

Nipron Wave

Vol.68

Highlights

① Single-output power supply

Introducing various power supplies designed for different purposes, such as new products released this year, medical-standard-certified products and products that support blackout/momentary power failure backup.

② Power supply for PC

Introducing Nonstop power supply and ATX12VO-standard-compliant power supply.

New products one after another! Lineup expanded!

Let Nipron take care of your needs with power supplies that boast high efficiency and high peaks, and which meet medical standards.



Single-output power supplies in one unit 360–5,000 W DIN-rail-compatible power supplies 120–240 W



Board-type, single-output power supplies 15–600 W

Choose the ideal power supply for your device needs.

Nipron's power supplies are designed for reliability and functionality throughout the entire series. We offer a lineup of various products to meet a wide range of applications.

- Designed and made in Japan Safe, reliable, and high quality
- Long-term stable supply Essentially 10 years of stable supply since their launch
- Wide operating temperature range Also suitable for severe environments

AC/DC switching-mode single-output power supplies

	<div>New</div> <div>FZP-040</div>	<div>New</div> <div>mFZP-075</div>	<div>UZF-120</div>	<div>OZF-120</div>	<div>UZF-150</div>	<div>OZF-170</div>	<div>OZF-200-E</div>
Continuous output (W)	30-39.6	50-75	100.8-120	120-122.4	150-153.6	168	132-201.6
Peak output (W)	40-60	75-150	200.4-201.6	180-216	400.8-401.4	270-300	198-403.2
Output voltage (V)	5, 12, 15, 24	5, 12, 15, 24	12, 24, 36 ¹	12, 12/15, 24, 30/36, 48	12, 18, 24, 36, 48	12/15, 24	3.3, 5, 12, 15, 24, 30/36 ² , 48
Size W×H×D (mm)	50×26×87.5	55×28×133	62×27×155	73×35×180	75×35×160	73×40×222	73×41×222

	<div>New</div> <div>UZF-220</div>	<div>New</div> <div>mUZF-220/520P</div>	<div>OZF-240/600P</div>	<div>OZF-350</div>	<div>UZF-400</div>	<div>UZF-400/1200P</div>	<div>UZF-600</div>
Continuous output (W)	180-220.8	220.8	201.6/240 (at 100VAC/200VAC)	300-352.8	320.4-403.2	402-403.2	600-601.2
Peak output (W)	400.8-401.4	520.8	400.8-403.2/600 (at 100VAC/200VAC)	504-601	504-601.2	1200-1202.4	1200-1202.4
Output voltage (V)	12, 18, 24, 36 ¹ , 48	24	24, 48	12, 15, 24, 30, 36, 48	12, 24, 36, 48	24, 30, 36, 48	24, 30, 36, 48
Size W×H×D (mm)	75×36×160	75×36×160	73×41×222	95×47×222	84×45×180	84×45×180	127×44×228.6

	<div>New</div> <div>GPZA-360</div>	<div>GPZA-600</div>	<div>GPZA-1000</div>	<div>GPZA-1500</div>	<div>GPZA-5000</div>	<div>UDP-120</div>	<div>UDP-180</div>	<div>UDP-240</div>
Continuous output (W)	360	600-601.2	907.2/1008 (at 100VAC / 115-240VAC)	1056-1104 (at 100VAC) 1512-1632 (at 200VAC)	4800-4992 ⁴	120	180	240
Peak output (W)	480-499.2 (at 100VAC) 480-600 (at 200VAC)	960-1200 (at 100VAC) 1200-1440 (at 200VAC)	1188-1200 (at 100VAC) 1320/2016 (at 115VAC/240VAC)	1320 (at 100VAC) 2040-2112 (at 200VAC)	6000	201.6/300 (at 100VAC/200VAC)	201.6/300 (at 100VAC/200VAC)	400.8
Output voltage (V)	12, 24	12, 24, 36, 48	24, 48	24, 48	48, 96	24	24	24
Size W×H×D (mm)	41×128×230	61×128×240	61×128×240	82×128×250	198×125×314	35×124×117.5	35×124×117.5	41×124×117.5

¹ Under development ² Output select type ³ The 36V output is adjustable to 30V with a variable resistor. ⁴ With 3-phase 180-240 VAC input

New products of single-output power supplies

Released in 2022

Higher capacity and more compact than Nipron's conventional model.

UZF-400

Designed for high efficiency

Achieves a maximum, industry-leading 94% efficiency with 200V AC 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.

At 200V AC max. 94%
At 100V AC max. 92%

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

Enhances resistance against lightning surges

By incorporating an arrestor and a varistor as a surge protector, the resistance to external surges due to lightning or other causes has been enhanced.

Varistor

Arrestor

Common mode: actual performance ± 8kV

Output voltage	+12V	+24V	+36V	+48V
Continuous output current / power	26.7A 320.4W	16.8A 403.2W	11.2A 403.2W	8.4A 403.2W
Peak current / power (within 10 sec)	42A 504W	25A 600W	16.7A 601.2W	12.5A 600W

Released in 2022

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

mFZP-075

Smaller size with larger capacity

125% larger capacity in continuous level, supports peak output, and 40% smaller size compared with Nipron's conventional models of the OZ-060 series.

mFZP-075 series Continuous: 75W Peak: 150W

Low leakage current

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

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

Less noise filters

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

mFZP-075-24 at 100V AC (an example measurement)

Smaller size, larger capacity, supports peaks

W:55 H:28 D:133

W:55 H:32 D:195

W:50 H:26 D:87.5

W:55 H:28 D:133

Released in 2022

Ultra-small, high-efficiency, single-output power supply

FZP-040

Medical standards model coming soon.

mFZP-040 series coming soon, certified to meet medical standards IEC60601-1 Ed.3.1 MOPP, MOOP.

Low-level heat generation by reducing power loss

Achieved high efficiency of 92.5% typ with 240V AC input, which reduces heat generation. Also helps to cut work and costs associated with heat management.

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

Smaller size with larger capacity

130% larger capacity in continuous level, supports peak output, and 44% smaller size compared with Nipron's conventional models of the OZ-030 series.

FZP-040 series Continuous: 40W Peak: 60W

Smaller size, larger capacity, supports peaks

W:50 H:26 D:87.5

W:55 H:28 D:133

* The specifications and appearance shown here may change without notice.

Find the optimal power supply from our varied lineup <http://www.nipron.com>

Improved performance from conventional products <http://www.nipron.com>

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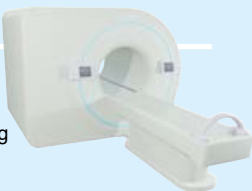
A Power Supply Unit Certified to the Medical Safety Standard

Contributes to compact size, lower cost, and accelerated development schedules.

Advantages of adopting medical safety standard certified products

It is necessary for medical equipment to comply with the safety standard based on the medical standard IEC60601-1 established by IEC.

To obtain a certification for this safety standard, one needs to submit an application and have the product tested by a certifying organization. If a power supply unit certified to the medical standard was used in medical equipment, the PSU does not need to be tested to the safety standard for power supply units, resulting in a reduction of application period and cost. In addition, external fuse (or circuit breaker) and insulated transformer will also be exempted, making the system smaller and reducing the cost.



Single-output power supplies certified with medical standards

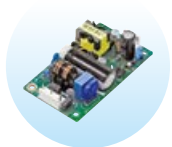
✗ : Not certified with medical standards ✓ : Certified with medical standards △ : Possible, but not certified with medical standards. (Please contact us for details.)

Series	IEC60601-1 Ed.2	IEC60601-1 Ed.3.1		Backup (capacitor) for momentary power failure	Backup (battery) for blackout	Output voltage (single output)	Continuous output	Peak output
		2MOPP	2MOOP					
mFZP-040 series	✗	To be certified	To be certified	To be supported	To be supported	5, 12, 15, 24V	30–39.6W	40–60W
mFZP-075 series	✗	✓	✗	✓	△	5, 12, 15, 24V	50–75W	75–150W
mUZP-120 series	✗	✗	✓	△	△	12, 24V	100.8–120W	200.4–201.6W
mUZPT-120 series	✓	✓	✓	△	△	12, 15, 24V	100.5–120W	200.4–201.6W
mUZP-150 series	✓	✓	✓	△	✗	12, 18, 24, 48V	150–153.6W	400.8–401.4W
mUZP-220 series	✓	✓	✓	✓	△	12, 18, 24, 48V	180–220.8W	400.8–401.4W
mUZP-220/520P-24S05	✗	✓	✗	✓	△	24V	220.8W	520.8W
mOZP-200 series	✗	✗	Ed.3 ^{*2}	△	△	3.3, 5, 12, 15, 24, 36, 48V	132–201.6W	198–403.2W
mOZP-350 series	✓	✓	✗	✓	△	12, 15, 24, 30, 36, 48V	300–352.8W	504–601W
mUZP-400 series	✗	To be certified	To be certified	To be supported	To be supported	12, 24, 36, 48V	320.4–403.2W	504–601.2W
mGPSA-360 series	✓	✗	Ed.3 ^{*2}	✗	✓	12, 24V	360W	480–600W
mUZP-600 series	✗	To be certified	To be certified	To be supported	✗	24, 30, 36, 48V	600–601.2W	1200–1202.4W

* 1 The 36V output is adjustable to 30V with a variable resistor. * 2 Only certified with IEC60601-1 Ed.3, not Ed.3.1

mFZP-040 series

To be IEC60601-1 Ed.3.1 MOPP certified



Continuous: **30–39.6W**
Peak: **40–60W**
Output voltage: 5/12/15/24V
Size: 50×26×87.5 mm (W×H×D)

mFZP-075 series

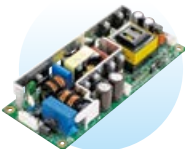
IEC60601-1 Ed.3.1 MOPP, MOOP certified



Continuous: **50–75W**
Peak: **75–150W**
Output voltage: 5/12/15/24V
Size: 55×28×133 mm (W×H×D)

mUZP-120 series

IEC60601-1 Ed.3.1 MOPP certified



Continuous: **100.8–120W**
Peak: **200.4–201.6W**
Output voltage: 12/24V
Size: 62×27×155 mm (W×H×D)

mUZPT-120 series

IEC60601-1 Ed.2, Ed.3.1 MOPP, MOOP certified



Continuous: **100.5–120W**
Peak: **200.4–201.6W**
Output voltage: 12/15/24V
Size: 62×38×155 mm (W×H×D)

mUZP-220/520P-24S05

IEC60601-1 Ed.3.1 MOPP certified

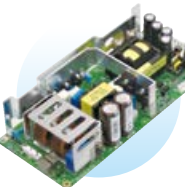


Continuous: **220.8W**
Peak: **520.8W**
Output voltage: 24V (5VSB)
Size: 75×36×160 mm (W×H×D)

- Supports a peak load approx. 230% higher than the continuous power
Supports a 5-second output of peak power, which makes it optimal for devices requiring an inrush current, such as motors.
- Supports standby output (5V/1.5A)
- The power supply clears VCCI Class B for the conducted emissions
- Backup for momentary power failure

mOZP-350 series

IEC60601-1 Ed.2, Ed.3.1 MOPP certified



Continuous: **300–352.8W**
Peak: **504–601W**
Output voltage: 12/15/24/30/36/48V
Size: 95×47×222 mm (W×H×D)

mUZP-400 series

To be IEC60601-1 Ed.3.1 MOPP certified



Continuous: **320.4–403.2W**
Peak: **504–601.2W**
Output voltage: 12/24/36/48V
Size: 84×45×180 mm (W×H×D)

mUZP-600 series

To be IEC60601-1 Ed.2, Ed.3.1 MOPP certified



Continuous: **600–601.2W**
Peak: **1200–1202.4W**
Output voltage: 24/30/36/48V (12VSB)
Size: 127×44×228.6 mm (W×H×D)

- Supports a high peak approx. 200% higher than the continuous power
Supports a 5-second output of peak power, which makes it optimal for devices requiring an inrush current, such as motors.
- High efficiency of 95% typ, and low-level heat generation by reducing power loss.
- The power supply clears VCCI Class B for the conducted emissions
- Backup for momentary power failure
Momentary power failures can be addressed by connecting a capacitor board.

Power supplies for PC certified with medical standards

✗ : Not certified with medical standards ✓ : Certified with medical standards

Series	IEC60601-1 Ed.2	IEC60601-1 Ed.3.1		Backup for blackout	Continuous output	Peak output	Form factor
		2MOPP	2MOOP				
mHNSP4-1000P series	✗	✗	Ed.3 [*]	✓	822W	1000W	ATX
mNSP3-450P series	✓	Ed.3 [*]	✗	✓	301W	450.5W	ATX
mPCSA-500P-X2S	✓	Ed.3 [*]	✗	✗	301W	500.5W	ATX
mHPCSF-400P-X2S1	✗	✗	✓	✗	310W	400W	SFX

* Only certified with IEC60601-1 Ed.3, not Ed.3.1

mHPCSF-400P-X2S1

IEC60601-1 Ed.3.1 MOOP certified



Continuous: **310W**
Peak: **400W**
Size: 125×63.5×125 mm (W×H×D)
■ Highly reliable SFX power supply

mNSP3-450P series

IEC60601-1 Ed.2, Ed.3 MOPP certified



Continuous: **301W**
Peak: **450.5W**
Size: 150×86×140 mm (W×H×D)
■ CCC certification Nonstop power supply

Nipron medical power supplies selected by many customers home and abroad!

<http://www.nipron.com>

Power supplies for medical standards are available

<http://www.nipron.com>

Capacitor/Battery Unit for Single-output Power Supplies

A space-saving and reliable solution for blackouts and momentary power failures

Customers can choose from two backup methods to accommodate various applications.

Backup for momentary power failure with capacitor

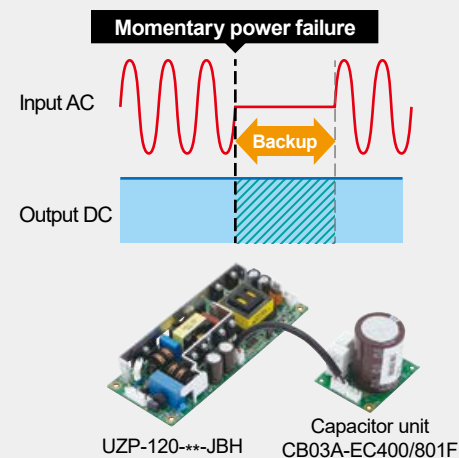
Realizes backup for momentary power failure by extending the output holding time.

- Maintenance free (periodic replacement not required)
- Low and high operating temperature (0°C-60°C)
- Parallel connection of units extends the output holding time.

Keep the power capacity in check and realize miniaturization and cost reduction

If one tries to extend the output holding time only with a power supply unit, it will be necessary to use a power supply unit significantly larger than the load capacity. However, it will be possible to select a power supply unit matching the load capacity by utilizing a capacitor board, effectively reducing the size and cost of a power supply unit.

If 250ms backup for momentary power failures is required at 100W.



	UZP-120+CB03A	UZP-600
PSU capacity	120W	600W
Holding time (at 100W output)	About 280ms	About 250ms
Size (mm) (W×H×D)	UZP-120: 62×27×155 CB03A: 60×53.5×50	127×44×228.6

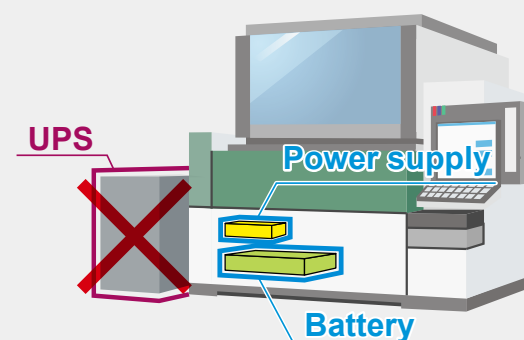
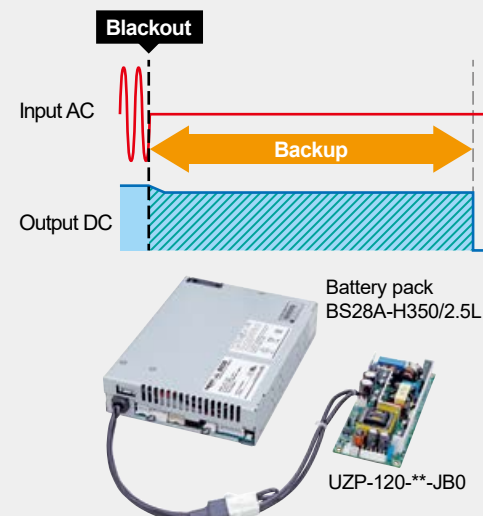
Backup for blackouts with battery

Realizes uninterruptible power backup during blackouts.

- Supports momentary power failure
- Achieved backup for blackout that is space-saving

Save space by eliminating the external UPS

Utilizing our proprietary charging/discharging technology, uninterruptible power backup can be realized simply by connecting a battery pack to a power supply unit that supports the feature. By installing the battery pack within the housing, power backup for momentary power failures and blackout becomes available with a single unit.



Supports backup for momentary power failures and blackout of equipment

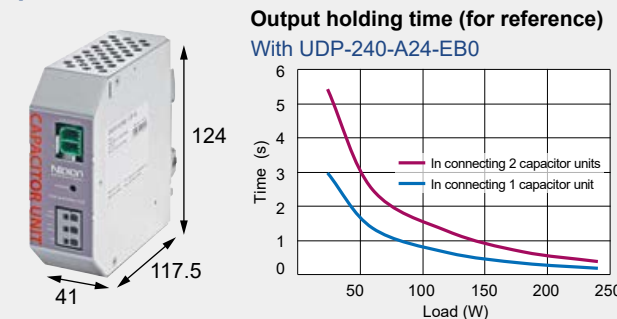
<http://www.nipron.com>

Measures against instantaneous power failure Capacitor unit

DS01A-EC400/172F

DIN-rail compatible

Capacitor unit



Compatible single-output power supplies

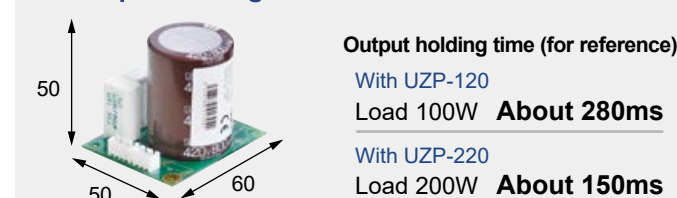
UDP-120-A24-*B*-B
UDP-180-A24-*B*-B
UDP-240-A24-*B*-B

- This product can extend the output holding time of the UDP series and take measures against abnormal input such as instantaneous power failure. (UDP-***-A24-*B*)
- Electrolytic capacitors do not require frequent replacement in contrast to batteries. (expected life: approx. 15 years)
- Blackout detection signal, AC_FAIL, comes standard
- Parallel connection of units extends the holding time.

Measures against instantaneous power failure Capacitor board.

CB03*-EC400/801F

Parallel connection of units extends the output holding time.



Compatible single-output power supplies

FZP-040 series *1	UZP-220 series
mFZP-075 series	mUZP-220/520P-24S05
UZP-120 series *2	(m)OZP-350 series
OZP-200 series	UZP-400 series

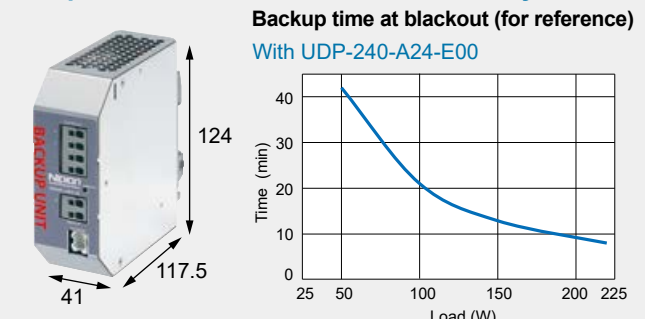
*1 Compatible with JBH type *2 Compatible with JBH/JB0 type

Measures against blackouts Backup unit

DS02A-L24/2.5L

DIN-rail compatible

Backup unit with built-in lithium-ion battery



Compatible single-output power supplies

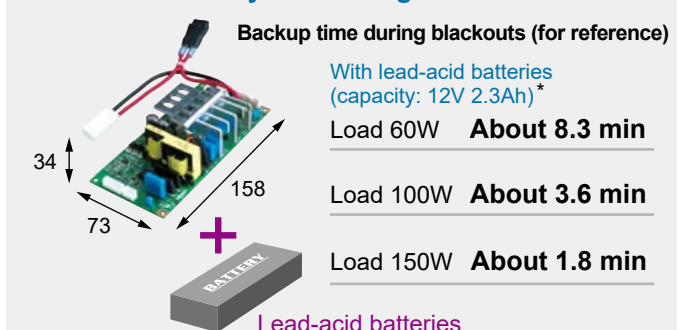
UDP-120-A24 series
UDP-180-A24 series
UDP-240-A24 series

- Backup with no interruption is possible during blackouts by connecting this product to UDP series.
- 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.

Measures against blackouts Battery charge/discharge board

BS27A-P350/12V

Avoid blackouts by connecting lead-acid batteries



Compatible single-output power supplies

UZP-120 series (compatible model: JBH/JB0)
UZP-220 series

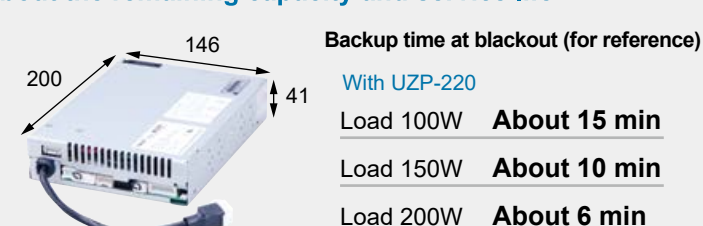
* A lead-acid battery up to 12V 5Ah can be connected. We can also prepare for or provide this, so please contact us.

Measures against blackout Battery pack

BS28A-H350/2.5L

5-inch bay mounting size

Nickel-metal hydride battery notifies the user about the remaining capacity and service life.



- Built-in heater prevents capacity loss at low temperatures.
- Able to output the status of the battery pack (notification of remaining battery level and battery replacement time).

Compatible single-output power supplies

UZP-120 series (compatible model: JBH/JB0)
UZP-220 series
UZP-400 series *

* The battery output is continuous 230W and peak (10ms) 380W or less.

Rely on Nipron for solutions to blackouts and momentary power failures

<http://www.nipron.com>

DC-DC switching-mode power supplies

Extensive lineup of DC input power supply

Advantages of Nipron's DC input power supply

External DC power fuse not required

Common AC-DC power supply unit works with the supply of DC power. However, because the internal power protection fuse is made for AC power supply, it is necessary to provide an external DC power fuse to use the PSU safely and this results in an added burden in arranging and connecting parts. Since Nipron's DC input power supply has DC power fuse integrated in the unit, there will be no added man-hour or cost. There are also models certified to the safety standard as DC input power supply in the product lineup.



UZD-150-HV series

Support max. 260% high peak



Input voltage: **120–400V DC**
Continuous: **150–153.6W**
Peak: **400.8–401.4W**
Output voltage: **12–48V**
Size: **75×35×160** mm (W×H×D)

UZD-220-HV series

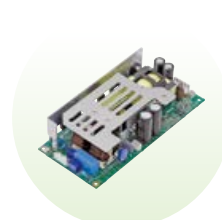
Low standby power



Input voltage: **120–400V DC**
Continuous: **180–220.8W**
Peak: **400.8–401.4W**
Output voltage: **12–48V**
Size: **75×36×160** mm (W×H×D)

UZD-400-HV series

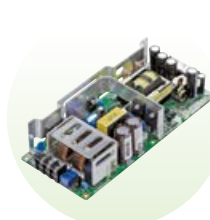
Small sized and large capacity



Input voltage: **120–400V DC**
Continuous: **320.4–403.2W**
Peak: **504–601.2W**
Output voltage: **12–48V**
Size: **84×45×180** mm (W×H×D)

OZD-350-HV series

Low heat generation with a high-efficiency circuit



Input voltage: **120–400V DC**
Continuous: **300–352.8W**
Peak: **504–601W**
Output voltage: **12–48V**
Size: **95×47×222** mm (W×H×D)

UDD-240-HV/A24-E00

DC input power supply meets safety standards



Input voltage: **120–400V DC**
Continuous: **240W**
Peak: **400W**
Output voltage: **24V**
Size: **41×124×117.5** mm (W×H×D)

UL62368-1, CSA62368-1(c-UL) certified [Certification range: 135 to 350V DC]
UL508 certified [Certification range: 135V to 310V DC]

GPSD38-1500-54-TES

Supports constant current control



Input voltage: **250–370V DC**
Continuous: **1529W**
Output voltage: **54.6V**
Size: **82×128×250** mm (W×H×D)

* Please contact us for the DC input power supplies on this page.

Rely on Nipron for DC input power supply

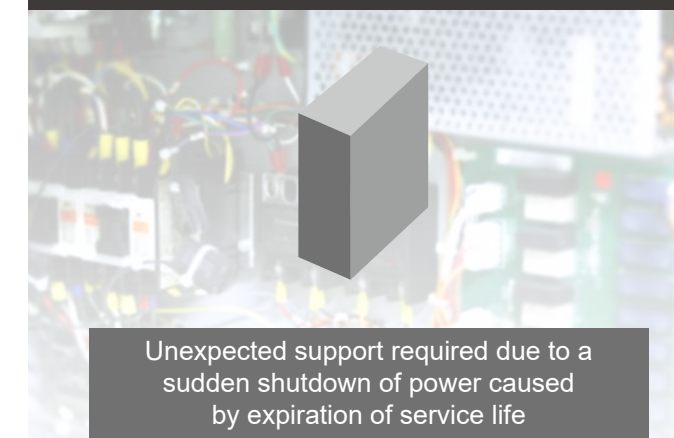
<http://www.nipron.com>

Power Supply with Service Life Indicator

An ideal solution for the era of the IoT and the digital transformation

Introducing the power supply with service life indicator to tell the user when to replace the electrolytic capacitor due to deterioration.

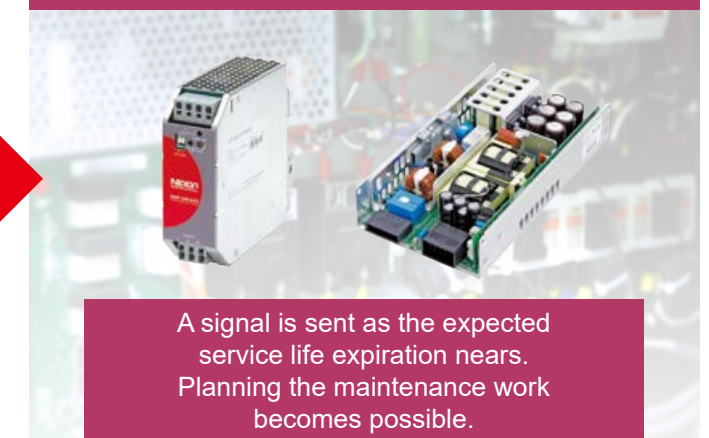
Without service life indicator



Unexpected support required due to a sudden shutdown of power caused by expiration of service life

Increased maintenance cost due to the replacement of PSU well before the expiration of service life

With service life indicator

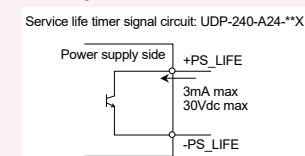


A signal is sent as the expected service life expiration nears. Planning the maintenance work becomes possible.

An improvement in the accuracy of replacement makes it possible to eliminate unwonted early replacement, reducing the maintenance cost.

What is the service life indicator?

In general, the service life of fanless PSUs depends on the service life of electrolytic capacitors used. The service life indicator is a feature to compute the level of degradation of electrolytic capacitors from the parts temperature and notify the product life nearing the 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.

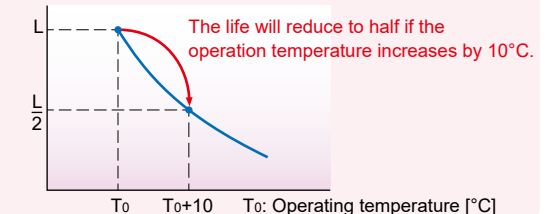


* The signal indicated the estimated time of PSU replacement based on the degradation (service life) of electrolytic capacitors and does not include failures caused by other factors.

Electrolytic capacitors

The formula used to estimate the service life of electrolytic capacitors is based on the Arrhenius's 10°C rule. If the ambient temperature increases by 10°C, the service life drops to half and, if the temperature drops by 10°C, the life becomes twice as long. However, it is also necessary to consider the degradation of sealing rubber on the electrolytic capacitor and the time it takes for the sealing rubber to deteriorate is generally considered as fifteen years.

L: Expected service life [h]



DIN-rail-compatible AC-DC power supply

UDP-120-A24-***X

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

UDP-180-A24-***X

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

UDP-240-A24-***X

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



Large-capacity fanless AC-DC power supply

UZP-600-A***X

Continuous: **600W** Peak: **1200W**
Output voltage: **24/30/36/48V (12VSB)**
Max. efficiency: **95% typ**



Contributes to lower maintenance costs for power supplies

<http://www.nipron.com>

Nonstop power supply

Space-saving and high-efficiency backup for blackouts

ATX power supply with a built-in lithium-ion battery

HNSP5-350P series



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

Battery installation space is not required

The battery pack is built into the housing, eliminating the need for an external battery.

Built-in battery in a housing



Uninterruptible power backup

While the power is normally supplied through the AC power grid, if there is a drop in the AC input voltage or a blackout, the backup power kicks in safely by switching to the built-in battery without any interruption.

Ideal for replacing existing ATX power supplies

Backup for blackouts is possible without installing an external UPS by replacing the ATX power supply already installed in the PC with the HNSP5-350P.

HNSP9-520P series

ATX power supply with +24V/+48V output are available



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

- 80PLUS BRONZE certified
- Minimum load current 0A for all outputs

Compatible battery packs

BS11A-P24/2.3L	Lead-acid battery pack
RBS02A-P24/2.3L	Lead-acid battery pack
BS10A-H24/2.0L	Nickel-metal hydride battery pack
BS22A-H24/2.0L	Nickel-metal hydride battery pack

HPCSF-400P-X2B

Small-sized and large capacity SFX power supply



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

Compatible battery pack

BS28A-H350/2.5L	Nickel-metal hydride battery pack
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HPCFX-350P-X2B

Small-sized and large capacity Flex ATX power supply



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

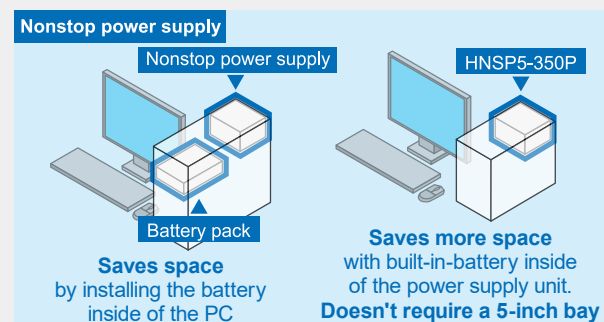
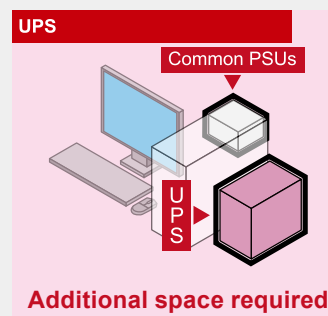
Compatible battery pack

BS28A-H350/2.5L	Nickel-metal hydride battery pack
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Advantages of Nonstop power supply

Save space by eliminating the external UPS

Our proprietary charging/discharging technology helps realize an uninterruptible power backup system simply by connecting a battery pack to a power supply unit that supports the technology. On the other hand, the new HNSP5-350 series PSUs incorporate batteries inside the ATX PSU formfactor to offer an uninterruptible power backup function without a connection of additional battery pack. 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.



PC Power Supplies

We offer an extensive product line including high-capacity ATX power supplies and ATX12VO power supplies.

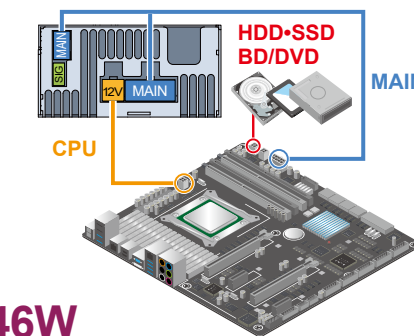
ATX12VO-standard-compliant power supply

HPCFX-350P-12VO series

New



Connection conceptual drawing



Continuous: **245W** Peak: **346W**

You can choose standby voltage with Nipron.

HPCFX-350P-12VO-S05

5VSB-output type

CH	CH1-2	CH3
Output voltage	+12V	+5VSB
Continuous max. current / power	20A	1A
	Total 240W	5W
	Total 245W	
Peak current / power (within 5 sec.)	28A	2A
	Total 336W	10W
	Total 346W	
Min. current	0A	0A

HPCFX-350P-12VO-S12

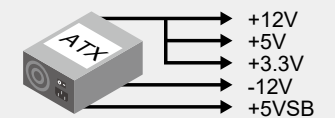
12VSB-output type

CH	CH1-2	CH3
Output voltage	+12V	+12VSB
Continuous max. current / power	20A	0.4A
	Total 240W	4.8W
	Total 244.8W	
Peak current / power (within 5 sec.)	28A	0.8A
	Total 336W	9.6W
	Total 345.6W	
Min. current	0A	0A

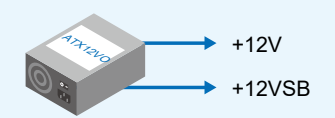
What is ATX12VO?

ATX12VO stands for ATX 12V Only. It is a new power supply standard regulating output voltage is only +12V and SB power supply. Conventional ATX power supplies output multiple voltages such as +3.3V +5V, +12V, -12V, and +5VSB. It causes complex systems because of cable arrangement and so on. In 2019, Intel released this standard to simplify the system by making the power supplies simpler. Devices requiring +3.3V, +5V, or -12V are powered by DC/DC converters embedded on motherboards.

ATX power supply



ATX12VO power supply



High-capacity ATX power supply able to support high-performance GPUs

HPCSA-1500P-E2S

Max. efficiency 94%



Continuous: **1200W**
Peak: **1500W**
(W×H×D)
Size: **150×85×200**

- Supports the 6ch, 12V outputs for CPU/GPU

- Uses a temperature-controlled, variable-speed fan
Equipped with semi-fanless mode in which the fan turns when the internal temperature rises and stop when the internal temperature is low.

HPCSA-1000P-E2S

Standby power is 0.5W or less, and support ErP directive.



Continuous: **820W**
Peak: **1000W**
(W×H×D)
Size: **150×85×190**

HPCSA-700P series

Minimum load current 0A for all outputs



Continuous: **600W**
Peak: **700W**
(W×H×D)
Size: **150×85×150**

Excellent sales result! Highly reliable Nonstop power supply

<http://www.nipron.com>

Please contact us about ATX12VO high-capacity ATX power supply.

<http://www.nipron.com>

Product proposals

USB PD power supply for DIN-rail

100W

(20V5A)

Type-C×2

DIN-rail compatible model

*Prototype

Features

The Type-C USB port supports the power output of 100 W max.

The Type-C port makes it possible to supply the total power of 100 W (20V5A) max for a single port.

Slim design

Compact and space-saving with a slim design

Simultaneous power supply with two ports

Features two USB PD compliant Type-C ports. This makes it possible to supply the power to a variety of devices two at a time.

Highly reliable domestic production

Long-term stable supply with domestic design and production

What is the USB Power Delivery (USB PD) standard?

The USB standard makes it possible to communicate data and supply the power using the same connector and cable. However, the conventional USB standard only allowed the power supply up to 7.5 W, which is not sufficient for the majority of devices. On the other hand, the USB PD standard allows to supply a large power up to 100 W, together with data communication, bi-directionally. Since it also enables data exchange between the two connected devices and switch the voltage (5/9/15/20V) depending on the device, sharing the PSU becomes a reality, leading to further expectations for cost reduction and reduction of industrial wastes.

Specification

Port	Type-C _1					Type-C _2									
Output voltage	5V	9V	12V	15V	20V	5V	9V	12V	15V	20V					
Output current	3A	3A	3A	3A	5A	3A	3A	3A	3A	5A					
Output power	15W	27W	36W	45W	100W	15W	27W	36W	45W	100W					
	Max. 100W					Max. 100W									
Efficiency	80% or more (at 120W load)														
Power factor	90% or more (at 120W load)														
Input voltage	85–264V AC														
Operating temperature	0–60°C														
Size	With DIN-rail bracket 41(W)×124(H)×117.5(D)														

Outline drawing

No.	Name	Function
①	AC (L)	Input terminal
②	AC (N)	
③	PE	Protective ground terminal
④	USB type-C connector	Output terminal

Dimensional tolerance: ± 1 (± 0.5 for mounting dimension)

* Since the product is a still in the planning stage, the specifications and appearance shown here may change without notice.

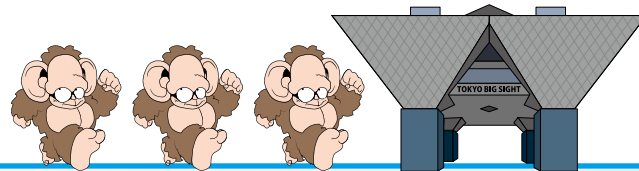
Supports USB PD! Power can be supplied to a wide range of devices <http://www.nipron.com>

We offer a variety of power supplies <http://www.nipron.com>

11

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Invitation to Exhibition

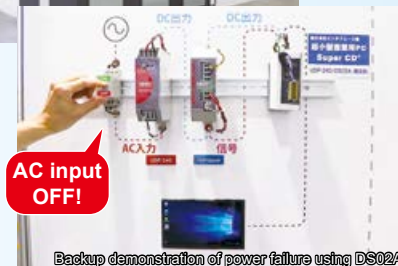


37th TECHNO-FRONTIER

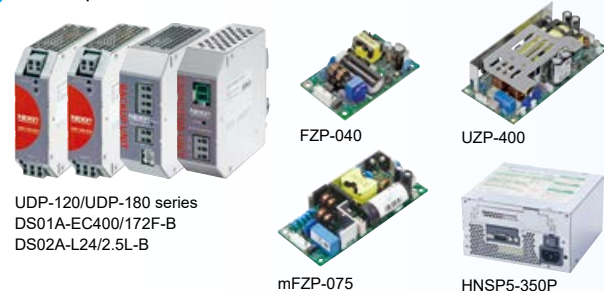
TECHNO-FRONTIER 2022

To be held for three days from July 20 to 22 at Tokyo Big Sight. Nipron will participate in the 37th TECHNO-FRONTIER.

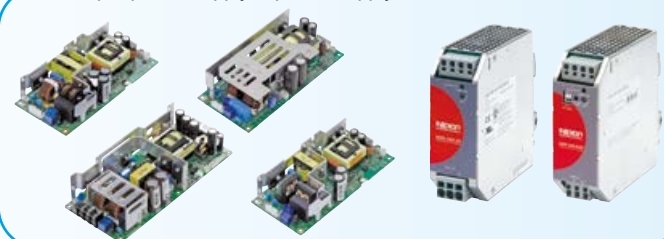
At the Nipron booth, in addition to the central display of new products, a large number of standard PSU lineups will be exhibited. Included in the exhibition are a demonstration of momentary power failure backup with DS01A, the DIN rail compatible capacitor unit that attracted people's attention last year, a demonstration of backup for blackout with DS02A, a battery pack with built-in lithium-ion batteries, and the "DC input power supply" and "PSUs with service life indicator" introduced on pages 7 and 8 of this volume. As the exhibition also features the display of products supporting renewable energies and proposals of solutions for the realization of carbon-neutral society, please do visit Nipron booth should you be at the exhibition.



New products



DC-input power supply & power supply with service life indicator



Productivity Improvement Presentation

Productivity Improvement Presentation for Sales & Administrative Departments

On June 14, the Productivity Improvement Presentation was held by the Sales and Administrative departments. It was an assembly in which ten teams competed by presenting their kaizen activities and achievements made in respective functions. After a strict and fair examination, the top three teams were awarded. The presentation meeting was fruitful with various departments sharing their routine kaizen activities.

The gold-prize winner Corporate Planning Department presented their undertaking aiming at rationalizing the process of closing accounts. The silver-prize winner Purchasing Department presented their efforts to support the continued production amid the shortage of parts caused by the impacts of COVID-19 and natural disasters. The bronze-prize winner General Affairs Department presented their persistent recruiting efforts that made it possible to secure many high school graduates. The Sales and Administrative departments aim to enhance the satisfaction of customers by continuing their kaizen activities.



Gold prize: Corporate Planning Department



Silver prize: Purchasing Department



Bronze prize: General Affairs Department

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

<http://www.nipron.com>

Customer Interview: Reason to have adopted a Nipron power supply



Interview



"We cannot be bold enough to depart from Nipron products for the purpose of cost reduction."

Chukyo Densetsu Co., Ltd., an expert in large-scale photovoltaic power generation, has adopted Nipron's PSUs for PCs used in their virtual currency mining business.

Mr. Shuichi Okada, Senior Managing Director & Executive Officer

Chukyo Densetsu Co., Ltd.

Please tell us about your business operations.

Our parent company, Power Generation Japan Corporation, undertakes photovoltaic power generation business and construction of power stations and our company supervises all operations other than the construction, including the platform installation, panel installation, electrical works, etc. Our strength is the self-sufficiency in all EPC operations in the photovoltaic business, i.e. engineering, procurement and construction.

What was the background in adopting Nipron's PSUs?

While the solar power business is also run in places where it is not beneficial to undertake the solar power generation, a large number of owners and customers were facing problems of shadows and individual differences in the power production of solar panels. To cope with the problem, there was a talk of introducing the PV Maximizer of Nipron to maximize the power generation of solar panels and this was our first encounter with Nipron. Then, amidst the global shift to solve the environmental issue of "global warming," we also searched for new business opportunities to utilize renewable energies and, as a result, we focused on the virtual currency mining business. Since it is often the case for us to leave the office, performing on-site measurements throughout Japan and holding meetings elsewhere, our major concern was to "avoid our time being taken to address PC problems in managing our business." If a mining device running in a remote area breaks down, a large cost will be incurred simply by servicing it. As a result of a search for an optimum PSU driven by the idea of avoiding time-consuming task of addressing PSU problems, we decided to use HPCSA-1500P. Now, all PSUs used in our business are Nipron products.

Do you have any priority in selecting PSUs?

The priority is on "industrial quality ATX PSUs with an expected service life of ten years and capability to run 24 hours at the rated capacity." For a PC run at the maximum power 24/7 for many years, like those used in virtual currency mining, it is precarious to use PSUs commonly available in the market. Running PCs in such a condition also poses a problem in the air-conditioning as a lot of heat is generated by the devices. Especially in summer, the room temperature reaches about 42°C and it feels like a sauna even if the air conditioners were run at the maximum capacity. Therefore, the PSU becomes a very important component in supplying a large power 24/7 in this environment. The major application of HPCSA-1500P is industrial PC. As it has the rated capacity of 1200 W and units used in our mining rig are operating stably, the PSU is no longer a concern for shutting down the rig.

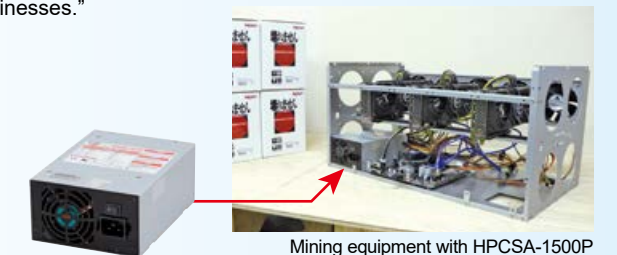
What is your opinion and the level of satisfaction after using Nipron's PSU?

It is very difficult to express the satisfaction level in such a case. Since we often experience stoppages of devices while running the mining business, the fact that the devices are running continuously will lead to the high level of satisfaction. Assuming that the mining rig is working stably 24/7, there may be cases in which the PSU fails due to individual differences and takes long to resume the operation. If such an opportunity lost was viewed as a cost, it is questionable if a cost reduction has been achieved by running the rig for several years in that condition. Although it is understandable to try to reduce the installation cost for the purpose of cost reduction, we think such an effort does not necessarily result in an overall cost reduction. In this sense, we cannot be bold enough to depart from Nipron products for the purpose of cost reduction. It would be a difficult decision because it means to "revert to the unstable condition."

Please tell us about your business aspirations in the future.

As a part of project called SPP that aims for a sustainable global growth, we would like to focus on vegetable hamburgers. It is known that the second largest impact on the global warming comes from burps of cattle (methane). With our eyes set on the future where beef will be scarce as a result of reducing the number of cattle for the purpose of reducing the methane emitted by cattle, we are now making efforts to develop vegetable hamburgers. What lies at the root of our undertakings of SPP is the "reduction of methane" in the vegetable hamburger business, for example, or the "reduction of CO2 in the power" and "decarbonization" in the mining business. To summarize them in a single phrase, it is "a business for the sustainable growth."

The largest business theme of our company and the feature characterizing our group is to pursue "the sustainable growth that can be undertaken by us" rather than "focusing only on the solar power because we are an operator of solar power related businesses."



Mining equipment with HPCSA-1500P

HPCSA-1500P-E2S

Continuous 1200W Peak 1500W output
High-efficiency/large-capacity ATX power supply

If you are having trouble with your power supply, please contact Nipron

<http://www.nipron.com>

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

A company's fortunes are determined by management's vision and strength of will.

July 1, 2022 marks the 42nd year of our company's operations and the new fiscal year will start under a new management structure with two representative directors (Sakai as new Chairman and CEO, Futami as new President and COO). I hope the new structure will make our company fresh again in a positive way.

From here on, I would like to discuss the outlook and situation for the new fiscal year, or the 42nd term. Given the continued strong orders in June and July and the backlog of orders, we expect monthly sales of 600 to 700 million yen through March and April 2023. Factoring in the market conditions and improved competitiveness (20-30%), it is highly possible that we can achieve our annual target of 7.8 billion yen. If added the growth of the GP (Green Power) business to this, we may reach 8 billion yen.

Looking at the manuscript of Nipron Wave Vol. 68 (with Gen-San and the Gion Festival on the cover), I am struck anew by our outstanding new product development capability. I cannot help but be amazed at our development power, planning ability, and speed. As part of our Green Power Business (next-generation environmental power supply business), where we are working hard to develop products and businesses with the same level of power and speed, the EV Solar Carport System development business is on the verge of blooming, and I strongly believe that it will come into full bloom in the near future. Toward its realization, I hope all of our employees to work together to the utmost of our abilities. And when the time comes, let's enjoy the sense of accomplishment and celebrate the victorious moment with our colleagues who shared the hardships.

From July 20 to 22 this year, we will be exhibiting again at "The 37th Power Supply Systems Expo" of TECHNO-FRONTIER 2022, maintaining the continued participation almost from the beginning. I remember that once I felt miserable because we had started as a small company and a latecomer among many switching power supply manufacturers. Today, many of the manufacturers then existed have disappeared. It is regretful that only about five switching power supply manufacturers remain.

Compared to those days, present-day Nipron is a world away in terms of product appeal, product lineup, and corporate scale. I would say that Nipron has now become one of the leaders in the power supply industry. The presidents and managers of the same industry used to say "President Sakai (current Chairman and CEO) and Nipron are as tough as nails". Good or bad, it is fondly remembered. Since that time, I have always said to myself, "Just you wait and see! I will definitely catch up and overtake you!" With this in mind, I have been looking at the future of the power supply and the ideal way of the manufacturing industry by keeping abreast of the times, including reverse thinking during the hard times and in the face of adversity. We have been successful in our efforts toward the ideal state of the Japanese manufacturing industry and the power supply business, always with a challenging mindset toward a bright and victorious future, while making a series of aggressive investments. I strongly feel that a company's life or death depends on the "strong vision and strong will" of its manager.

Going forward, as a power supply unit manufacturer, I imagine that our new competitors, Taiwanese, Chinese, and U.S. manufacturers, will be standing in our way. Nipron is deeply familiar with power supplies that its customers are looking for, so we will continue moving forward on the current path while making further improvements and without being involved in unnecessary battles or competitions!

As Chairman and CEO, as long as I live, I will continue doing my best to create an environment and structure that can nurture many of my dear employees who share my thoughts, wishing for the "vibrant business continuity" of Nipron, which is just like my own child that I gave birth and have brought up.

Thank you very much.

Setsuo Sakai
July 2022

 **Nipron Co., Ltd.** [***http://www.nipron.com***](http://www.nipron.com)

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