
Output: rated load  
(an example measurement)

## Supports a peak load

Supports a 5-second output of peak power, which makes it optimal for devices requiring an inrush current, such as motors.

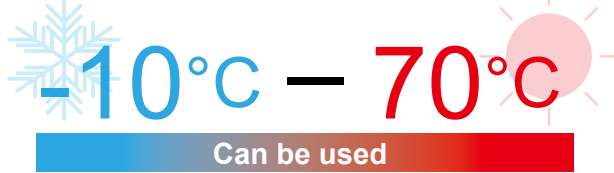
Peak 60W

Continuous 39.6W

150%

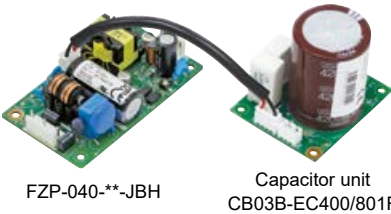
## Wide operating temperature range

It can be used at ambient temperatures from  $-10^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .



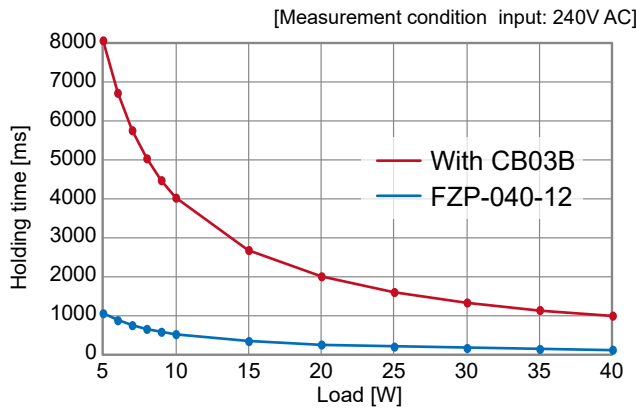
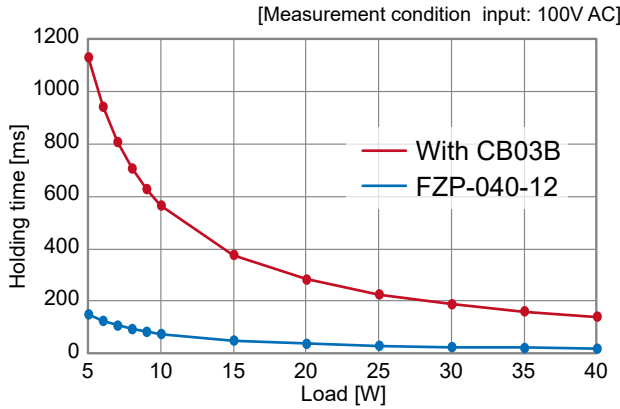
## Measures against momentary power failure (only for FZP-040-\*\*-JBH)

Connecting capacitor units creates a backup for momentary power failure by extending the output holding time. Doing so contributes to the improved reliability of embedded devices. The output holding time can be further extended by connecting capacitor units in parallel.



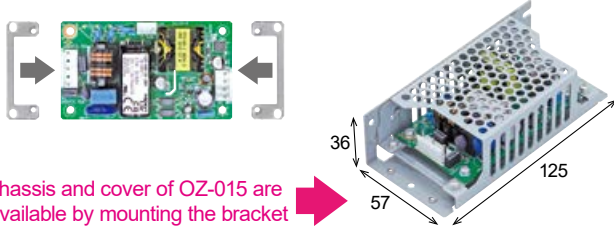
Extend the output  
holding time

Output holding time graph (FZP-040-12, an example measurement)

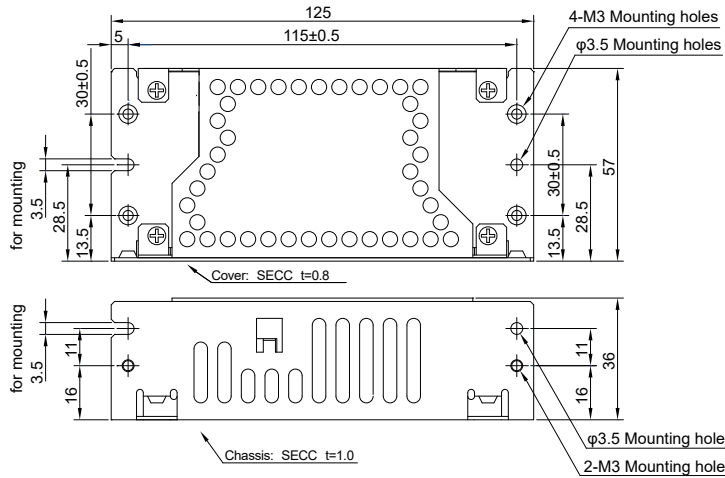


## Responding to demand for replacements

We have a lineup with chassis and cover that enables replacement without changing the mounting pitch, making them compatible with the OZ-015 series and other products from different manufacturers.



The chassis and cover of OZ-015 are available by mounting the bracket



\* Please contact us for details.

## Other features

- Double-sided PCB with plated through hole adopted
- Coated PCB is available
- Medical standards model coming soon  
Medical standards IEC60601-1 Ed.3.1 MOPP-, MOOP-certified

## Products outline

| FZP-040-                  | 5  | 12    | 15   | 24    |
|---------------------------|--|-------|------|-------|
| Output voltage            | +5V  | +12V  | +15V | +24V  |
| Continuous current        | 6A   | 3.3A  | 2.6A | 1.6A  |
| Continuous power          | 30W  | 39.6W | 39W  | 38.4W |
| Peak current (within 5 s) | 8A   | 5A    | 4A   | 2.5A  |
| Peak power (within 5 s)   | 40W  | 60W   | 60W  | 60W   |
| Input voltage             | 85–264V AC (worldwide range)   |       |      |       |
| Safety standards          | UL62368-1, CSA C22.2 NO.62368-1 certified<br>UKCA, CE marking (IEC62368-1) |       |      |       |
| Size (W×H×D)              | 50×26×87.5 mm  |       |      |       |

## Features

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

Small, high-efficiency, board-type power supplies

<http://www.nipron.com>

Flexible response to demand for replacements

<http://www.nipron.com>

# 75<sub>W</sub> mFZP-075 Series



Medical standards model board-type, single-output power supplies

Continuous: 50–75W Peak: 75–150W

Output voltage: 5V, 12V, 15V, 24V

Medical standards IEC60601-1 Ed.3.1 MOPP-, MOOP-certified

Supports a high peak approx. 200% higher than the continuous power

The unit can supply power 200% the continuous power for the predefined time (5s) (except for the 5V type). This eliminates the need to select a power supply unit with a large continuous power rating matching the peak load and enables a reduction in the PSU size, leading to many benefits.

Peak **150W**

Continuous **75W**

Max. **200%**

Clears VCCI Class B for conducted emissions

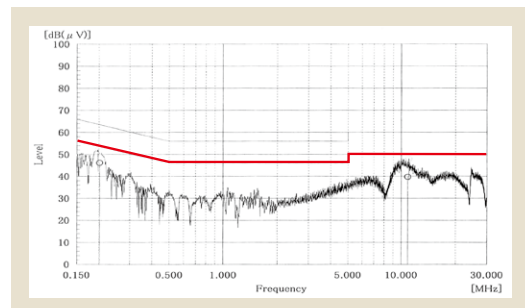
The power supply unit clears VCCI Class B for conducted emissions. There is no need for an external noise filter, which helps to save associated work and costs.

There is no need for an external noise filter!



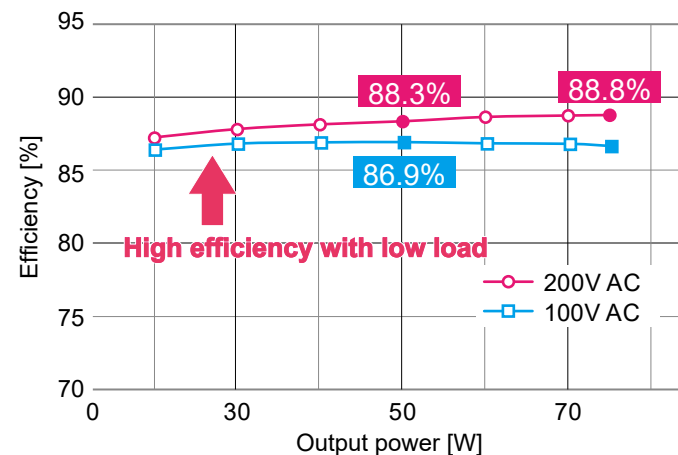
The conducted emissions (mFZP-075-12, an example measurement)

[Measurement condition input: 100V AC, output: rated load]



Achieved high efficiency and low-level heat generation

Efficiency graph (mFZP-075-24, an example measurement)



Achieved efficiency 88.8% typ with a 24 V output type. This high-level efficiency reduces heat generation, while also allowing a smaller size and a longer service life.

Backup for momentary power failure

Connecting capacitor units creates a backup for momentary power failure by extending the output holding time. Doing so contributes to the improved reliability of embedded devices.

[Connection concept]



\*The capacitor unit can be connected with mFZP-075\*\*-JB0 and mFZP-075\*\*-JB0-C

Low leakage current

Low leakage current both at 100V AC and 200V AC

[Leakage current: mFZP-075-24 (an example measurement)]

| Input condition | Rated load | Min. load |
|-----------------|------------|-----------|
| 100V AC         | 0.13mA     | 0.12mA    |
| 200V AC         | 0.25mA     | 0.24mA    |

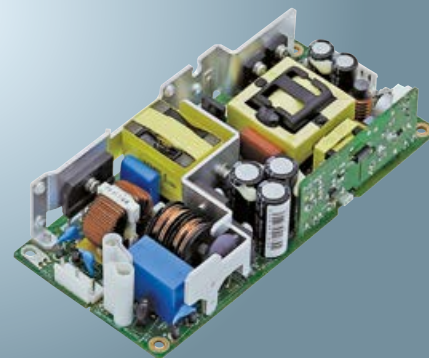
Products outline

| mFZP-075-                 | 5  | 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),<br>IEC/EN62368-1(2nd)( CE marking),<br>UL ANSI/AAMI ES60601-1(Ed.3.1),<br>UL/cUL62368-1(Ed.2), CCC:GB4943.1 certified |       |      |       |
| Size (W×H×D)              | 55×28×133 mm   |       |      |       |

Improved performance from conventional products

<http://www.nipron.com>

# 220<sub>W</sub> mUZP220/520P-24S05



Medical standards model board-type, single-output power supplies

Continuous: 220.8W Peak: 520.8W

Output voltage: 24V (5VSB)

Medical standards IEC60601-1 Ed.3.1 (MOPP-) certified

Supports a high peak approx. 230% higher than the continuous power

The unit can supply power 230% 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 a reduction in the PSU size, leading to many benefits including the elimination of fans in the unit.

Peak **520W**

Continuous **220W**

Max. **230%**

Clears VCCI Class B for conducted emissions

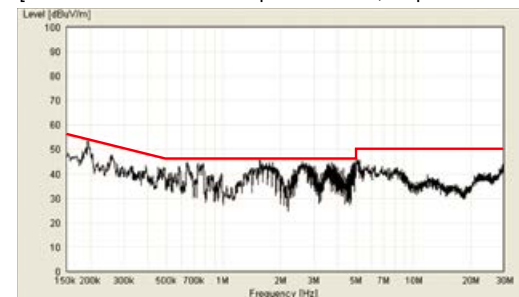
The power supply unit clears VCCI Class B for conducted emissions. There is no need for an external noise filter, which helps to save associated work and costs.

There is no need for an external noise filter!



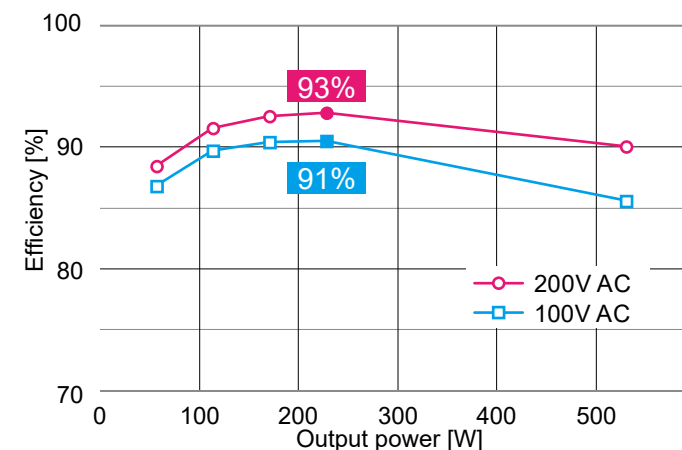
The conducted emissions (an example measurement)

[Measurement condition input: 100V AC, output: rated load]



High-efficiency design

Efficiency graph (an example measurement)



Achieves 93% typ efficiency with 200V AC input. This high-level efficiency reduces heat generation and helps to cut work and costs associated with heat management.

Low leakage current

Low leakage current both at 100V AC and 200V AC

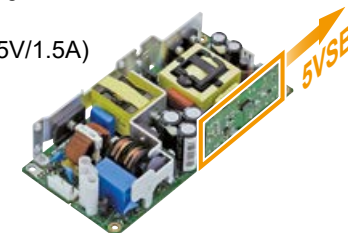
| Input condition | Rated load | Min. load |
|-----------------|------------|-----------|
| 100V AC         | 0.057mA    | 0.054mA   |
| 200V AC         | 0.118mA    | 0.120mA   |

(an example measurement)

Equipped with standby output

No need to prepare a separate power supply for standby output, which contributes to small-sized design and cost reductions.

Supports standby output (5V/1.5A)



Products outline

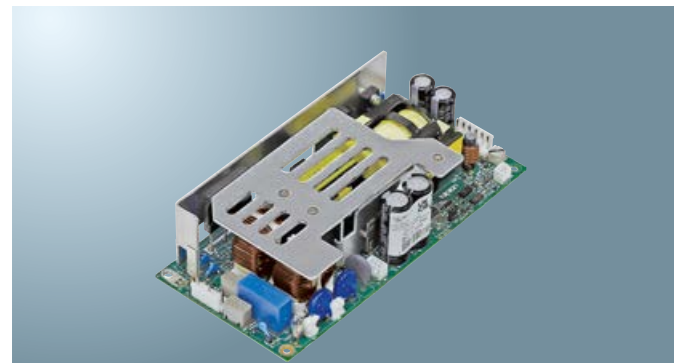
| Output voltage                                | +24V   | +5VSB        |
|---|--|--------------|
| Continuous current/power (Convection cooling) | 9.2A<br>220.8W                                       | 1.5A<br>7.5W |
| Continuous current/power (Forced air cooling) | 13.8A<br>331.2W                                      | 1.5A<br>7.5W |
| Peak current (within 5 s)                     | 21.7A  | 2A           |
| Peak power (within 5 s)                       | 520.8W   | 10W          |
| Input voltage                                 | 85–264V AC (worldwide range)                         |              |
| Safety standards                              | Medical standards IEC60601-1 Ed.3.1 (MOPP) certified |              |
| Size (W×H×D)                                  | 75×36×160 mm   |              |

Power supplies for medical standards are available

<http://www.nipron.com>



# 400W UZP-400 Series



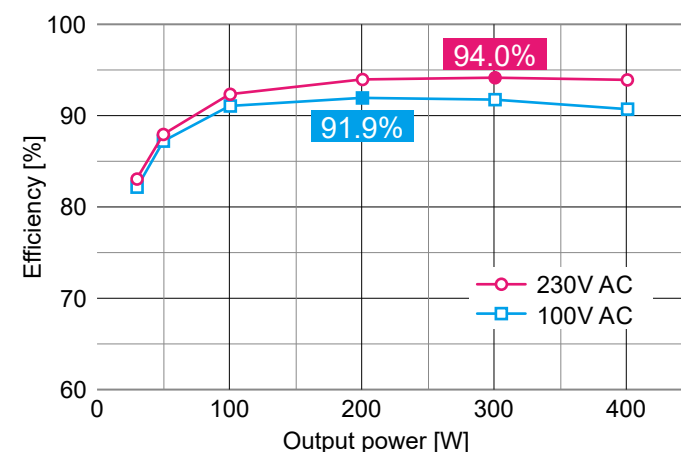
Supports backup for momentary power failures/blackouts board-type, single-output power supplies

Continuous: 320/400W Peak: 500/600W

Output voltage: 12V, 24V, 36V, 48V

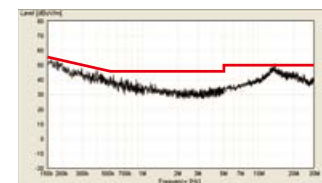
## High-efficiency design

Efficiency graph (UZP-400-A24, an example measurement)



## Clears VCCI Class B for conducted emissions

The power supply unit clears VCCI Class B for conducted emissions. There is no need for an external noise filter, which helps to save associated work and costs.



Measurement condition  
Input: 230V AC  
Output: rated load  
(UZP-400-A24, an example measurement)

## Other features

- Supports peak output  
The unit can supply a peak output of 150% of the continuous rated power (within 10 s).
- Equipped with a variable resistor to adjust the output voltage
- Equipped with remote ON/OFF feature
- Screw terminal block type is also available
- With chassis or with chassis and cover versions are available

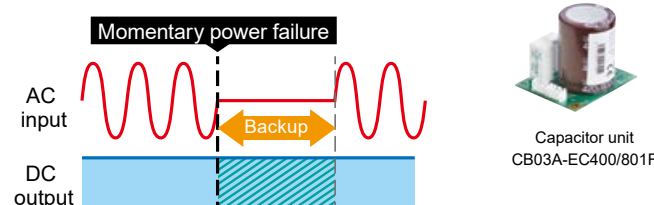
## Products outline

| UZP-400-A                                     | 12  | 24     | 36     | 48     |
|---|---|--------|--------|--------|
| Output voltage                                | +12V  | +24V   | +36V   | +48V   |
| Continuous current/power (Convection cooling) | 26.7A   | 16.8A  | 11.2A  | 8.4A   |
|   | 320.4W  | 403.2W | 403.2W | 403.2W |
| Continuous current/power (Forced air cooling) | 36A   | 21A    | 14A    | 10.5A  |
|   | 432W  | 504W   | 504W   | 504W   |
| Peak current (within 10 s)                    | 42A   | 25A    | 16.7A  | 12.5A  |
| Peak power (within 10 s)                      | 504W  | 600W   | 601.2W | 600W   |
| Input voltage                                 | 85–264V AC (worldwide range)  |        |        |        |
| Safety standards                              | UL(cUL)62368-1 certified, CE marking, UKCA marking<br>SEMI-F47 (200V AC input), EN62477-1(OVCIII) compliant |        |        |        |
| Size (W×H×D)                                  | 84×45×180 mm  |        |        |        |

## Backup for momentary power failure

Connecting capacitor units creates a backup for momentary power failure by extending the output holding time.

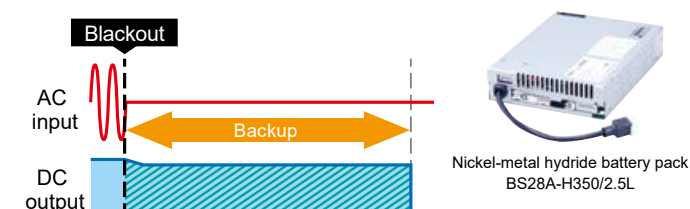
(An additional connection harness is required to connect the capacitor unit.)



## Backup for blackouts

Connecting battery packs creates a backup for momentary power failure/blackouts by extending the output holding time.

(An additional connection harness is required to connect the battery pack.)



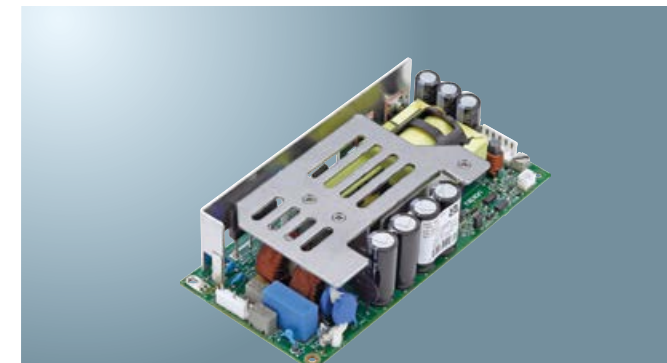
## Low leakage current

Low leakage current of 0.05mA typ at 100V AC and 0.11mA typ at 200V AC

| Input condition | Rated load | Min. load |
|-----------------|------------|-----------|
| 100V AC         | 0.05mA     | 0.05mA    |
| 200V AC         | 0.11mA     | 0.11mA    |

(UZP-400-A24, an example measurement)

# 400W UZP-400/1200P Series



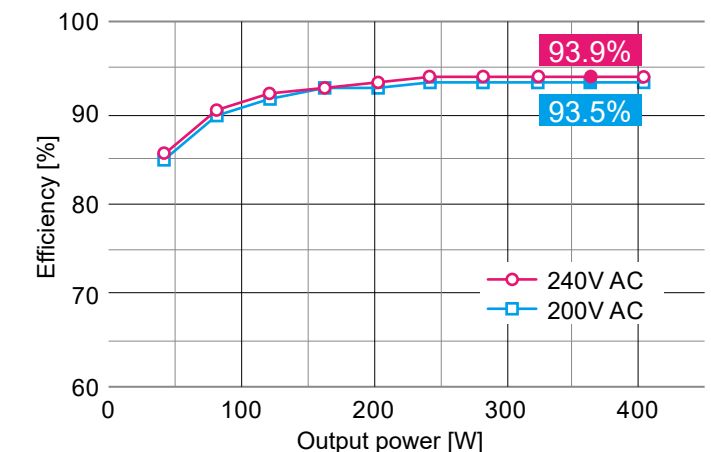
Supports high peak output board-type, single-output power supplies

Continuous: 400W Peak: 1200W

Output voltage: 24V, 30V, 36V, 48V

## High-efficiency design

Efficiency graph (UZP-400/1200P-A24, an example measurement)



## Clears VCCI Class B for conducted emissions

The power supply unit clears VCCI Class B for conducted emissions. There is no need for an external noise filter, which helps to save associated work and costs.

## Low leakage current

Low leakage current of 0.12mA typ at 230V AC and 0.14mA typ at 240V AC

## Other features

- Equipped with a variable resistor to adjust the output voltage
- Equipped with remote ON/OFF feature
- With chassis or with chassis and cover versions are available

## Products outline

| UZP-400/1200P-A                               | 24  | 30    | 36      | 48     |
|---|---|-------|---------|--------|
| Output voltage                                | +24V  | +30V  | +36V    | +48V   |
| Continuous current/power (Convection cooling) | 16.8A   | 13.4A | 11.2A   | 8.4A   |
|   | 403.2W  | 402W  | 403.2W  | 403.2W |
| Continuous current/power (Forced air cooling) | 21A   | 16.8A | 14A     | 10.5A  |
|   | 504W  | 504W  | 504W    | 504W   |
| Peak current (within 10 s)                    | 50A   | 40A   | 33.4A   | 25A    |
| Peak power (within 10 s)                      | 1200W   | 1200W | 1202.4W | 1200W  |
| Input voltage                                 | 170–264V AC (240–400V DC input available)   |       |         |        |
| Safety standards                              | UL(cUL)62368-1 certified, SEMI-F47 compliant (Conditions: up to 600W output)<br>CE marking, UKCA marking, EN62477-1(OVCIII) compliant |       |         |        |
| Size (W×H×D)                                  | 84×45×180 mm  |       |         |        |

## Supports a high peak power

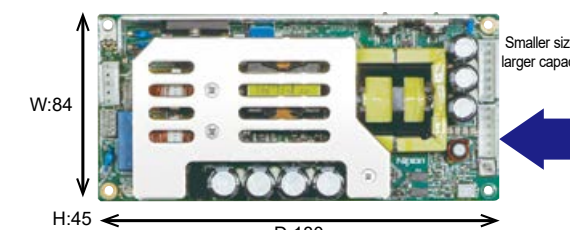
There is no need to select a large power supply with a continuous rated output that matches the peak load. UZP-400/1200P series is designed to support high peak power, enabling peak output (up to three times the continuous rated output) for a duration of up to 10 seconds.

Peak **1200W**  
Continuous **400W**  
**Max. 300%**

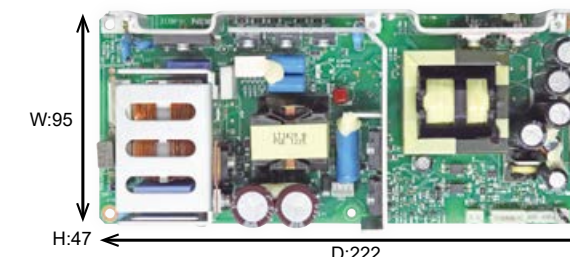
## Smaller size with higher capacity

Compared with Nipron's past/current models of the OZP-350 series, the UZP-400/1200P series offers a 50W increased continuous capacity and a 30% smaller size.

UZP-400/1200P series Continuous: 400W, Peak: 1200W



OZP-350 series Continuous: 350W, Peak: 600W (Released in 2012)



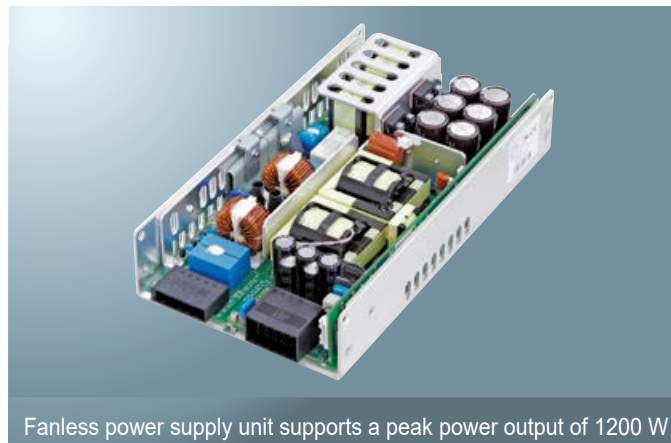
We offer a variety of power supplies

<http://www.nipron.com>

High peak output power supply is also a strength of Nipron

<http://www.nipron.com>

# 600W UZP-600 Series

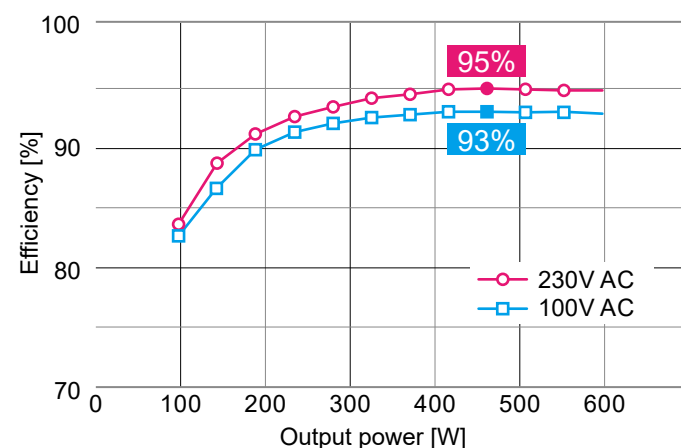


Fanless power supply unit supports a peak power output of 1200 W

Continuous: 600W Peak: 1200W  
Output voltage: 24V, 30V, 36V, 48V

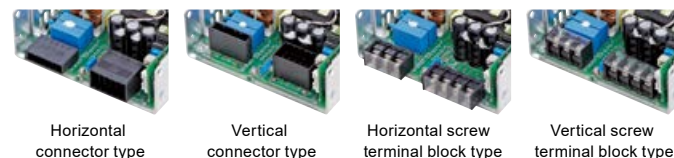
## Achieves a maximum, industry-leading efficiency

Efficiency graph (UZP-600-A24, an example measurement)



## I/O terminal blocks for different usage scenarios available

The PSU comes with screw terminal blocks or dividable nylon connectors as I/O terminals.



## Other features

- Smaller size of 5×9 inches
- Comes with a +12 V standby output
- Equipped with blackout detection signal and remote ON/OFF feature
- Momentary power failures can be addressed by connecting capacitor units
- The built-in arrestor to avoid/mitigate the risk of lightning damage  
Common mode: actual performance ± 8kV

## Products outline

| UZP-600-                                      | A24   | A30           | A36             | A48             | Common output |
|---|---|---------------|-----------------|-----------------|---------------|
| Output voltage                                | +24V  | +30V          | +36V            | +48V            | +12VSB        |
| Continuous current/power (Convection cooling) | 25A<br>600W   | 20A<br>600W   | 16.7A<br>601.2W | 12.5A<br>600W   | 0.42A<br>5W   |
| Continuous current/power (Forced air cooling) | 33.4A<br>801.6W   | 26.7A<br>801W | 22.3A<br>802.8W | 16.7A<br>801.6W | -             |
| Peak current (within 5 s)                     | 50A   | 40A           | 33.4A           | 25A             | -             |
| Peak power (within 5 s)                       | 1200W   | 1200W         | 1202.4W         | 1200W           | -             |
| Input voltage                                 | 85–264V AC (with PFC, worldwide range)                                      |               |                 |                 |               |
| Safety standards                              | UL(cUL)62368-1, CE marking* certified<br>PSE (ordinance clause 2) compliant |               |                 |                 |               |
| Size (W×H×D)                                  | 127×44×228.6 mm   |               |                 |                 |               |

\* 30V and 36V output types are going to be certified.

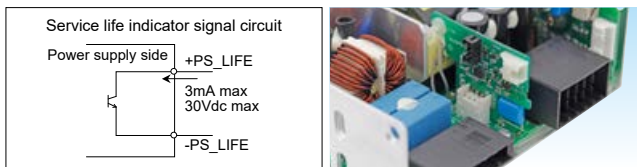
## Supports a high peak power

The unit can supply power 200% 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 a reduction in the PSU size, leading to many benefits including the elimination of fans in the unit and replacement of unit-type power supplies.

Peak **1200W**  
Continuous **600W**  
**Max. 200%**

## Service life indicator (option: UZP-600-A\*\*-\*\*X)

The service life indicator computes the level of degradation of electrolytic capacitors from the parts temperature and notifies the user if the product life is nearing its end with a signal and LED light if the estimated remaining life drops to 20% or the cumulative operating hours reaches fifteen years excluding the period in which the system is not energized.



\* The signal indicates the estimated time of PSU replacement based on the degradation (service life) of electrolytic capacitors and does not include failures caused by other factors.

## 12V fan supply (option: UZP-600-A\*\*-\*\*F)

An external 12V fan can be driven while the main circuit is operating.

- Max. current: 0.3A
- Output voltage range: 10±2V



# 240W 180W 120W UDP Series



DIN-rail-compatible power supplies with slim and high-efficiency design

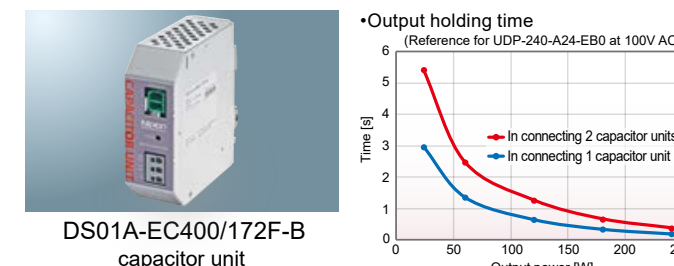
**UDP-240-A24**  
Continuous: 240W  
Peak: 400W  
Output voltage: 24V

**UDP-180-A24**  
Continuous: 180W  
Peak: 200W/300W  
(100V/200V AC)  
Output voltage: 24V

**UDP-120-A24**  
Continuous: 120W  
Peak: 200W/300W  
(100V/200V AC)  
Output voltage: 24V

## Backup for momentary power failure (capacitor units)

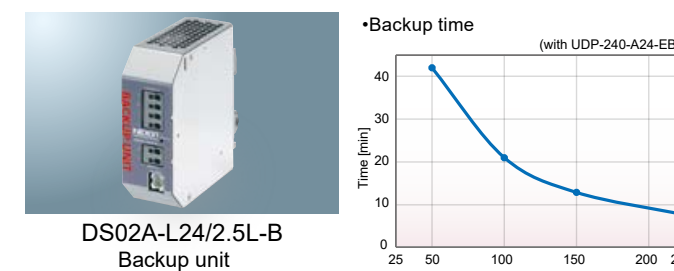
This product can extend the output holding time of the UDP series and take measures against abnormal input such as instantaneous power failure. (Compatible models: UDP-\*\*\*-A24-B\*)



- Parallel connection of units extends the output holding time.
- Electrolytic capacitors do not require frequent replacement in contrast to batteries. (expected life: approx. 15 years)
- Blackout detection signal, AC\_FAIL, comes as standard.
- The LED shows the battery condition.

## Backup for blackout/momentary power failure (backup units)

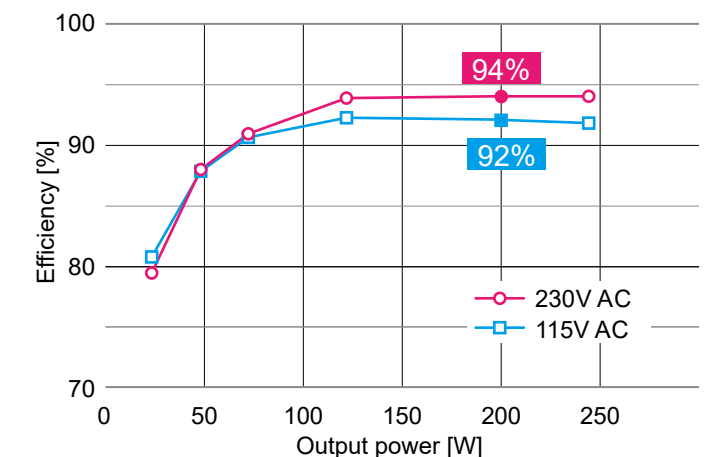
This product can realize uninterruptible power backup during blackouts of the UDP series. (Compatible models: all UDP series of 24V type)



- Lithium-ion battery with approximately twice as high energy density as a conventional nickel-metal hydride battery.
- Able to detect and notify about various battery abnormalities.
- Configurable backup time after AC power outage by setting the dip switch (4 options: 1 min., 3 min., 5 min., and until the discharge termination voltage)
- Status indicator of the backup unit by LED

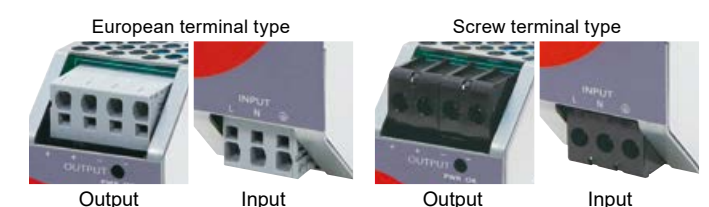
## High-efficiency design

Efficiency graph (UDP-240, an example measurement)



## Other features

- Clears VCCI Class B for the conducted emissions without an external noise filter
- Wide operating temperature range from -20°C to 70°C (derating required)
- Able to start-up in a -40°C environment
- Coated PCB as standard
- Equipped with a variable resistor to adjust the output voltage
- The built-in arrestor to avoid/mitigate the risk of lightning damage  
Common mode: actual performance ± 8kV
- Life time alarm model is available.  
Warnings of the deterioration of the electrolytic capacitor are provided by H/L signals and LEDs.
- Able to support SEMI F47
- EN62477-1 OVC compliant design
- Available for European terminal type or screw terminal type as I/O terminals



## Products outline

| Model                                 | UDP-120-A24   | UDP-180-A24 | UDP-240-A24 |
|---------------------------------------|---|-------------|-------------|
| Output voltage                        | +24V  | +24V        | +24V        |
| Continuous current                    | 5A  | 7.5A        | 10A         |
| Continuous power                      | 120W  | 180W        | 240W        |
| Peak current (within 10 s)<br>100V AC | 201.6W  | 201.6W      | 400.8W      |
| Peak power (within 10 s)<br>200V AC   | 300W  | 300W        | 400.8W      |
| Input voltage                         | 85–264V AC (with PFC, worldwide range)  |             |             |
| Safety standards                      | UDP-120/180: UL(cUL)62368-1, UL508, SEMI-F47,<br>PSE (ordinance clause 2) compliant<br>UDP-240: UL(cUL)62368-1, UL508, CE marking certified<br>SEMI-F47, PSE (ordinance clause 2) compliant |             |             |
| Size (W×H×D)                          | UDP-120/180: 35×124×117.5 mm<br>UDP-240: 41×124×117.5 mm  |             |             |

\* UDP-120: up to rated 120W UDP-180: up to rated 180W UDP-240: up to rated 240W

Find the optimal power supply from our varied lineup

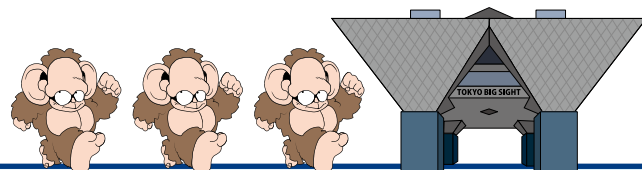
<http://www.nipron.com>

Slim, low-heat-generation design enables space-saving control panel

<http://www.nipron.com>



# Invitation to Exhibition



## 13th INT'L SMART GRID EXPO



To be held for three days from March 15 to 17 at Tokyo Big Sight. Nipron will participate in the 13th INT'L SMART GRID EXPO Spring. This exhibition is Japan's largest specialized trade show for achieving carbon neutrality.

Efforts toward achieving carbon neutrality by 2050 are intensifying. At the Nipron booth, we will showcase products and offer solutions that contribute to realizing a

decarbonized society. Our main focus will be on the PV Oasis Energy Storage System, which is capable of addressing self-consumption, energy crisis caused by soaring fuel prices, promotion of electric vehicles (EVs), and business continuity planning (BCP) for power outages due to typhoons, earthquakes, and other disasters. We will also introduce details of a large-scale system example scheduled for implementation at the Mie Smart Dream Factory, expected to be completed in August this year.

In addition, we will present tailored proposals such as the EV Solar Carport System (parking lots equipped with solar power generation, energy storage, and EV chargers), and the Zero Energy Room (renewable energy self-sufficient power system that can be installed in individual rooms) to meet the budget and building requirements of our customers.

We have planned self-consumption demonstrations and presentations that have received positive feedback. We invite you to visit the Nipron booth to learn more.



# Report from the Management Policy Presentation

We would like to express our heartfelt gratitude to all the customers who attended the product exhibition and factory tour, held at Nipron headquarters and factory on October 28th of last year, as well as the 17th Annual Management Policy Presentation held at the Miyako Hotel Amagasaki.

## Product Exhibition and Factory Tour

At the product exhibition, the development teams from each product department directly introduced new products to customers, demonstrated their functionality, and showcased efforts such as thermal simulations during the design process. Additionally, at the outdoor EV Solar Carport, we conducted a demonstration of EV charging using renewable energy generated from solar panels.

During the factory tour, we provided a glimpse of our production lines and shared our initiatives for improving production efficiency and labor reduction. Participants had the opportunity to witness firsthand the production of Nipron's highly reliable and high-quality products.



## The 17th Annual Management Policy Presentation

The Management Policy Presentation was held at the Amashin Archaic Hall Octo, where the directors and auditors were introduced. The event began with an opening address by our representative director and chairperson, Mr. Sakai, followed by a guest speech from Vice Mayor Toshio Moriyama of Amagasaki City. Then, Mr. Tetsuhiro Yamamoto, Chief of Power Development Coordination at the Kinki Bureau of Economy, Trade and Industry, delivered a keynote speech titled "Recent Energy Situation and Promotion of Renewable Energy Expansion."

Afterward, Mr. Futami, who assumed the position of president and COO of our company in July last year, presented our management policy, focusing on enhancing non-price competitiveness and investing in human resources, as well as our business strategy. The GP Business Promotion Division also presented the "Business Expansion Strategy in the Environmental Growth Field." Following the conclusion of the Management Policy Presentation, there was a performance of Japanese taiko drumming and classical music at the Hotel Miyako Amagasaki, followed by a social gathering.



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

<http://www.nipron.com>

# Trials of DC power supplies have begun at Tsurumi Ryokuchi Park!

## A Japan First! PV DC Power Supplies for Showcases and LED Lighting

In December 2022, a demonstration of DC refrigerated showcases has started in front of Sakuya Konohanakan Museum Shop in Tsurumi Ryokuchi, the International Flower and Greenery Exposition Commemorative Park, sponsored by Fukushima Galilei Co., Ltd. Nipron also supports the program and provides the PV Maximizer for supplying the photovoltaic power in DC.

This program was created as an experiment to demonstrate the system's usefulness toward achieving carbon neutrality using the park, Tsurumi Ryokuchi, as a demonstration field in response to an initiative by Demonstration Project Promotion Team Osaka, which consists of Osaka Prefecture, Osaka City and Osaka Chamber of Commerce and Industry. The program aims to disseminate the system among convenience stores, drug stores and supermarkets as an environment-friendly system in the future.

Nipron will continue to facilitate the dissemination of DC-based in-house power consumption systems, which are highly compatible with the power derived from renewable energies and reduce the power conversion loss, by collaborating with device suppliers.



DC showcase

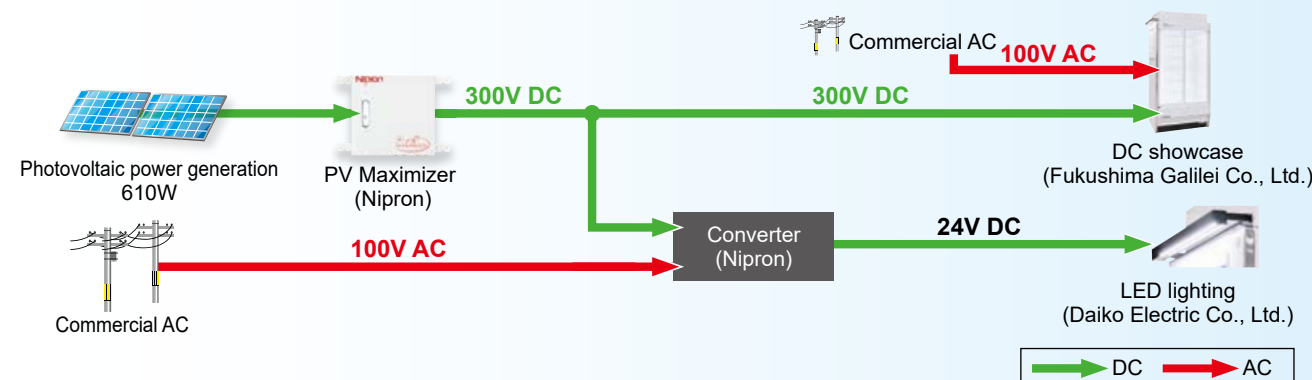


Solar panels



PV Maximizer

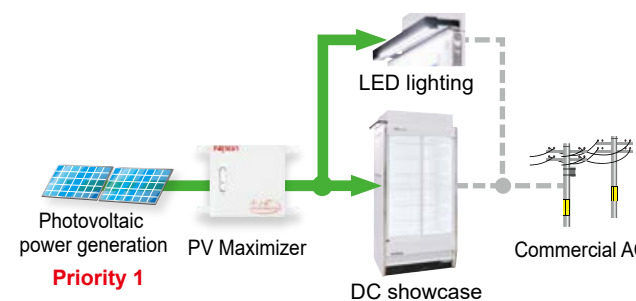
## System configuration



## Concept of system operation

### Sunny weather

**Priority 1:** In the daytime, the solar power is used as much as possible.



### Bad weather

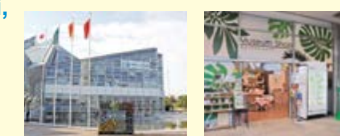
**Priority 1:** There is a power shortage due to the drop in photovoltaic power.  
**Priority 2:** Cover the power shortage with the commercial AC power supply.



## Implementation field: Sakuya Konohanakan Museum Shop in Tsurumi Ryokuchi, the International Flower and Greenery Exposition Commemorative Park

Sakuya Konohanakan is one of the largest greenhouses in Japan, exhibiting a diverse range of plants from around the world.

Address: 2-163 Ryokuchiko, Tsurumi-ku, Osaka Normal business hours: 10:00 to 17:00  
Demonstration period: From December 2022 to End of February 2023



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Contact address:

GP Sales, Nipron Co., Ltd.

Nipron is bringing about a carbon-neutral society through its DC control technologies

<http://www.nipron.com>



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

## Single kanji character for this year “挑 (Challenge),” Nipron’s DNA

Happy New Year, everyone. Let’s make 2023 a great year.

Seventeen years have passed since the first issue of this Nipron Wave, and this issue marks its 70th. To date, it has contributed to Nipron’s dramatic sales growth and development. Such achievements and contributions are the fruit of the professional talent and hard work of people in the Marketing & Global Sales Department, and above all, have been built on the efforts of General Manager Nishidome with his planning and management skills, talent, and passion. To express my gratitude, I would like to make note of it here as part of our history.

I personally would like to continue writing “The Nipron Story” until the 100th issue if I can. To that end, I will have to tough it out for another seven and a half years! Besides, to maintain Nipron’s vibrant business continuity, it should continue to evolve and it should remain a real (printed) document you can touch. Contents of “The Nipron Story” are to share with customers, employees, and other stakeholders memorable events that make Nipron’s history as well as what I think and feel at times as a manager, and to give my honest opinion on the current events and economic trends around the world, for their greater understanding of my thoughts. I believe that continuity is important whatever you do, and that continuity grows into a powerful and effective force. The key contents of the Nipron Wave are not only the promotion of new products and proposals of solutions to customers (including potential customers), but also opportunities for all employees, not just sales staff, to learn about our products. In addition, for the convenience of customers, it regularly features each product series to make it easier for them to understand the product series structure and other information. Furthermore, to help them better understand Nipron, it also contains photos and articles introducing internal events, etc., that may be of interest to them.

Changing the subject, in consultation with President Futami about this year’s single kanji character, we decided on “挑 (Challenge).” Ever since I started my own business, I have been continuously challenging myself to achieve what seemed impossible. Even now, I am trying to develop and commercialize our EV Solar Carport, which stores solar power for charging and running EVs with 100% renewable energy, as well as our PV Oasis Power Storage System, which can be used for in-house consumption and also as a VPP (virtual power plant) to cope with energy shortages. I am truly filled with the spirit of challenge. My vision is to make our company one of the world’s top-class power supply manufacturers when these efforts have been successfully achieved. Now I am working steadily toward the goal for success.

I will also develop employee training programs and implement policies so the “挑 (Challenge)” will be deeply ingrained into their hearts and minds as Nipron’s DNA.

***Setsuo Sakai***  
***January 2023***

 **Nipron Co., Ltd.** <http://www.nipron.com>

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